



aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



Industrial Profile Systems

High-Strength Aluminum Framing and Components

Catalog 1816-3/US



ENGINEERING YOUR SUCCESS.

www.comoso.com

Parker Hannifin Corporation

With annual sales exceeding \$10 billion, Parker Hannifin is the world's leading supplier of motion and control technologies and systems, providing precision-engineered solutions for a wide variety of commercial, mobile, industrial, and aerospace markets.

The company's products are vital to virtually everything that moves or requires hydraulic, pneumatic, electromechanical, or computer motion control.

Structural Systems Built Smarter By Parker

High-strength aluminum framing from Parker IPS is today's material of choice for assembling an unlimited variety of machine bases and frames, linear-slide systems, safety guarding, enclosures, worktables, material handling systems, and other industrial structures. What's more, innovative customers use our IPS technology as the foundation for systems that feature industry-leading Parker motion control solutions.



Parker offers complete engineered systems.

1st in Delivery, Field Sales and Distribution

Our Design Centers across North America support customers with local inventory, application engineering, fabrication, assembly, installation, and integration of pneumatic and electromechanical controls.

Our expert teams of experienced application engineers and knowledgeable professionals will work with you to analyze your structural framing problems, engineer solutions, and turn your ideas into realities.

Parker IPS Structural Aluminum Systems

The modular t-slot aluminum profile system has conquered the world of machine building, industrial automation, material handling and machine safety guarding and enclosures. This innovative construction system offers so much flexibility and cost savings in engineering, fabrication, and assembly; that it is now preferred for a multitude of industrial applications that benefit from these important features

IPS's complete line of structural aluminum and linear motion extrusions create innovative solutions in machine building, safety guarding, workstations and other unlimited industrial applications.



Parker world headquarters in Cleveland



www.parkermotion.com/IPS

Industry's most comprehensive website is your single source for:

- Product information
- Downloadable catalogs
- 3-D design files
- Training materials
- Support and downloads
- Rapid Quote Requests

24/7 Emergency Breakdown Referrals

The Parker product information center is available any time of the day or night at 1-800-C-Parker. Our operators will connect you with on-call representatives who will identify replacement parts or services for all motion technologies. Talk to a real person!



Modular Structural Solutions

High-Strength Aluminum Framing and Components



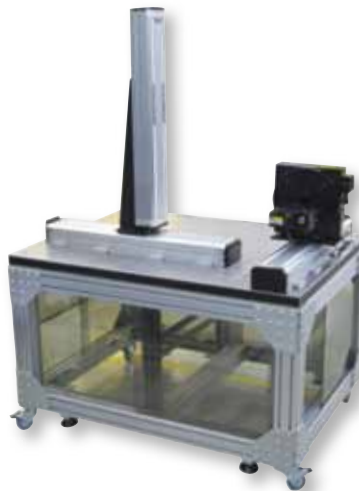
Parker Industrial Profile Systems (IPS) is a leading value-added manufacturer of high-strength aluminum framing, systems and components. Our focus is on our customer. By offering local inventory, application engineering, fabrication and assembly, and integration of industry leading Parker motion control products, we strive to exceed our customer's expectations in service, quality, delivery, and value.

Typical Applications

- Motion system integration
- Enclosures and guarding
- Machine bases and frames
- Workstations and tables
- Material handling systems
- Lean manufacturing tools
- Cleanroom designs

Benefits

- Extremely short turnaround time from design to completion
- No welding, grinding, cleaning, painting, or distortions
- Eliminates costly traditional manufacturing processes
- Flexibility to re-configure as requirements change



Your Choice to Suit Your Needs

Choose a level of service to suit your needs from a completely assembled structure to a bundle of uncut profiles.



Turnkey Assemblies –

Parker IPS offers complete assembled solutions that are designed, custom fabricated, and shipped in as little as seven business days.



Kits – Profiles are cut and machined to order, fasteners and accessories are included based on a parts list, and the entire order is packaged and shipped for final assembly at your location.



Bundles – Our entire product line can be ordered as bundles of uncut or cut-to-length profiles, with packages of fasteners and accessories.

Together we can think it, design it and build it...

From concept to completion....

Parker IPS is a leading value-added manufacturer of high-strength aluminum framing systems and components. Our focus is on our customer. By offering local inventory, application engineering, fabrication and assembly, and the integration of industry leading Parker motion control products, we strive to exceed our customer's expectations in service, quality, delivery and value

Markets Served

- Aerospace
- Automotive
- Educational
- Industrial Manufacturing
- Medical
- Packaging
- Pharmaceutical
- Plastics
- Semiconductor
- Textiles
- Tires

Typical Applications

- Motion Systems Integration
- Enclosures and guarding
- Machine bases and frames
- Workstations and tables
- Material handling systems
- Lean manufacturing tools
- Clean room applications
- Conveyor frames
- Test equipment
- Tool racks
- Test tables
- Tradeshow booths
- Store fixtures
- Sound enclosures

Turn your brainstorm into an application quote in as little as 24 hours - Parker's application engineers can do it!

Are other structural aluminum providers hampering your solution? Our experienced applications engineers can convert pen or pencil sketches into final drawings and quotes, often saving you money.

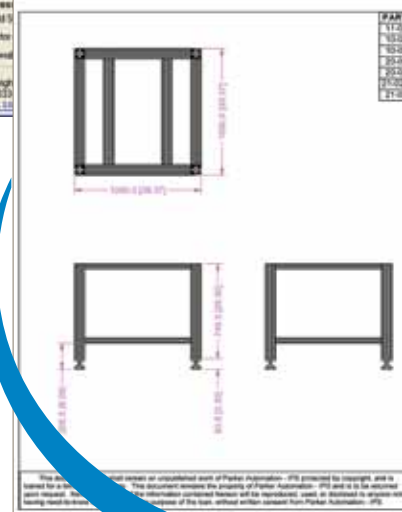
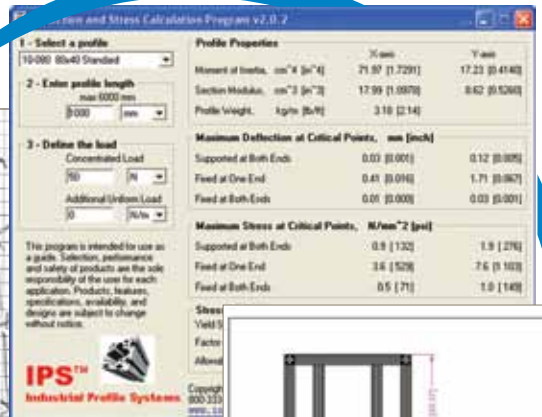
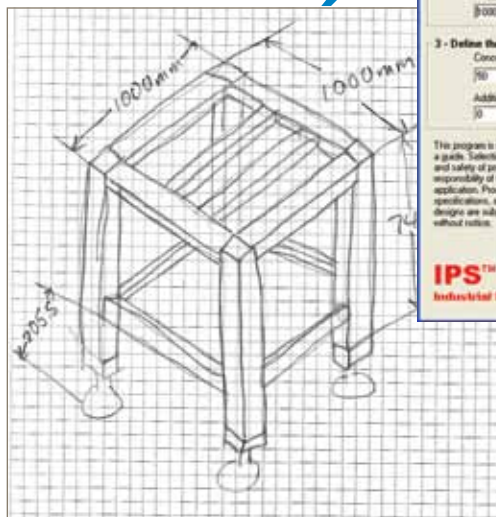
Parker can also supply engineered kits or sub-assemblies to make your next project flow smoothly. Most quotes can be turned around within 24 hours.

Call 330-335-6740/800-333-4932 to find your applications engineer.

Parker Structural System Designer (PSD)

Parker IPS utilizes the most versatile modeling package available for engineering high-strength structural systems. Our advanced 3D modeling will save you time and money, allowing engineers to test the form, fit and function of a complete structural system design.

Parker PSD will produce 3D model output for most 3D CAD packages. Graphic output is also available for design review.



Need a quote in a hurry?

Parker IPS has the engineering experience to make ground-up system development quick and easy. From our design software packages to our assembly or kitted solutions, we take system development to the next level. Let us assist you in designing your next system from concept to completion.

The IPS team of engineers is available to help design systems to ensure perfect field integration. IPS solutions are custom fabricated and shipped installation ready as kit or complete assemblies within a few business days.



Machine Services

- Cutting
- Tapping
- Drilling
- Counter boring

Custom services also available by our expert machinists to meet your exact requirements.

Value Added Services

- Metric & English catalog
- Parker Structural System Designer (PSD)
- Motion system integration
- Deflection program
- Engineering quotes and drawings
- Quick quote software
- Assembly manuals
- Assemblies, kits and bundles

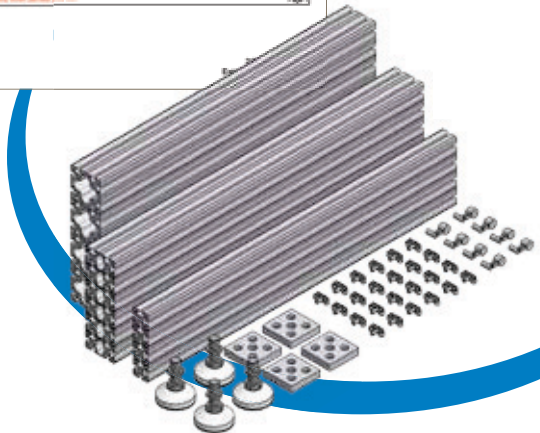
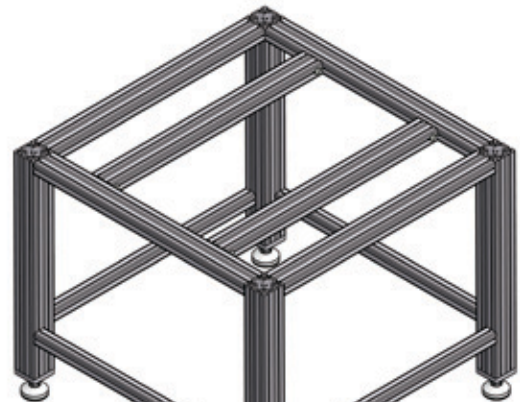
Parker Hamilton Corp. Electromechanical, N.A.

QUOTE#

Parker IPS 138 Quadral Drive, Walkersville, OH 43081

| Part Number | Qty | Length | UOM | Description | Mat Code | Tap | Hole | Size | UOM | Unit Price | Line Price | Ext. Price | UOM | Unit Price | Line Price | Total Qty | Notes |
|-------------|-------|--------|--------|-------------|-----------------------|-----|------|------|-----|------------|------------|------------|-----|------------|------------|-----------|-------|
| 1 | 11000 | 4 | 1000.0 | 1000 | IPS1 BUSHING-1000 CLR | Y | | | | 27.00 | 297.00 | 297.00 | | | | 11000 | |
| 2 | 10000 | 1 | 800 | 1000 | IPS1 BUSHING-800 CLR | Y | | | | 28.50 | 285.00 | 285.00 | | | | 10000 | |
| 3 | 20000 | 1 | 800 | 2000 | IPS1 BUSHING-800 CLR | Y | | | | 36.75 | 367.50 | 367.50 | | | | 20000 | |
| 4 | 20000 | 1 | 800 | 2000 | IPS1 BUSHING-800 CLR | Y | | | | 3.00 | 300.00 | 300.00 | | | | 20000 | |
| 5 | 10000 | 1 | 800 | 1000 | IPS1 BUSHING-800 CLR | Y | | | | 1.00 | 100.00 | 100.00 | | | | 10000 | |
| 6 | 10000 | 1 | 800 | 1000 | IPS1 BUSHING-800 CLR | Y | | | | 1.00 | 100.00 | 100.00 | | | | 10000 | |
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| 19 | 10000 | 1 | 800 | 1000 | IPS1 BUSHING-800 CLR | Y | | | | 1.00 | 100.00 | 100.00 | | | | 10000 | |
| 20 | 10000 | 1 | 800 | 1000 | IPS1 BUSHING-800 CLR | Y | | | | 1.00 | 100.00 | 100.00 | | | | 10000 | |

1 of 1



TABLE

1 of 1

TABLE

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Profiles

Parker Industrial Profile Systems has one of the most comprehensive product offerings in the industry.

- **More than 100+ individual high-strength aluminum profiles**
- **All structural profiles are aircraft grade, high strength, mill-certified with metallurgical properties of 6105-T5**
- **Aesthetically appealing extrusions offer best-in-class rigidity, durability, and hardness**
- **Unique T-slot design for reliable connection and easy modification**
- **Metric sizes range from 20 mm to 160 mm; inch sizes range from 1" to 6"**
- **Extensive range of smooth, grooveless profiles**

Linear Motion Components

- **Roller bearing components**
- **Delrin and UHMW slide bearings**
- **Easy-to-design, do-it-yourself, belt-driven solutions**

Fasteners and Accessories

The design of our structural framing fasteners and accessories takes a number of criteria into consideration, including functionality, aesthetics, strength, ease of assembly, and modular, flexible adaptation.



Parker offers a complete line of accessories to provide the right part for your application including:

- **T-slots, end caps, fasteners, and covers**
- **Gussets, plates and brackets**
- **Handles and hinges**
- **Panels, sliding doors and gate hardware**
- **Feet and casters**
- **Workstation accessories**
- **Slide blocks and bushings**

Panels & Wire Mesh

Panels and wire mesh are available in full sheets or to specified cut-to-size dimensions. Standard panel choices include:

- **Lexan®**
- **Trespa®**
- **Expanded PVC**
- **PVC coated wire mesh**
- **Aluminum composite**

Specialty panels of any material can be ordered for any project.

Machining Services

Standard machining options include cutting, tapping, drilling, and counter boring. Additional custom machining by our expert machinists ensure that your design is complete and to your exact requirements.

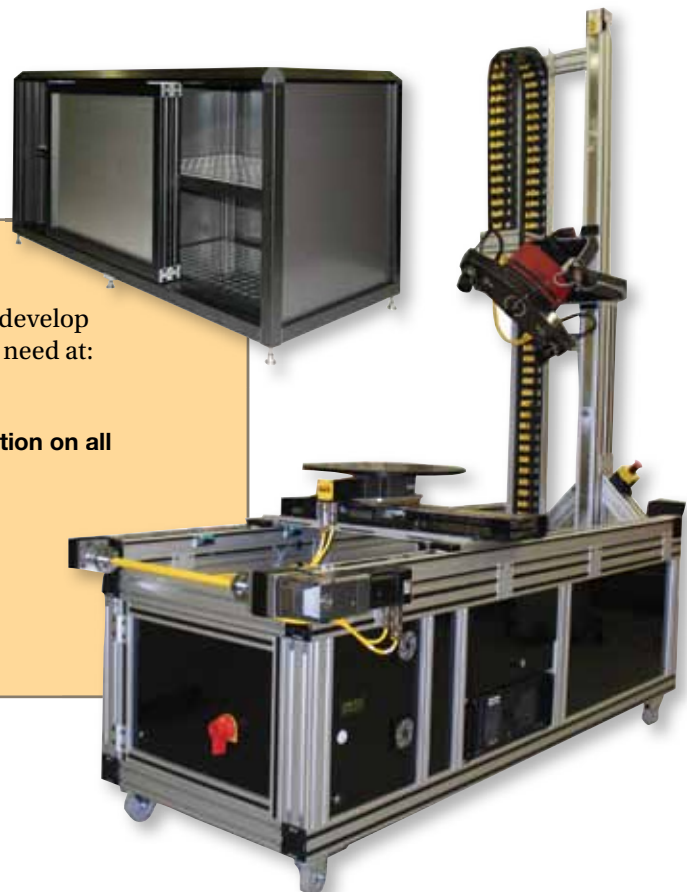
Tools and Support

Parker IPS offers the tools needed to design and develop your assembly solution. Download the tools you need at:

www.parkermotion.com/ips

- **Complete selection and specification information on all IPS products available on-line in pdf format**
- **3D CAD files for all available IPS products**

Avoid paying too much for an over-engineered solution, contact our applications team today at 800-333-4932 for quick response and help with designing the best solution.



Extrusion Profiles

- Basic Profiles
- Specialty Profiles
- Profile End Caps
- T-Slot and Profile Covers
- Conduit Profiles
- Conduit End Caps

Profiles
& End Caps

Fasteners

- Fasteners
- T-Nuts
- Miter Connectors
- Screws, Bolts, Nuts & Washers
- T-Clips & Cable Holders

Fasteners

Brackets, Gussets & Plates

- Brackets
- Gussets
- Corner Elements
- Joining Plates

Brackets,
Gussets & Plates

Panels & Doors

- Panels & Wire Mesh
- Panel Mounting/Mesh Retainers
- Door Guides & Rollers
- Rail Carts

Panels
& Doors

Handles & Hinges

- Handles
- Door Catches
- Latches & Locks
- Hinges
- Pivot Joint

Handles
& Hinges

Feet & Casters

- Feet
- Casters
- Base/Corner Mounting Plates

Feet &
Casters

Special Applications

- Pneumatic Components
- Workstation Accessories

Special

Linear Applications

- Slide Blocks
- Rail & Roller Systems
- Slide Bushing Systems
- Bearing Unit & Conveyor Profiles

Linear

Services, Tips & Tools

- Machining Services
- Assembly Tips
- Tools

Services,
Tips & Tools

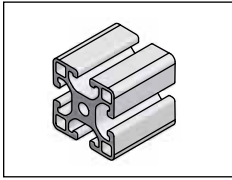
Index / Offer of Sale

- Part Number Index
- Catalog Index by Topic
- Offer of Sale

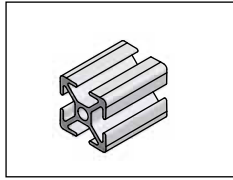
Index



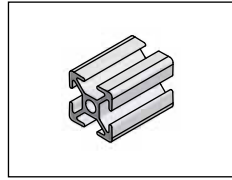
Section 1 – Profiles



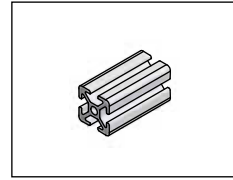
40 Series
 Pages 17-31



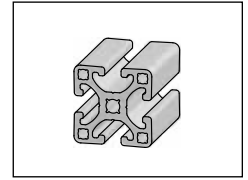
30 Series
 Pages 32-35



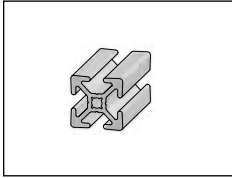
28 Series
 Page 36-40



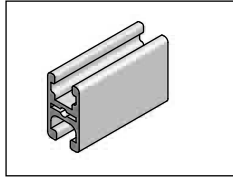
20 Series
 Page 41-43



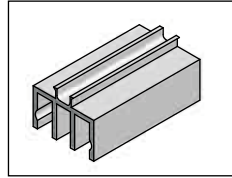
1.5" Series
 Page 44-50



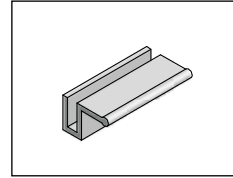
1" Series
 Page 51-52



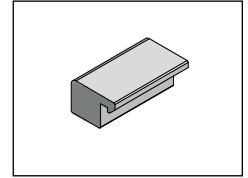
32x18 Frame Profile
 Page 54



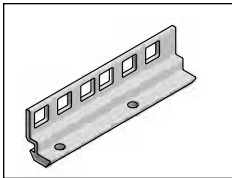
Door Guide Profiles
 Page 55-56



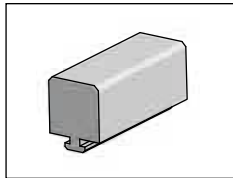
Panel Profiles
 Page 57



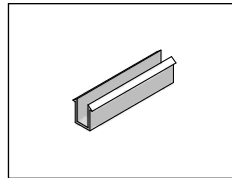
Clamp Profiles
 Page 58



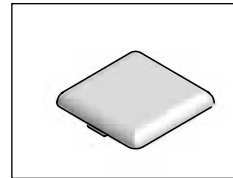
Rack Angle Profiles
 Page 59



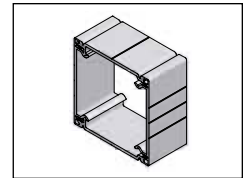
UHMW Profiles
 Page 60



Gaskets, Profile Covers
 Pages 60-62

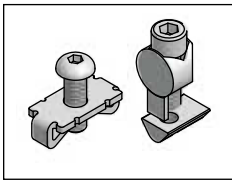


End Caps
 Pages 63-65

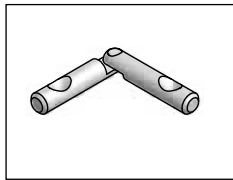


Conduit Profiles
 Pages 67-72

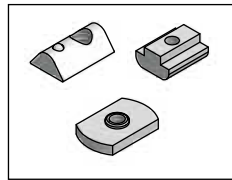
Section 2 – Fasteners



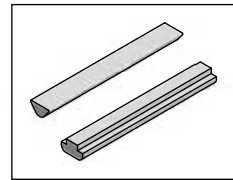
Fasteners
 Pages 75-80



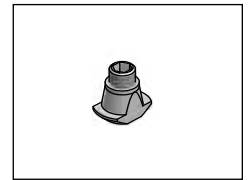
Miter Connectors
 Page 81



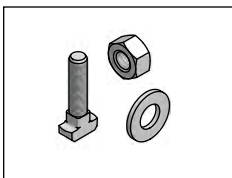
T-Nuts
 Pages 82-87



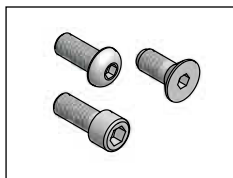
T-Slot Bars
 Page 85



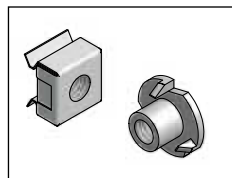
Anodize Breaker
 Page 88



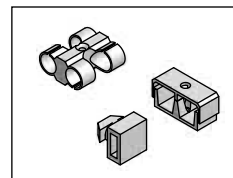
Bolts, Nuts, Washers
 Pages 88-89



Screws
 Pages 90-94

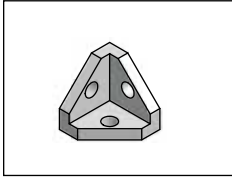


Clip & High Cycle Nuts
 Page 94

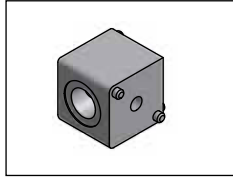


T-Clips/Cable Holders
 Page 95-96

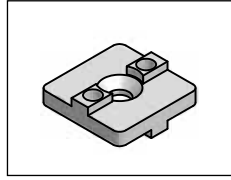
Section 3 – Brackets, Gussets & Plates



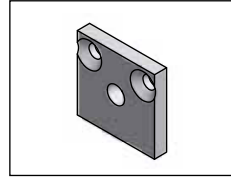
Corner Brackets
Page 98



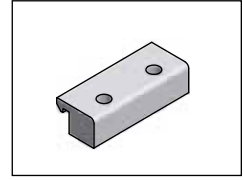
Corner Connectors
Page 99



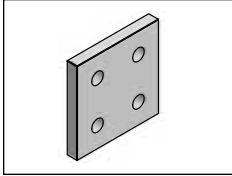
Profile Connectors
Page 100



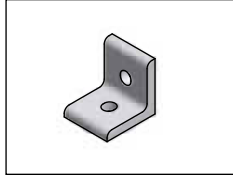
Mounting Plate
Page 101



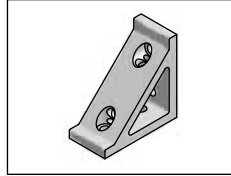
Clamp Block
Page 101



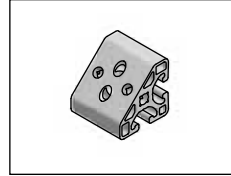
Joining Plates
Pages 102-103



Angle Brackets
Pages 104-105

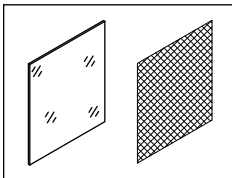


Gussets
Pages 106-107

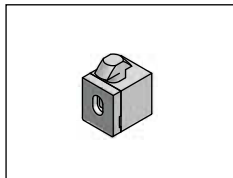


Corner Elements
Pages 108-109

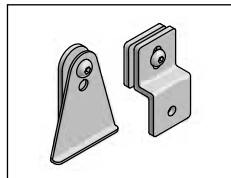
Section 4 – Panels & Doors



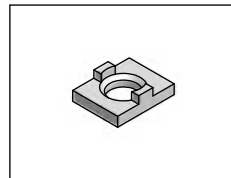
Panels & Wire Mesh
Pages 112-114



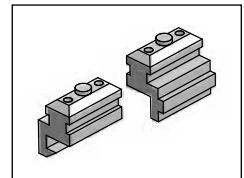
Panel Mounting Blocks
Pages 115-118



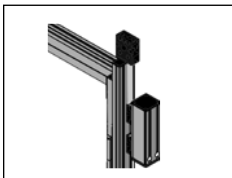
Mesh Retainers
Pages 119-120



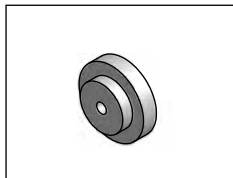
Bifold Door Glide
Pages 121-122



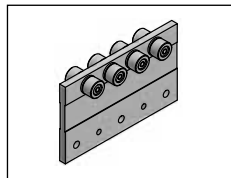
Sliding Doors
Pages 123-124



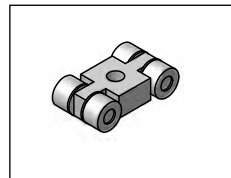
Door Guide System
Page 125



Rollers
Page 126-127

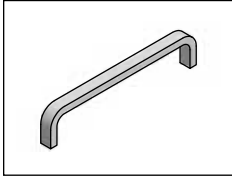


Rail Carts
Page 128

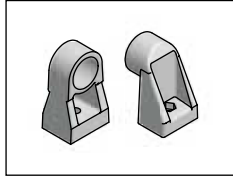


Roller Carts
Page 128

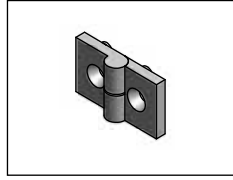
Section 5 – Handles, Hinges & Safety Switches



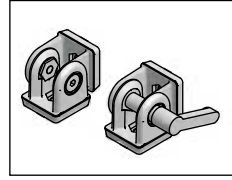
Handles
Pages 130-132



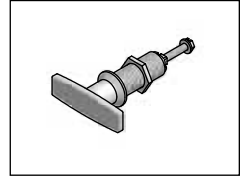
Tube Handle Supports
Page 133



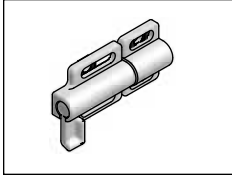
Hinges
Pages 134-144



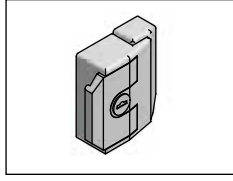
Pivot Joints
Page 145



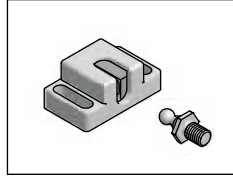
Quarter Turn Latches
Pages 146-148



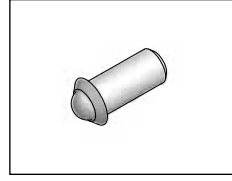
Deadbolt
Page 149



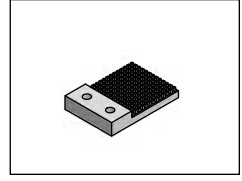
Slam Latch
Page 149



Door Catches
Pages 150-152

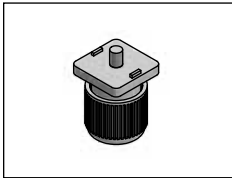


Ball Plungers
Page 152

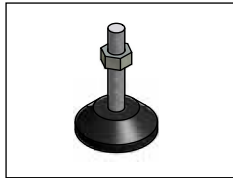


Door Stops
Page 153

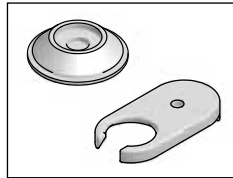
Section 6 – Feet & Casters



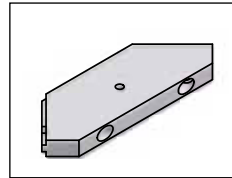
Leveling Feet
Pages 156-158



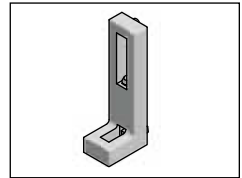
Knuckle Feet
Pages 159-160



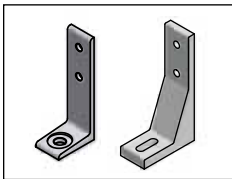
Foot Accessories
Page 161



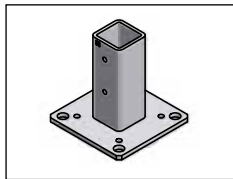
Corner Mounting Plate
Page 161



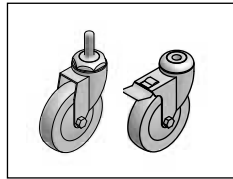
L-Base Leveler/Anchor
Page 162



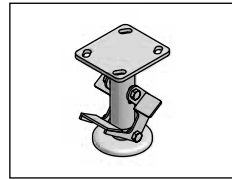
Floor Brackets
Pages 163-164



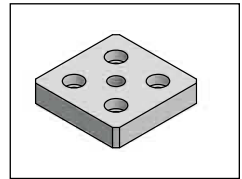
Flange Feet
Page 165



Castors
Pages 166-169

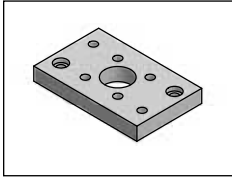


Floor Lock
Page 169

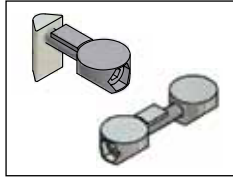


Base Plates
Pages 170-172

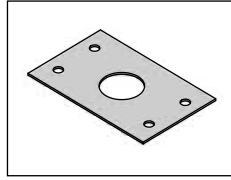
Section 7 – Special Applications



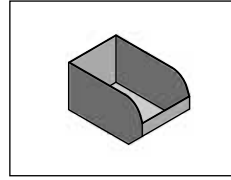
Pneumatic Plates
Pages 176-178



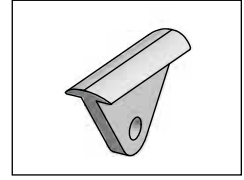
Pneumatic Fasteners
Page 178



Pneumatic Seals
Page 179



Workstations
Pages 180-183

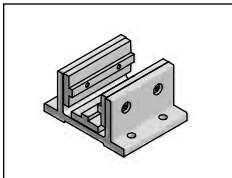


Tool Runners
Page 183

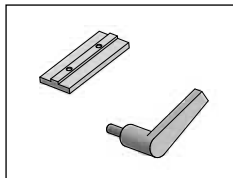


Lift Systems
Pages 184-185

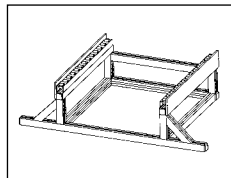
Section 8 – Linear Applications



Slide Blocks
Pages 188-199



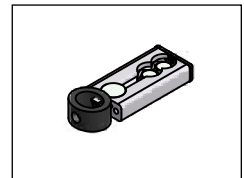
Block Accessories
Pages 200-202



Roller Track
Page 203



Linear Roller Systems
Pages 205-221



System Components
Pages 222-230

Section 9 – Services, Assembly Tips & Tools

Section 10 – Index and Offer of Sale

Product Information

Each product page in the catalog includes:

- application information and examples
- technical information
- dimensions
- how to assemble
- recommended fasteners, if applicable
- ordering information (part #, unit and weight)

Profile Compatibility

As a quick reference for product compatibility, the Ordering Information section groups product by profile series. Additional information can be found in the applications drawings associated. Where available, the Recommended Hardware section will highlight the necessary hardware components based on the profile series application.

Contact your Parker IPS Service Center or Customer Service to discuss specials or applications not found in this catalog.

How to Assemble

Technical Data

Application Information

Recommended Fastening Hardware

Ordering Information

Catalog 1816-3/US
Door Stops

40 Series
Door Stop - Straight (23-124)
Optional Velcro® Plate (23-158)

Door Stop - 28 - Angle (23-125)
40 Series - 5.5mm
28 Series - 4mm
28 Series

| Part # | A | B | C | D | E | F |
|--------|----|------|------|----|------|----|
| 23-125 | 51 | 44.5 | 25.4 | 30 | 4.75 | M5 |

Application
 Door Stops provide a positive stop to keep the door lined up with a frame. An optional Velcro® plate can be added to create a light-duty catch.

Technical Data
 Aluminum, Clear Anodized with Velcro® Pad

Recommended Fastening Hardware (Order Separately)

| Profile Series | Fastener | Part # 23-124 | Part # 23-125 | Part # 23-158 |
|----------------|----------|------------------|------------------|------------------|
| 40, 30 | Screws | 24-120-6 | 24-220-6 | 24-212-5 |
| | T-Nuts | 20-056 | 20-056 | 20-052 |
| 28 | Screws | 24-120-6 | 24-210-5 | 24-210-5 |
| | T-Nuts | 20-055 | 20-038 | 20-038 |
| 1.5" | Screws | 25-114-4 | 25-210-4 | 25-208-2 |
| | T-Nuts | 25-001 or 20-083 | 25-001 or 20-083 | 25-009 or 20-088 |
| 1" | Screws | 25-112-4 | 25-206-2 | 25-206-2 |
| | T-Nuts | 25-031 or 25-034 | 25-030 or 25-035 | 25-030 or 25-035 |

Ordering Information

| Description | Unit | Weight | Part # |
|--------------------------|------|--------|--------|
| Door Stop - Straight | Each | 91 g | 23-124 |
| Door Stop 40, 30 - Angle | Each | 91 g | 23-125 |
| Velcro® Plate | Each | 9 g | 23-158 |

* For wider surfaces, use 22-145 and apply velcro strip. Order M6 hardware separately.

Door Stops

3D View

Dimensions

Part #

23-124

23-125

Handles & Hinges

23-158*



Ordering Choices



Parker offers several ways to order metric and Inch product so that you can choose a level of service to suit your needs. You can order everything from a bundle of uncut profiles to a completely assembled structure.

- **Bundles** – IPS product line can be ordered as bundles of profiles and packages of fasteners and accessories to machine and assemble at your location.
- **UPS Shipping Requirements** – IPS profiles can be shipped via UPS Air if they are cut to 8' (2.4m) length max and each package does not exceed 70 lbs (31kg). Cut charges will apply.
- **Kits** – IPS product line can be ordered in a kit form where the profiles are cut and machined to order and fasteners and accessories are included based on a parts list. This kit can be assembled at your location.
- **Complete Assembly** – IPS product line can be ordered completely assembled and shipped as an assembled unit. Shipping costs should be a consideration when using this method.

Machining Services

- **Order cut to size** – specify the length in millimeters or decimal meter dimensions. Example: 1500mm or 1.5meters. See the conversion chart for fraction to decimal conversions. A cut charge will be included with cut to size lengths.
- **Additional machining** should also be specified along with the profile if it is required for fasteners or accessories. Standard machining options include tapping, drilling, and counter boring. See machining services pages in this catalog for correct part numbers. Any additional custom machining can be done by our expert machinists to ensure that your design is complete and to your requirements.
- **Cut to length tolerance** is $\pm .40\text{mm}$ [$\pm .015\text{"}]$.

Choosing a Fastener/Accessory

What aspect is critical for fastening?

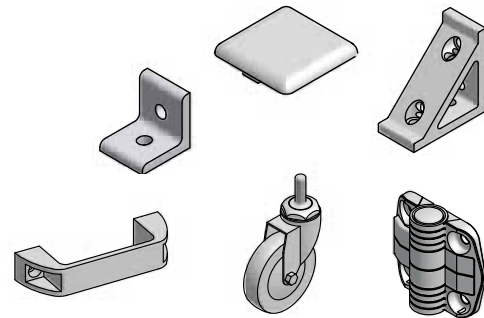
- Aesthetics/hidden (standard fastener, universal)
- Strength (universal fastener, standard)
- Ease-of-assembly/no machining (joining plate, gussets)
- Adjustability (gussets, angle bracket, universal)

When ordering universal fasteners or standard fasteners, machining operations are required for the fastener to work in a profile. Part numbers and descriptions for machining operations are found in the machining services section of the catalog.

Choices of Accessories

A full range of accessories are available to complete an assembly:

- T-slot Covers
- End Caps
- Brackets and Gussets
- Joining and Base Plates
- Casters
- Hinges
- Handles



What aspect is critical for accessories?

Parker offers a wide range of accessories to provide the right part for the special considerations of your application.

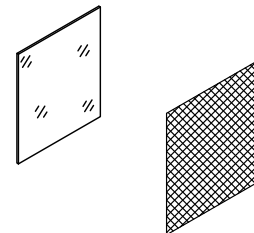
- Aesthetics
- Ease-of-assembly
- Load on structure
- Functionality

Panels & Wire Mesh

Panels and wire mesh can be ordered as a full sheet or cut to a specified dimension in square meters. When ordering full sheets, please add a P to the end of the part number that you are ordering (e.g. 26-790-6P)

Standard panel choices include:

- Lexan®
- TRESPA®
- Expanded PVC
- PVC coated wire mesh
- Aluminum Composite



Specialty panels of any material can be ordered for any project. Additional time may be required to expedite any specials.

Mechanical Properties

- All structural IPS profiles are prime aluminum, mill-certified with metallurgical properties of 6105-T5 or 6005-T5. Accessory products are 6061-T6 or 6063-T6.
- Yield (0.2 limit) Rm min. 240 N/mm² (35,000 psi)
- Tensile strength Rm min. 260 N/mm² (38,000 psi)
 Note: Cross sectional thickness variations of the profiles may influence yield and tensile strength.
- Elongation for 2 in. long specimens:
 6005-T5 (thickness up thru 0.124 in), 6061-T6 (up thru 0.249 in), 6105-T5 (up thru 0.5 in) – 8% min
 6005-T5 (thickness 0.125-1 in.), 6061-T6 (0.25 in. and over) – 10% min
- Elasticity E approximately 70,000 N/mm² (10,150 kpsi)
- Brinell Hardness approximately 75 HB 2.5/187.5
- The molecular structure of the 6005-T5 alloy is generally stable in an ambient temperature range of:
 -40°C to +200°C (-40°F to +392°F)
 Extreme temperature fluctuations may change the mechanical properties.

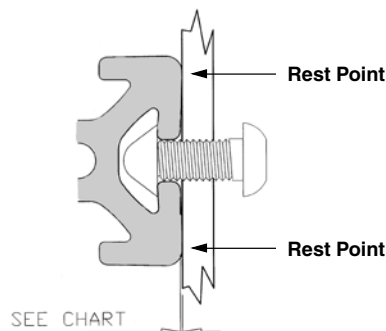
Profile Finish

- Clear anodizing: AA M10, C22, A31, Clear
- Black anodizing: AA M10, C22, A34, Black
- Minimum depth: 0.010mm (0.0004 in.)
- Surface hardness: approximately 250 HV, outer surface exposed
- Custom anodizing and protective finishes available

Tolerances

- Extrusions conforming to DIN 17 615 specifications and to IPS blueprints.
- Twist per 300mm (1 ft) length not to exceed 0.25° and total twist over 6m (20 ft) length not to exceed 1.5°.
- Flatness 0.10mm (0.004 in) per 25mm (1 in) of width.
- Straightness 0.32mm (0.0125 in) per 300mm (1 ft) of length and not exceeding 3mm (0.12 in) over 6m (20 ft) of extrusion.
 Maximum bow 3mm (0.12 in) over 6m (20 ft).
- Cut to length tolerance ± .40mm [± .015"]

Defined Rest Points



All 40, 30, 28, 20, 1.5" and 1" series profiles have a taper built-in to the T-slot. Preload in the material elastic range results in a vibration safe connection because the profile is pulled flush with the connecting surface during fastener tightening. The high quality material ensures that the profile T-slot will remember it's original shape if disassembly is required, making all IPS profiles completely reusable.

| Profile Series | Preload Range |
|----------------|----------------|
| 40, 30, 28 | 0.2mm |
| 20 | 0.1mm |
| 1.5", 1" | 0.008" (0.2mm) |

Deflection Calculation

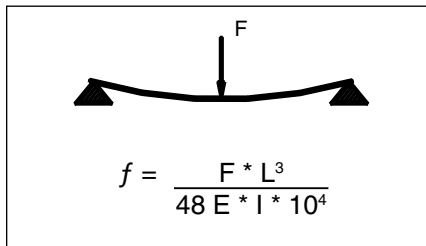


Application

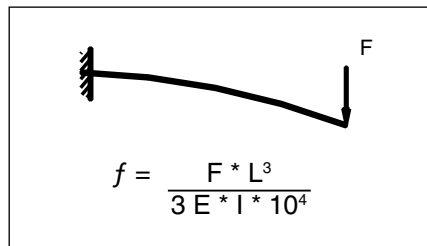
Stand-alone program able to calculate deflection and stress of IPS aluminum profiles based on profile selection, length and load (evenly distributed and/or concentrated at the critical point). Three cases for the profile attachment are calculated: supported at both ends, fixed at one end, fixed at both ends. Metric or English units of measure can be used to enter profile length and load. Calculated deflection given in both millimeters and inches. Stress values are given in both N/mm² and psi. System requirements: Windows 9x, Windows NT 3.0 or higher, 133MHz, 16MB RAM.

Formulas for calculating deflection at critical points

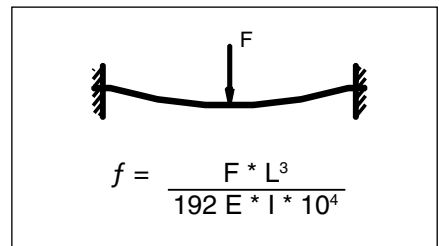
Supported at both ends



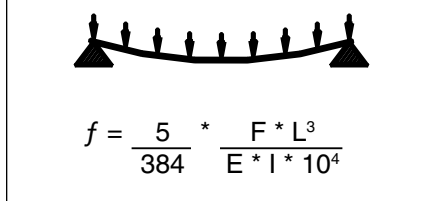
Fixed at one end



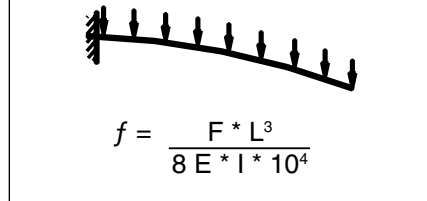
Fixed at both ends



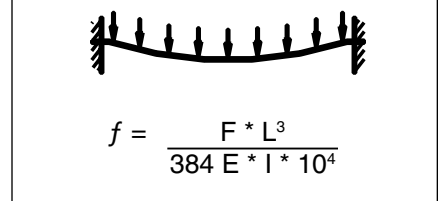
Total Load F



Total Load F



Total Load F



In the formulas:

f = deflection in mm

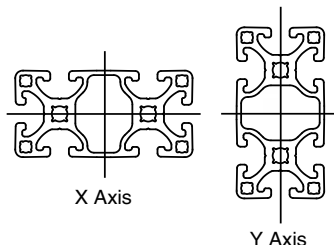
F = load in N

L = free profile length in mm

E = Modulus of Elasticity in N/mm²

E_{Al} = 70,000 N/mm²

I = Moment of inertia in cm⁴



Example

Find the deflection for the following conditions:

80x40 Standard Profile (10-080), upright

I_x = 71.97 cm⁴

m = 3.18 kg/m

L = 1000 mm

F = 50 N - concentrated load

No additional load other than profile weight

Calculate Profile weight (uniform load)

$$F_U = m * L * g = (3.18 * 10^{-3}) * 1000 * 9.81 = 31.2 \text{ N}$$

Total deflection $f_{TOTAL} = f_{CONCENTRATED} + f_{UNIFORM}$

Supported at both ends:

$$f = 0.021 + 0.008 \approx 0.03\text{mm}$$

Fixed at one end:

$$f = 0.331 + 0.077 \approx 0.041\text{mm}$$

Fixed at both ends:

$$f = 0.005 + 0.002 \approx 0.01 \text{ mm}$$



Fractions to Decimals

| Fraction | Decimal |
|----------|---------|
| 1/16 | 0.063 |
| 1/8 | 0.125 |
| 3/16 | 0.188 |
| 1/4 | 0.25 |
| 5/16 | 0.313 |
| 3/8 | 0.375 |
| 7/16 | 0.438 |
| 1/2 | 0.50 |
| 9/16 | 0.563 |
| 5/8 | 0.625 |
| 11/16 | 0.688 |
| 3/4 | 0.75 |
| 13/16 | 0.813 |
| 7/8 | 0.875 |
| 15/16 | 0.938 |

Metric/English Conversions

Below is a conversion chart for converting metric and English units of measure for applicable physical conditions with this product line.

| | Multiply | by | To Get |
|-------------------|---------------------|---------|----------------------|
| Linear | mm | 0.03937 | Inches |
| | Inches | 25.4 | mm |
| | cm | 0.3937 | Inches |
| | m (meter) | 3.2808 | Feet |
| | Feet | 0.3048 | m (meters) |
| Area | mm ² | 0.00155 | Inches ² |
| | Inches ² | 645.16 | mm ² |
| Volume | cm ³ | 0.06102 | inches ³ |
| | inches ³ | 16.387 | cm ³ |
| | inches ³ | 0.0165 | liters |
| | Liters | 61.024 | inches ³ |
| Mass | Gram (g) | 0.0353 | Ounce (oz) |
| | Ounce (oz) | 28.329 | Gram (g) |
| | Kilogram (kg) | 2.2046 | Pounds (lb) |
| | Pounds | 0.4536 | Kilograms (kg) |
| Velocity | Meters/Minute | 3.281 | Feet/Minute |
| | Feet/Minute | 0.3048 | Meters/Minute |
| Force | Kilograms-f (kgf) | 9.807 | Newtons (N) |
| | Newtons (N) | 0.10194 | Kilograms-f (kgf) |
| | Pounds-f (lbf) | 4.448 | Newtons (N) |
| | Newtons (N) | 0.2248 | Pounds-f (lbf) |
| Pressure | Bar | 14.5 | PSI |
| | PSI | 0.069 | Bar |
| Torque | Newton-Meters (Nm) | 8.851 | Pound-Inches (lb-in) |
| | Pound-Inches | 0.11298 | Newton-Meters (Nm) |
| Moment of Inertia | cm ⁴ | 0.02403 | inch ⁴ |
| | inch ⁴ | 41.623 | cm ⁴ |





WARNING - USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

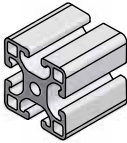
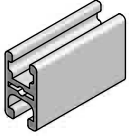
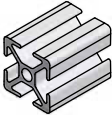
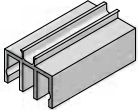
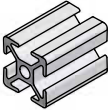
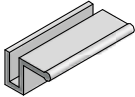

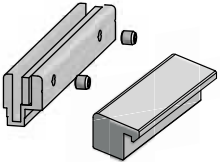

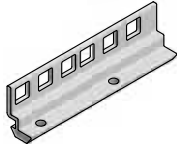

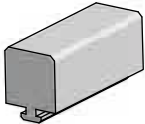

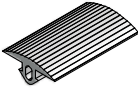
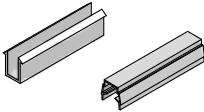
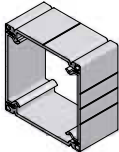
OFFER OF SALE

The items described in this document are hereby offered for sale by Parker-Hannifin Corporation, its subsidiaries or its authorized distributor. This offer and its acceptance are governed by the provisions stated in the detailed "Offer of Sale" elsewhere in this document.

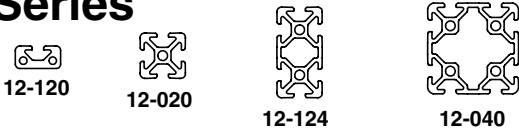
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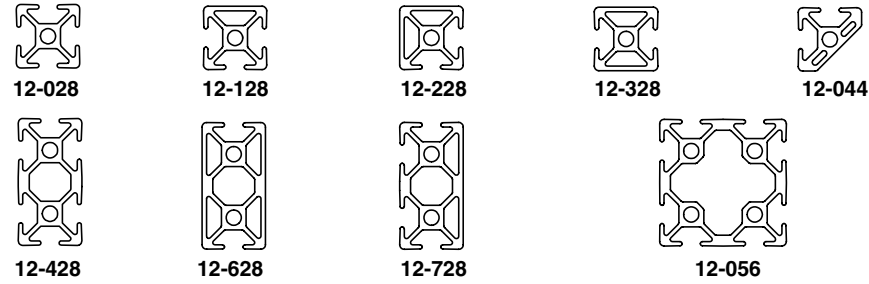
Section 1 Basic & Specialty Profiles

| Basic Profiles | | Specialty Profiles | |
|-----------------------|-------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 40 Series | 17-31 |  | 32x18 Frame Profile 54  |
| 30 Series | 32-35 |  | Door Profiles 55  |
| | | | Rolling Door Guide 55 |
| | | | Sliding Door Guide 56 |
| 28 Series | 36-40 |  | Panel Profiles 57  |
| | | | Stiffener/Handle 57 |
| | | | Panel Mounting 57 |
| 20 Series | 41-43 |  | Clamp Profiles 58  |
| | | | Mesh Clamp 58 |
| | | | Clamp Bar 58 |
| 1.5" Series | 44-50 |  | Rack Angle 59  |
| 1" Series | 51-52 |  | UHMW Profiles 60  |
| End Caps | 63-65 |  | Profile Covers 60  |
| | | | Panel/Mesh Gaskets 61  |
| | | | Cover Strips 62 |
| | | | Conduit Profiles 67-71  |
| | | | Conduit End Caps 72 |

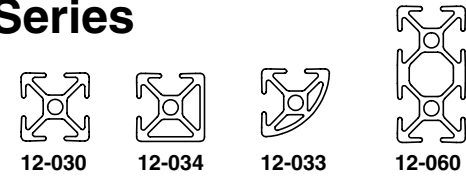
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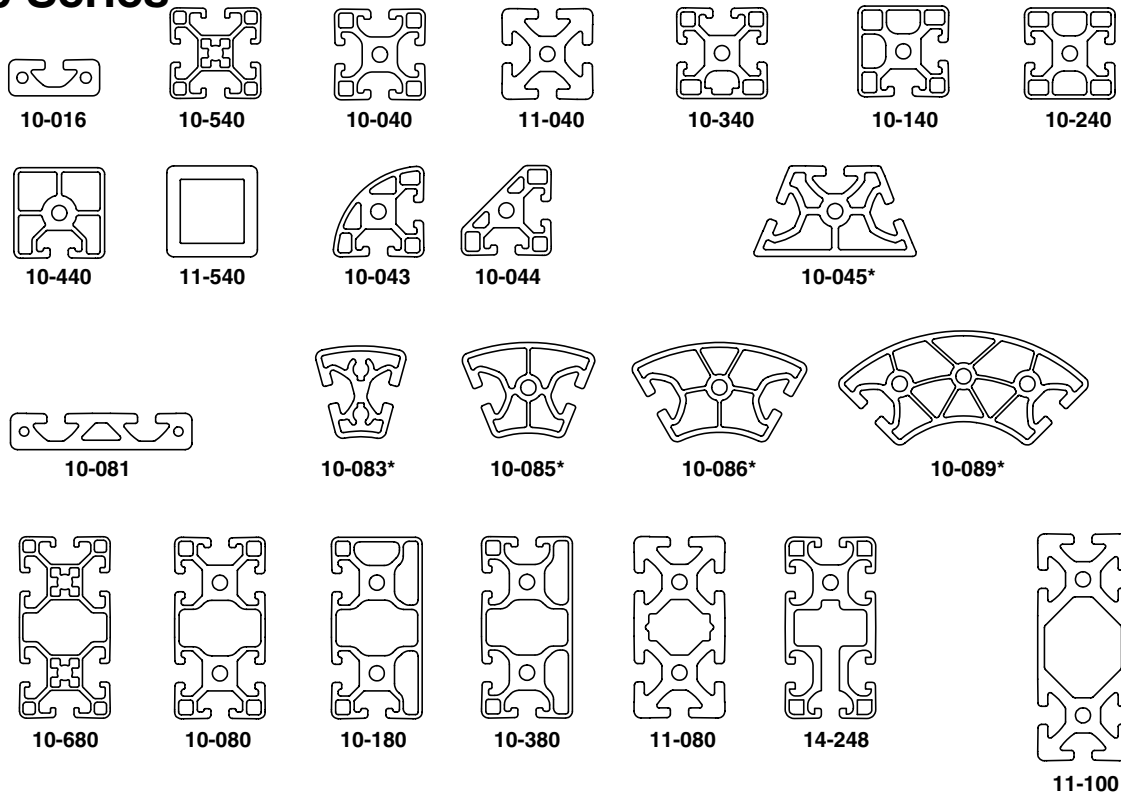
28 Series



30 Series



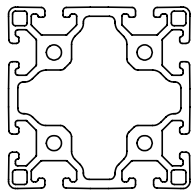
40 Series



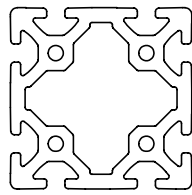
*Available in 3m bar only.



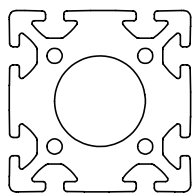
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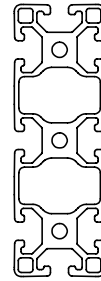
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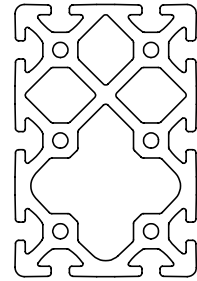
11-088



11-089



10-120



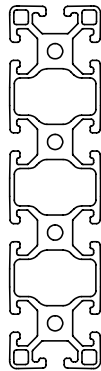
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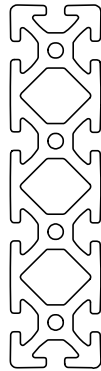
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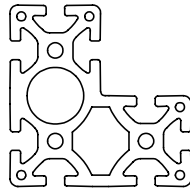
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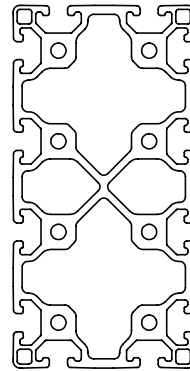
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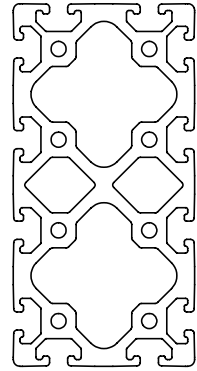
11-140



11-084*



10-160

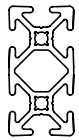


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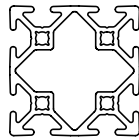
1" Series



12-1010

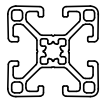


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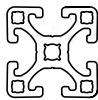


12-2020

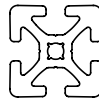
1.5" Series



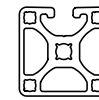
12-1515



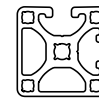
10-1515



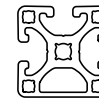
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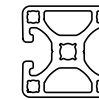
10-1591



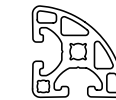
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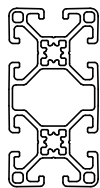
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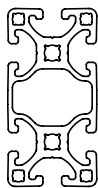
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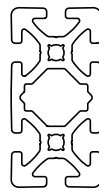
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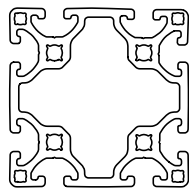
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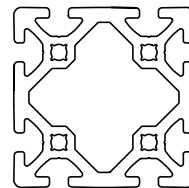
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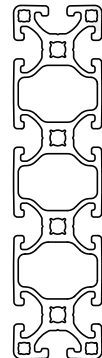
11-1530



10-3030



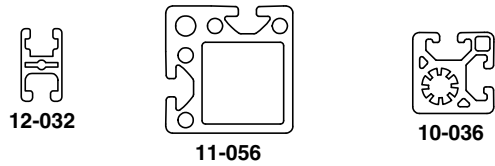
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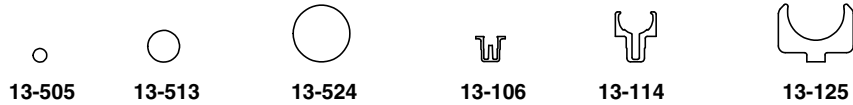
10-1560

*Available in 3m bar only.

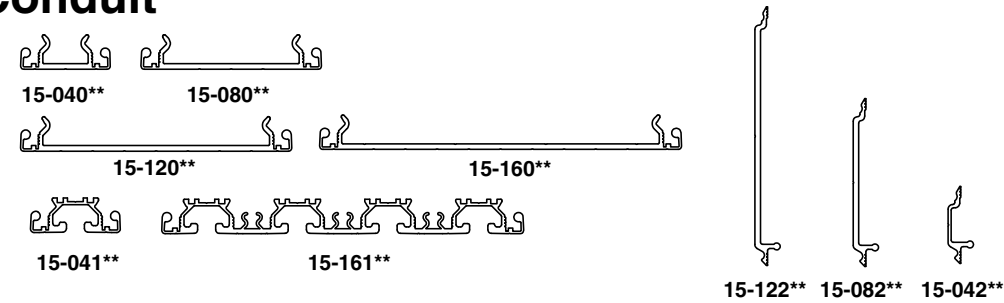
Specialty Profiles



Roller Systems



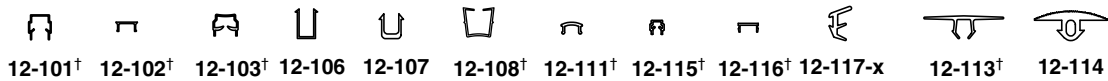
Conduit**



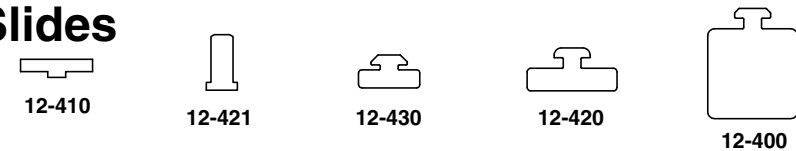
Door



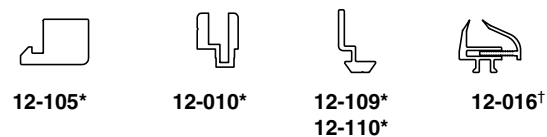
T-Slot Covers



Slides



Panel



†Available in 2m bar only.
 *Available in 3m bar only.
 **Available in 4m bar only.

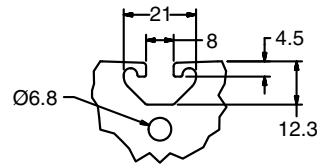


40 Series Profiles

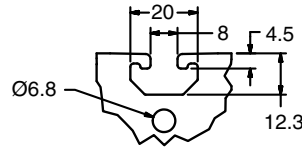
| Part # | Description | Moment of Inertia | | Section Modulus | | Section [cm ²] | Weight [kg/m] | Cat. Page |
|--------|---------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------|---------------|-----------|
| | | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | | | |
| 10-016 | Profile 16x40 | 1.10 | 7.19 | 1.29 | 3.60 | 4.38 | 1.17 | 24 |
| 10-036 | Profile Post 36x36 | 8.55 | 8.55 | 4.32 | 4.32 | 7.18 | 1.94 | 31 |
| 10-040 | Profile 40x40 Standard | 9.46 | 9.46 | 4.73 | 4.73 | 6.65 | 1.72 | 19 |
| 10-043 | Profile 40x40 Quarter Round ST | 6.95 | 6.95 | 3.15 | 3.15 | 5.87 | 1.59 | 21 |
| 10-044 | Profile 40x40-45° Standard | 6.79 | 6.79 | 3.03 | 3.03 | 5.72 | 1.53 | 22 |
| 10-045 | Profile 40x45° Standard | 16.25 | 34.51 | 7.40 | 12.20 | 10.22 | 2.76 | 22 |
| 10-080 | Profile 80x40 Standard | 17.23 | 71.56 | 8.62 | 17.89 | 11.49 | 3.18 | 26 |
| 10-081 | Profile 16x80 | 2.22 | 50.72 | 2.61 | 12.68 | 8.41 | 2.20 | 24 |
| 10-083 | Profile R40x80 30° Standard | 8.48 | 5.87 | 4.01 | 3.64 | 5.71 | 1.57 | 23 |
| 10-085 | Profile R40x80 45° Standard | 10.69 | 16.64 | 4.75 | 8.23 | 6.99 | 1.92 | 23 |
| 10-086 | Profile R40x80 60° Standard | 13.02 | 35.75 | 6.30 | 10.38 | 8.26 | 2.25 | 23 |
| 10-088 | Profile 80x80 Standard | 136.85 | 136.85 | 34.21 | 34.21 | 19.98 | 5.45 | 27 |
| 10-089 | Profile R40x80 90° Standard | 21.68 | 110.54 | 8.73 | 20.89 | 12.67 | 3.44 | 23 |
| 10-120 | Profile 120x40 Standard | 25.04 | 225.56 | 12.52 | 37.59 | 16.66 | 4.35 | 28 |
| 10-140 | Profile 40x40 Bi-Slot Corner | 9.29 | 9.29 | 4.64 | 4.64 | 6.67 | 1.81 | 20 |
| 10-160 | Profile 160x80 Standard | 268.68 | 738.22 | 67.17 | 92.28 | 37.76 | 10.29 | 29 |
| 10-161 | Profile 16x160 | 3.73 | 289.10 | 4.13 | 36.14 | 12.98 | 3.45 | 24 |
| 10-164 | Profile 160x40 Standard | 32.84 | 368.96 | 16.42 | 46.12 | 21.23 | 5.80 | 28 |
| 10-180 | Profile 80x40 Tri-Slot Corner | 16.61 | 68.92 | 8.14 | 17.15 | 11.16 | 2.83 | 26 |
| 10-240 | Profile 40x40 Bi-Slot Mid-Frame | 9.57 | 9.13 | 4.79 | 4.57 | 6.73 | 1.82 | 20 |
| 10-340 | Profile 40x40 Tri-Slot | 9.94 | 9.33 | 4.01 | 4.66 | 6.83 | 1.82 | 20 |
| 10-380 | Profile 80x40 Quad-Slot | 16.77 | 69.20 | 8.21 | 17.30 | 11.28 | 3.06 | 26 |
| 10-440 | Profile 40x40 Mono-Slot | 8.47 | 8.71 | 4.08 | 4.35 | 5.81 | 1.56 | 20 |
| 10-540 | Profile 40x40 Light | 8.27 | 8.27 | 4.14 | 4.14 | 5.20 | 1.41 | 19 |
| 10-680 | Profile 80x40 Light | 15.30 | 56.78 | 7.65 | 14.70 | 9.10 | 2.46 | 26 |
| 11-040 | Profile 40x40 Heavy | 14.26 | 14.26 | 7.13 | 7.13 | 9.29 | 2.53 | 19 |
| 11-056 | Profile Post 56x56 | 46.09 | 46.09 | 14.98 | 14.98 | 13.17 | 3.53 | 31 |
| 11-080 | Profile 80x40 Heavy | 26.97 | 102.65 | 13.48 | 25.66 | 16.74 | 4.58 | 26 |
| 11-084 | Profile 80x80x40 Corner Heavy | 127.47 | 128.57 | 27.62 | 27.66 | 23.23 | 6.27 | 30 |
| 11-088 | Profile 80x80 Heavy | 186.37 | 186.37 | 46.59 | 46.59 | 26.23 | 7.02 | 27 |
| 11-089 | Profile 80x80 Extra Heavy | 223.90 | 223.90 | 55.97 | 55.97 | 37.39 | 9.83 | 27 |
| 11-100 | Profile 40x100 Heavy | 31.22 | 193.34 | 15.61 | 38.67 | 18.02 | 4.94 | 25 |
| 11-122 | Profile 120x80 Heavy | 274.14 | 738.22 | 68.53 | 119.29 | 39.79 | 10.82 | 27 |
| 11-128 | Profile 28x160 | 20.62 | 737.99 | 14.73 | 92.25 | 31.27 | 8.46 | 25 |
| 11-140 | Profile 160x40 Heavy | 53.10 | 738.07 | 26.55 | 92.26 | 32.17 | 8.72 | 28 |
| 11-160 | Profile 160x80 Heavy | 343.37 | 1106.92 | 85.84 | 138.37 | 48.23 | 13.07 | 29 |
| 11-540 | Profile 40x40 Heavy Square | 15.78 | 15.78 | 7.89 | 7.89 | 7.98 | 2.16 | 31 |

T-Slot Detail

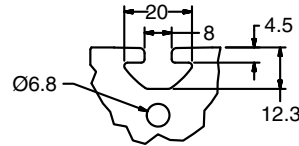
Light



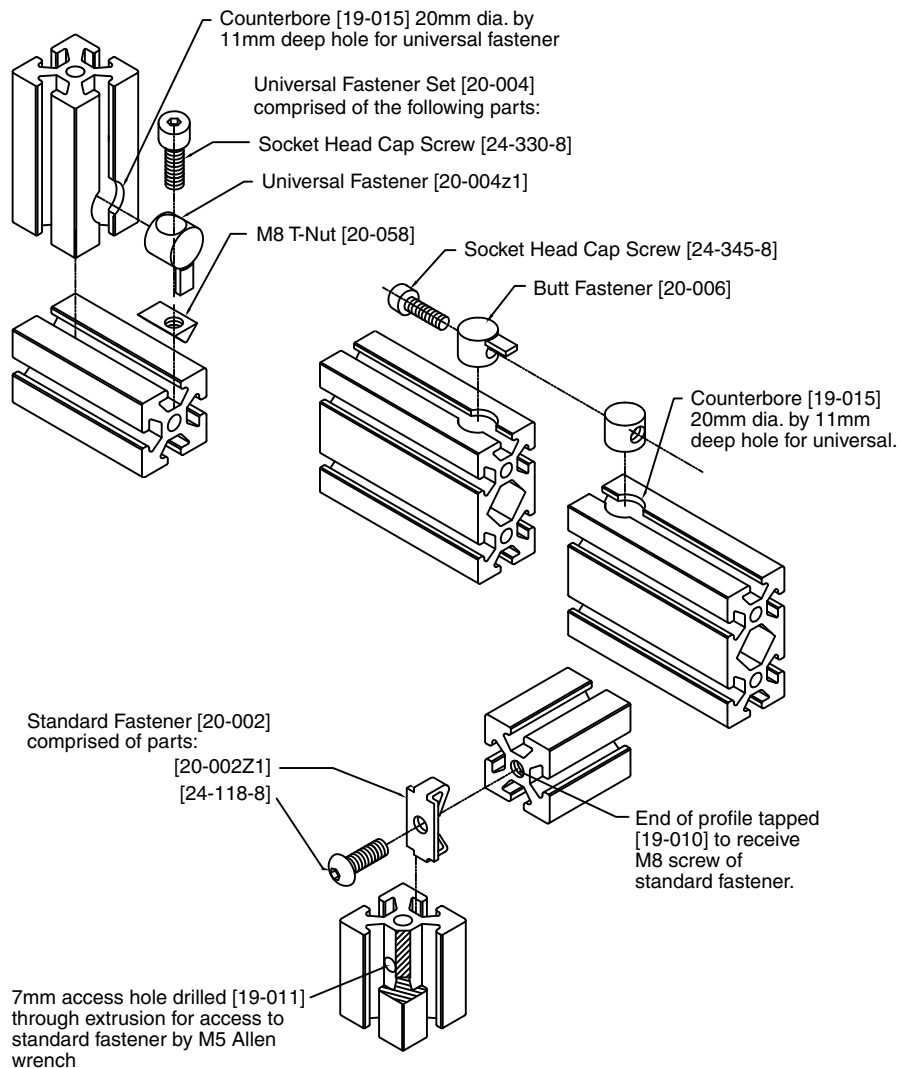
Standard



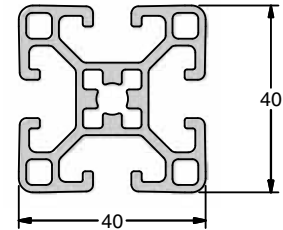
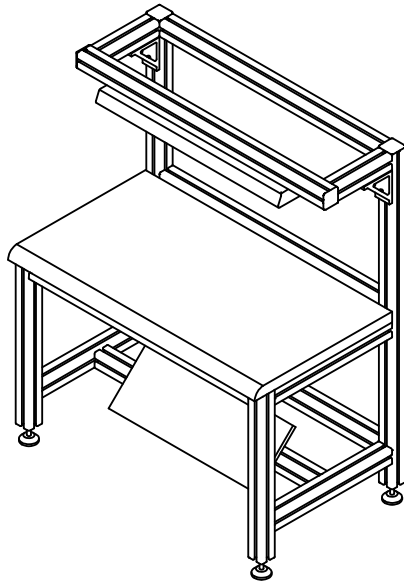
Heavy



Service



40x40 Slotted Profiles



10-540

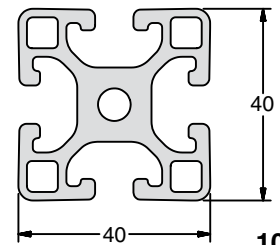
Application

With T-slots located on all four faces this profile provides extensive mounting options for connections and accessories directly onto a structure, making this an excellent choice for general purpose applications such as workstations, machine guarding and enclosures. These profiles are weight optimized and available in light, standard and heavy ratings.

Technical Data

Aluminum, Clear or Black Anodized (See Technical Data page 9 for full material and finish specifications)

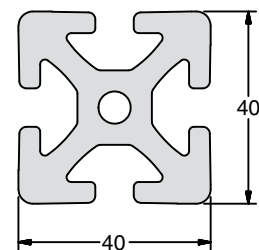
| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-540 | 8.27 | 8.27 | 4.14 | 4.14 | 5.20 | 1.41 |
| 10-040 | 9.46 | 9.46 | 4.73 | 4.73 | 6.65 | 1.72 |
| 11-040 | 14.26 | 14.26 | 7.13 | 7.13 | 9.29 | 2.53 |



10-040

Ordering Information

| Description | Unit | Part # (Clear) | Part # (Black) |
|-----------------------------------|-----------------|----------------|----------------|
| Profile 40x40 Light | Cut off max. 6m | 10-540 | 10-540B |
| Profile 40x40 Standard | Cut off max. 6m | 10-040 | 10-040B |
| Profile 40x40 Heavy | Cut off max. 6m | 11-040 | |
| *Saw Cut Needed for Cut to Length | | 19-001 | 19-001 |



11-040

Quick Reference for Mating Components

Fasteners

| | |
|----------------------------|--------|
| Standard Fastener (Single) | 20-144 |
| Standard Fastener | 20-002 |
| Universal Fastener | 20-004 |

End Caps

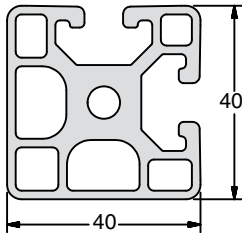
| | |
|--------------|--------|
| 40x40 | 18-813 |
| 40x40 Secure | 18-913 |

Structural Accessories

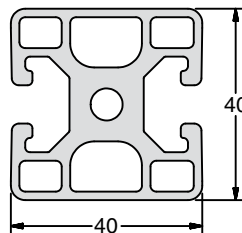
| | |
|------------------------|----------|
| Levelers | Page 156 |
| Casters | Page 167 |
| Plates | Page 102 |
| Gussets | Page 104 |
| Fasteners | Page 73 |
| Machining & Processing | Page 231 |



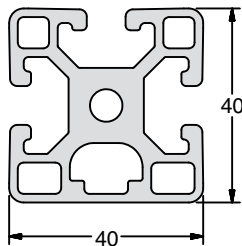
40x40 Closed Face Profiles



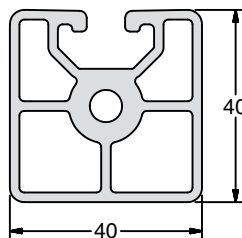
10-140



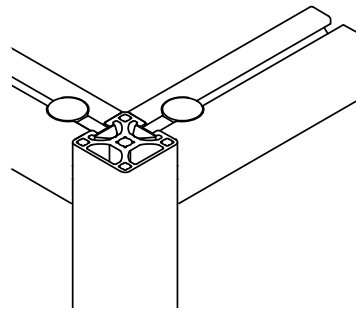
10-240



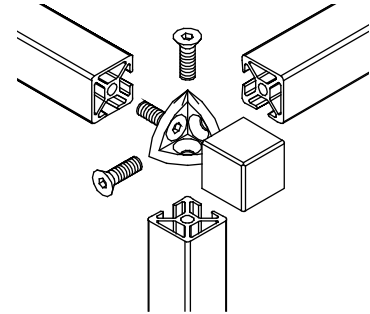
10-340



10-440



Universal Fastening Set 20-004
on 40 x 40 bi-slot corner profile.



Corner Bracket and Square Connector
Cap used with 40 x 40 bi-slot corner
profile.

Application

These profiles are similar to 40X40 Standard profiles except closed faces are positioned in various arrangements. This provides efficient fastening in a variety of configurations while retaining a smooth surface for applications requiring an aesthetically clean look. They are particularly useful in clean room, packaging, medical and pharmaceutical applications as they reduce areas where contaminants and dirt could potentially accumulate.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-140 | 9.29 | 9.29 | 4.64 | 4.64 | 6.67 | 1.81 |
| 10-240 | 9.57 | 9.13 | 4.79 | 4.57 | 6.73 | 1.82 |
| 10-340 | 9.94 | 9.33 | 4.01 | 4.66 | 6.83 | 1.82 |
| 10-440 | 8.47 | 8.71 | 4.08 | 4.35 | 5.81 | 1.56 |

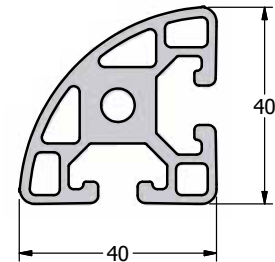
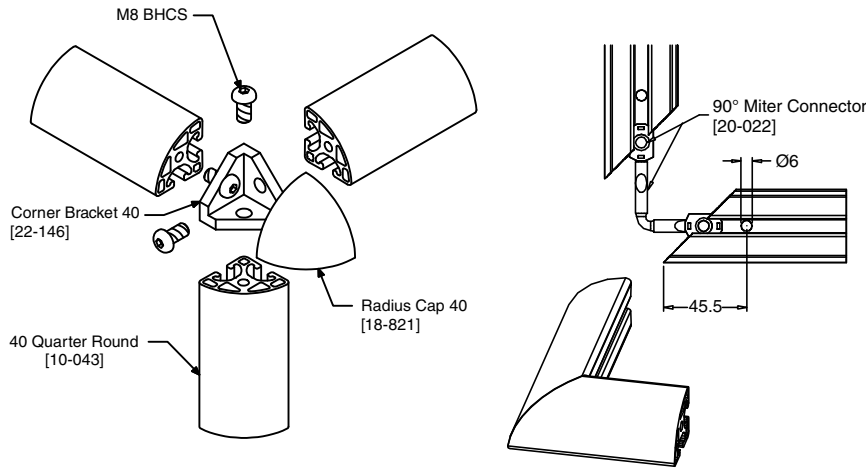
Ordering Information

| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 40x40 Bi-Slot Corner | Cut off max. 6m | 10-140 |
| Profile 40x40 Bi-Slot Mid-Frame | Cut off max. 6m | 10-240 |
| Profile 40x40 Tri-Slot | Cut off max. 6m | 10-340 |
| Profile 40x40 Mono-Slot | Cut off max. 6m | 10-440 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

Quick Reference for Mating Components

| Fasteners | | T-Nuts | |
|----------------------------|--------|----------------------|--------|
| Standard Fastener (Single) | 20-144 | M5 Roll-In | 20-052 |
| Universal Fastener | 20-004 | M6 Roll-In | 20-056 |
| Flat Plate Fast. | 20-028 | M8 Roll-In | 20-058 |
| End Caps | | M8/40 Double Roll-In | 20-050 |
| 40x40 | 18-813 | M6 Economy Standard | 20-080 |
| 40x40 Secure | 18-913 | M8 Economy Standard | 20-081 |

40x40 Quarter Round Profile



10-043

Application

This profile is designed with a radius quarter round face and T-Slots on the remaining perpendicular sides. This is particularly useful for engineering frames, workstation edges, shelving or enclosures where a rounded edge is aesthetically or functionally desirable.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-043 | 6.95 | 6.95 | 3.15 | 3.15 | 5.87 | 1.59 |

Ordering Information

| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 40x40 Quarter Round | Cut off max. 6m | 10-043 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

Quick Reference for Mating Components

Fasteners

| | |
|---------------------------|----------|
| Flat Plate Fastener | 20-028 |
| 90° Miter Connector | 20-128Z1 |
| 40 Series Miter Connector | 20-022 |

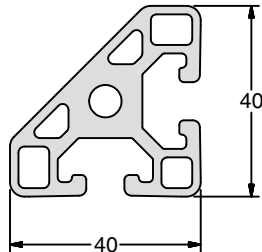
End Cap

| | |
|---------------------|--------|
| 40x40 Quarter Round | 18-843 |
|---------------------|--------|

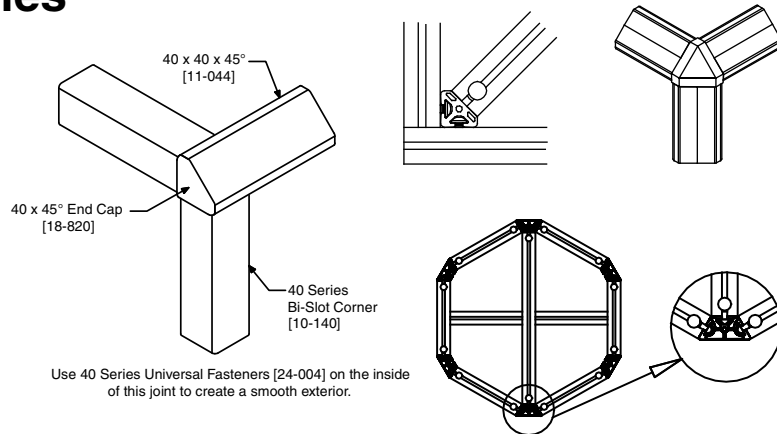
Radius Profile Accessories

| | |
|------------------------|--------|
| Connector Cap, Radius | 18-821 |
| Tap profile end for M8 | 19-010 |
| 45° Miter Cut | 19-105 |
| Special Miter Cut | 19-104 |

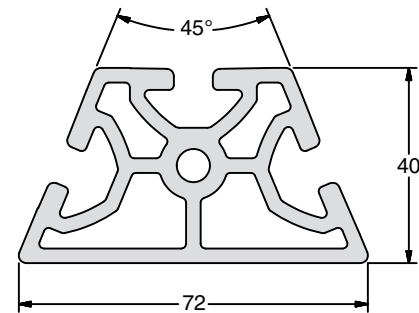
40 Series Angled Profiles



10-044



Use 40 Series Universal Fasteners [24-004] on the inside of this joint to create a smooth exterior.



10-045**

Application

With angled faces and perpendicular T-Slots, profile 10-044 is ideal for smoothing corners of structures for clean room, medical, pharmaceutical as well as display and workstation applications. This can also be used as gussets or for placing profiles at a 45° angle within a structure.

Profile 10-045 provides T-Slots on three sides: one parallel with the closed face, and two positioned to provide a 45° angle. This profile can be used when creating polygonal shaped structures.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------|------------------|
| 10-044 | 6.79 | 6.79 | 3.03 | 3.03 | 5.72 | 1.53 |
| 10-045 | 16.25 | 34.51 | 7.40 | 12.20 | 10.22 | 2.76 |

Ordering Information

| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 40x40-45° Standard | Cut off max. 6m | 10-044 |
| Profile 40x45°. Standard | Each, 3m** | 10-045 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

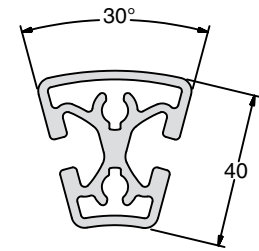
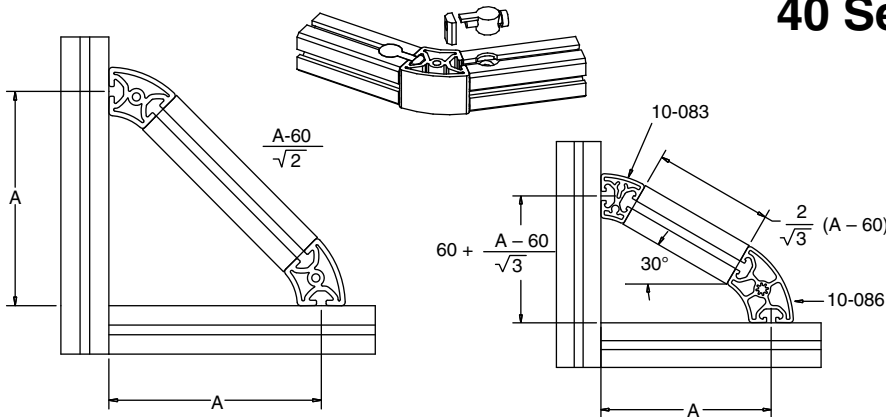
Quick Reference for Mating Components

| Fasteners | | Angle Profile Accessories | |
|----------------------------|--------|---------------------------|--------|
| Standard Fastener (Single) | 20-144 | Corner Bracket 40 | 22-146 |
| Universal Fastener | 20-004 | Connector Cap, 3x45° | 18-822 |
| End Caps | | Connector Cap, 2x45° | 18-836 |
| 40x40-45° | 18-820 | 45° Miter Cut | 19-105 |
| 40-45° | 18-845 | Special Miter Cut | 19-104 |
| | | Tap profile end for M8 | 19-010 |

** Available in 3m bar only



40 Series Radius Profiles



10-083**

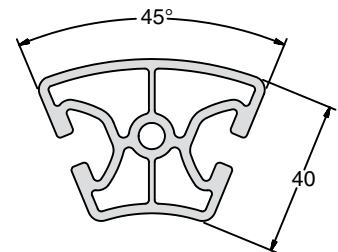
Application

Radius surfaces on two facing sides make these profiles particularly useful for creating rounded corners. They are ideal for applications requiring an aesthetically pleasing look, or where contaminants and dirt must be kept to a minimum such as medical and pharmaceutical environments. These profiles are also useful in constructing cases, tables and angled structure bases.

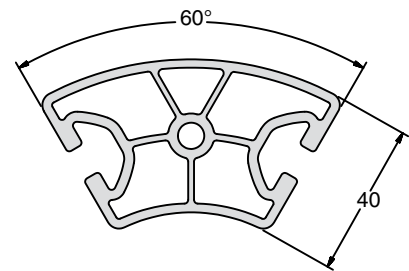
Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

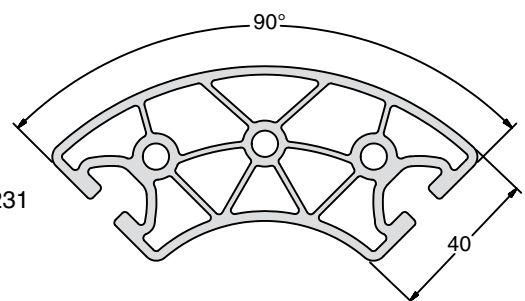
| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-083 | 8.48 | 5.87 | 4.01 | 3.64 | 5.71 | 1.57 |
| 10-085 | 10.96 | 16.64 | 4.75 | 8.23 | 6.99 | 1.92 |
| 10-086 | 13.02 | 35.75 | 6.30 | 10.38 | 8.26 | 2.25 |
| 10-089 | 21.68 | 110.54 | 8.73 | 20.89 | 12.67 | 3.44 |



10-085**



10-086**



10-089**

Ordering Information

| Description | Unit** | Part # (Clear) |
|-----------------------------------|----------|----------------|
| Profile R40x80 30° Standard | Each, 3m | 10-083 |
| Profile R40x80 45° Standard | Each, 3m | 10-085 |
| Profile R40x80 60° Standard | Each, 3m | 10-086 |
| Profile R40x80 90° Standard | Each, 3m | 10-089 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

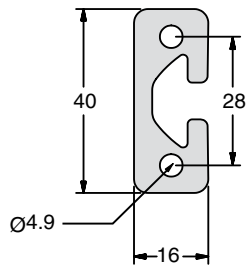
Quick Reference for Mating Components

| Fasteners | | Structural Accessories | |
|--------------------|--------|------------------------|----------|
| Universal Fastener | 20-004 | Machining & Processing | Page 231 |

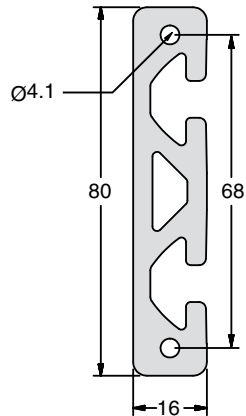
** Available in 3m bar only.



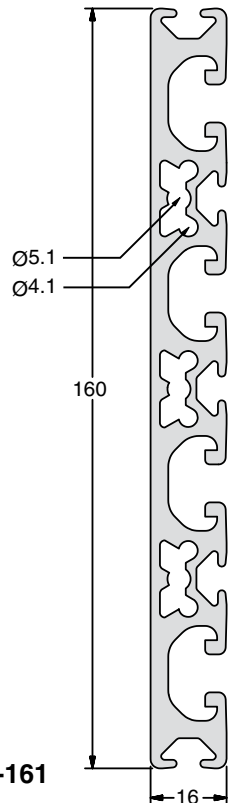
40 Series 16mm Profiles



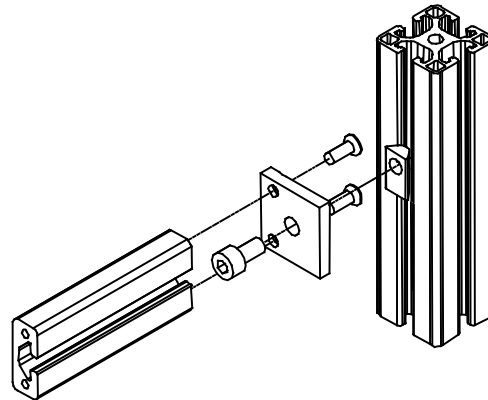
10-016



10-081



10-161



Application

Light construction and support for attaching items such as valves, limit switches, pneumatics and control equipment. Profile 10-081 can be used as a base plate on Roller System 6 Bearing Units. Profile 10-161 has a large surface area with 8mm and 5mm T-Slots providing convenient attachment points for multiple accessories (this profile should not be used as a structural member).

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------|------------------|
| 10-016 | 1.10 | 7.19 | 1.29 | 3.60 | 4.38 | 1.17 |
| 10-081 | 2.22 | 50.72 | 2.61 | 12.68 | 8.41 | 2.20 |
| 10-161 | 3.37 | 289.10 | 4.13 | 36.14 | 12.98 | 3.45 |

Ordering Information

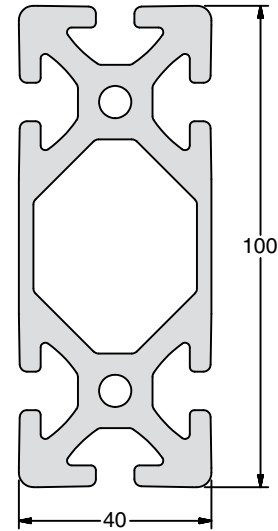
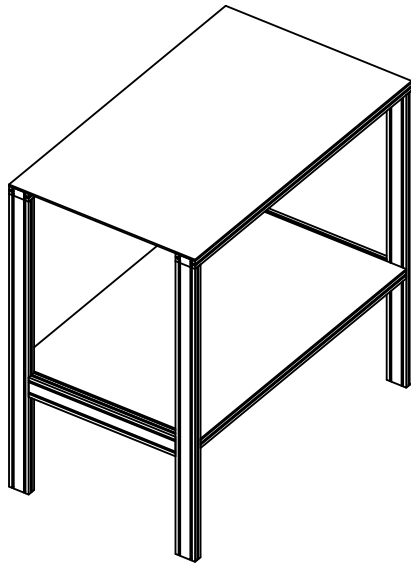
| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 16x40 | Cut off max. 6m | 10-016 |
| Profile 16x80 | Cut off max. 6m | 10-081 |
| *Saw Cut Needed for Cut to Length | | 19-001 |
| Profile 16x160 | Cut off max. 6m | 10-161 |
| *Saw Cut Needed for Cut to Length | | 19-003 |

Quick Reference for Mating Components

| Fasteners | | T-Nut Examples | |
|--------------------------|--------|-------------------|--------|
| Butt-Fastening Set M6 | 20-006 | M5 Roll-In Single | 20-052 |
| Flat Plate Fastening Set | 20-028 | M8 Roll-In Double | 20-050 |
| End Cap | | | |
| Profile 16x40 | 18-811 | | |
| Profile 16x80 | 18-812 | | |
| Profile 16x160 | 18-806 | | |



100x40 and 160x28 Profiles



11-100

Application

These heavy profiles are ideal for general engineering structures such as machine bases, structural supports and mounting surfaces on fixturing applications. 11-128 is used as a carriage plate for bearing block assemblies on Linear System 14.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 11-100 | 31.22 | 193.34 | 15.61 | 38.67 | 18.02 | 4.94 |
| 11-128 | 20.62 | 737.99 | 14.73 | 92.25 | 31.27 | 8.46 |

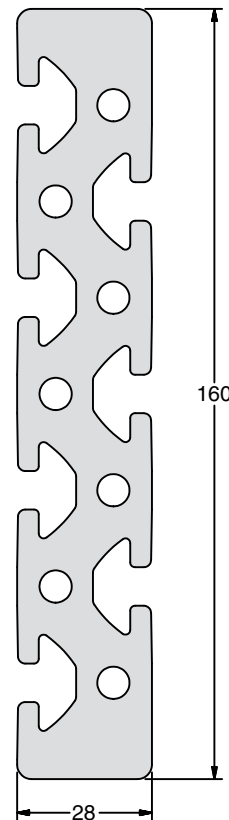
Ordering Information

| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 40x100 Heavy | Cut off max. 6m | 11-100 |
| *Saw Cut Needed for Cut to Length | | 19-002 |
| Profile 28x160 | Cut off max. 6m | 11-128 |
| *Saw Cut Needed for Cut to Length | | 19-003 |

Quick Reference for Mating Components

| End Cap | Fasteners |
|---------|--------------------|
| 160x28 | Standard Fastener |
| 18-816 | Universal Fastener |
| | T-Slot Nuts |

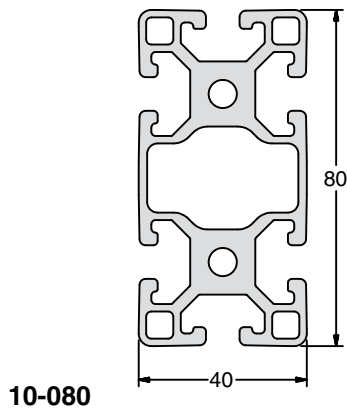
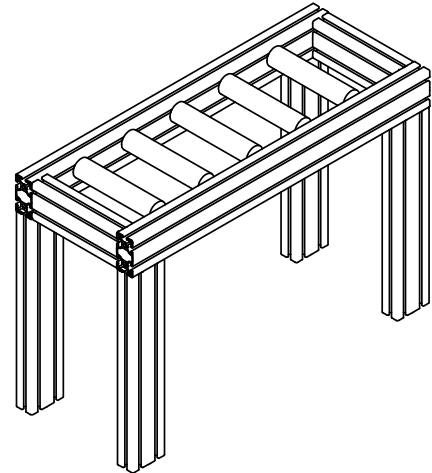
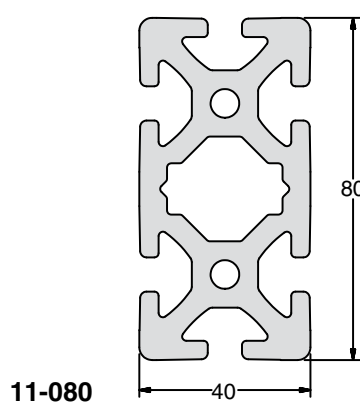
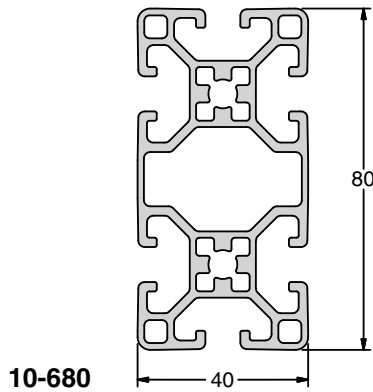
20-002
 20-004
 Page 82



11-128



80x40 Profiles



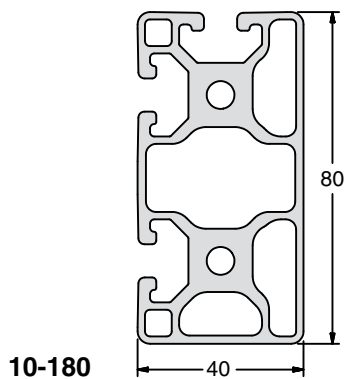
Application

Designed for applications where high strength is required. Ideal for general engineering structures such as machine frames, work stations and support structures. Profiles 10-080 and 11-080 can be used in the construction of linear slides with the IPS Roller Systems. Both profiles can also be used for compressed air piping.

Technical Data

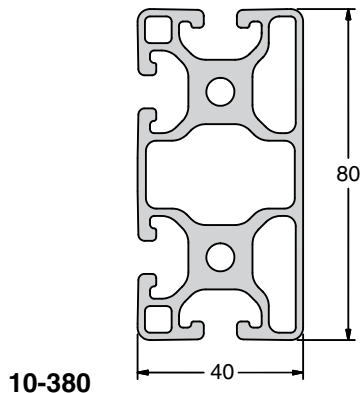
Aluminum, Clear or Black Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-680 | 15.30 | 58.78 | 7.65 | 14.70 | 9.10 | 2.46 |
| 10-080 | 17.23 | 71.56 | 8.62 | 17.89 | 11.49 | 3.18 |
| 10-180 | 16.61 | 68.92 | 8.14 | 17.15 | 11.16 | 2.83 |
| 10-380 | 16.77 | 69.20 | 8.21 | 17.30 | 11.28 | 3.06 |
| 11-080 | 26.97 | 102.65 | 13.48 | 25.66 | 16.74 | 4.58 |



Ordering Information

| Description | Unit | Part # (Clear) | Part # (Black) |
|-----------------------------------|-----------------|----------------|----------------|
| Profile 80x40 Light | Cut off max. 6m | 10-680 | |
| Profile 80x40 Standard | Cut off max. 6m | 10-080 | 10-080B |
| Profile 80x40 Tri-Slot Corner | Cut off max. 6m | 10-180 | |
| Profile 80x40 Quad-Slot | Cut off max. 6m | 10-380 | |
| Profile 80x40 Heavy | Cut off max. 6m | 11-080 | |
| *Saw Cut Needed for Cut to Length | | 19-001 | |



Quick Reference for Mating Components

Fasteners

| | |
|----------------------------|--------|
| Standard Fastener (Single) | 20-144 |
| Standard Fastener | 20-002 |

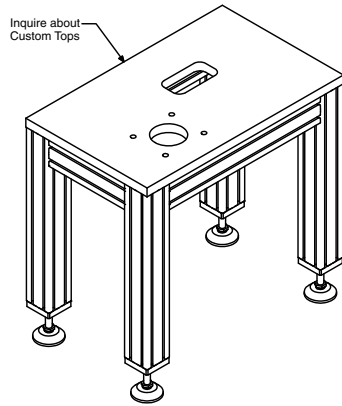
End Caps

| | |
|---------------|--------|
| 80x40 | 18-814 |
| 80x40 Secured | 18-914 |

Structural Accessories

| | |
|-------------------------|----------|
| Compressed Air Fittings | Page 176 |
| Levelers | Page 156 |
| Plates | Page 102 |
| Gussets | Page 104 |
| Linear Slides | Page 206 |

80x80 and 120x80 Profiles



Application

Designed for heavy duty applications and construction of linear slides with IPS roller systems, these profiles are also suitable for multiple channel compressed air piping.

Profile 11-089 can be used as a manifold for pressurized air (150 psi). A support bearing can be pressed into the center diameter to hold shafts or spindles for rotary applications. This diameter can also be used to house electrical or air lines.

Technical Data

Aluminum, Clear or Black Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------|------------------|
| 10-088 | 136.85 | 136.85 | 34.21 | 34.21 | 19.98 | 5.45 |
| 11-088 | 186.36 | 186.37 | 46.59 | 46.59 | 26.23 | 7.02 |
| 11-089 | 223.90 | 223.90 | 55.97 | 53.97 | 37.39 | 9.83 |
| 11-122 | 274.14 | 738.22 | 68.53 | 119.29 | 39.79 | 10.82 |

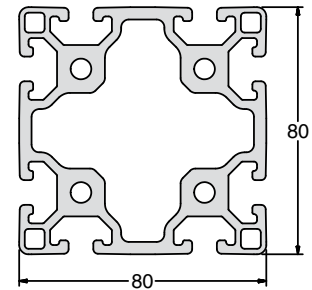
Ordering Information

| Description | Unit | Part # (Clear) | Part # (Black) |
|-----------------------------------|-----------------|----------------|----------------|
| Profile 80x80 Standard | Cut off max. 6m | 10-088 | 10-088B |
| Profile 80x80 Heavy | Cut off max. 6m | 11-088 | |
| *Saw Cut Needed for Cut to Length | | 19-002 | 19-002 |
| Profile 80x80 Extra Heavy | Cut off max. 6m | 11-089** | |
| Profile 80x120 Heavy | Cut off max. 6m | 11-122 | |
| *Saw Cut Needed for Cut to Length | | 19-003 | |

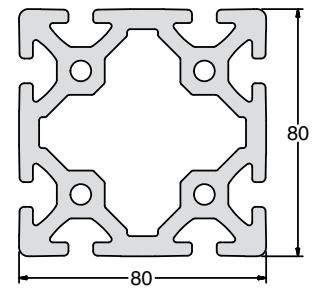
Quick Reference for Mating Components

| Fasteners | | Structural Accessories | |
|--------------------|--------|-------------------------|----------|
| Standard Fastener | 20-002 | Compressed Air Fittings | Page 176 |
| Universal Fastener | 20-004 | Plates | Page 102 |
| End Caps | | Gussets | Page 104 |
| 80x80 | 18-815 | Linear Slides | Page 206 |
| 80x80 Secured | 18-915 | | |
| 80x120 | 18-841 | | |

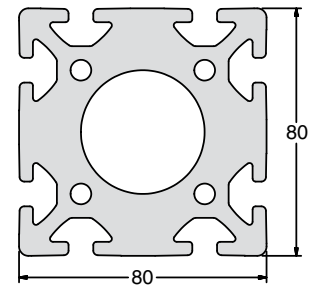
** Requires single ear fastener 20-144 / 25-014



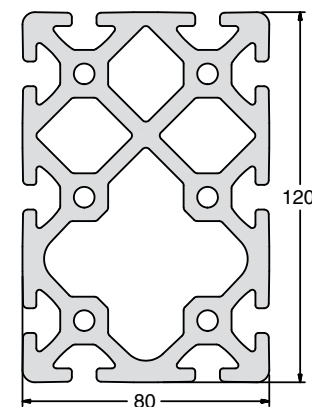
10-088



11-088



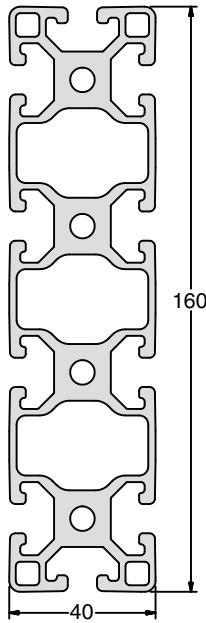
11-089



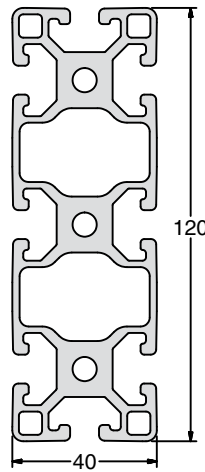
11-122



120x40 and 160x40 Profiles



10-164



10-120

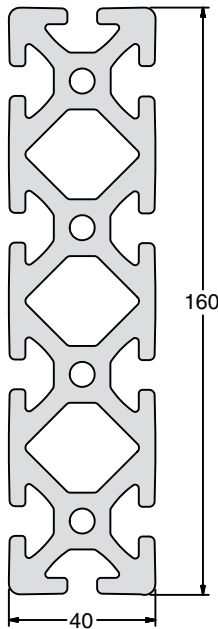
Application

Designed for applications such as fixturing, vertical structural support and headers for bearing block assemblies on IPS Linear System 14. These profiles are also suitable for multiple channel compressed air piping.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------|------------------|
| 10-120 | 25.04 | 225.56 | 12.52 | 37.59 | 16.66 | 4.35 |
| 10-164 | 32.84 | 368.96 | 16.42 | 46.12 | 21.23 | 5.80 |
| 11-140 | 53.10 | 738.07 | 26.55 | 92.26 | 32.17 | 8.72 |



11-140

Ordering Information

| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 120x40 Standard | Cut off max. 6m | 10-120 |
| Profile 160x40 Standard | Cut off max. 6m | 10-164 |
| Profile 160X40 Heavy | Cut off max. 6m | 11-140 |
| *Saw Cut Needed for Cut to Length | | 19-003 |

Quick Reference for Mating Components

Fasteners

| | |
|--------------------|--------|
| Standard Fastener | 20-002 |
| Universal Fastener | 20-004 |

End Caps

| | |
|--------|--------|
| 120x40 | 18-840 |
| 160x40 | 18-817 |

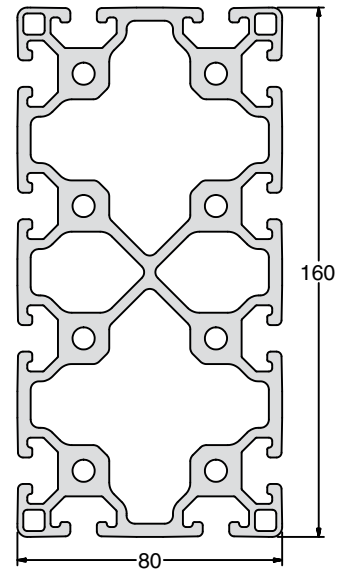
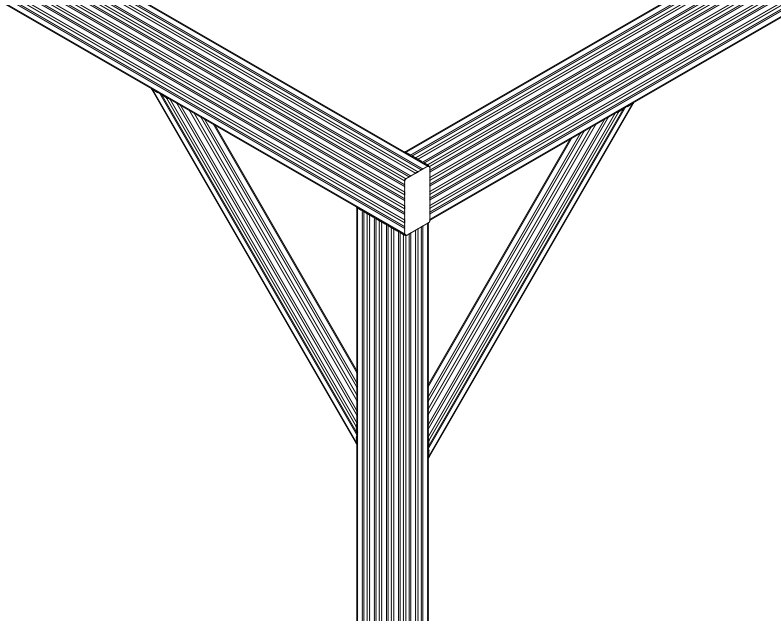
T-Nut Examples

| | |
|-------------------|--------|
| M5 Roll-In Single | 20-052 |
| M8 Roll-In Double | 20-050 |

Structural Accessories

| | |
|-------------------------|----------|
| Compressed Air Fittings | Page 176 |
| Machining & Processing | Page 231 |

160x80 Profiles



10-160

Application

Designed for very high load or wide span applications and construction of linear slides with IPS Roller Systems. These high strength profiles are also suitable for multiple channel compressed air piping.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

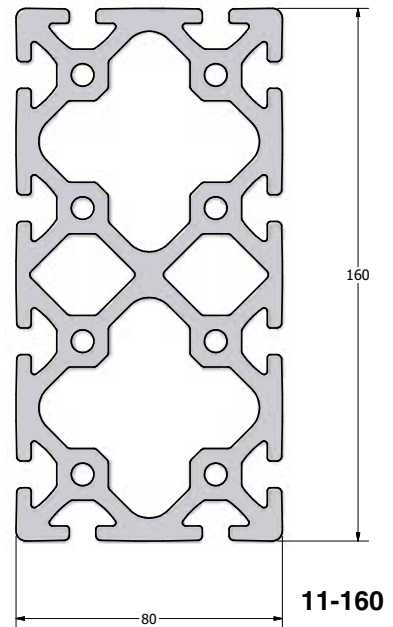
| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-160 | 268.68 | 738.22 | 67.17 | 92.28 | 37.76 | 10.29 |
| 11-160 | 343.37 | 1106.92 | 85.84 | 138.37 | 48.23 | 13.07 |

Ordering Information

| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 160x80 Standard | Cut off max. 6m | 10-160 |
| Profile 160x80 Heavy | Cut off max. 6m | 11-160 |
| *Saw Cut Needed for Cut to Length | | 19-003 |

Quick Reference for Mating Components

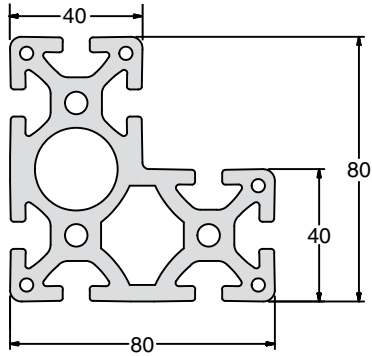
| Fasteners | | Structural Accessories | |
|--------------------|--------|------------------------|----------|
| Standard Fastener | 20-002 | Levelers | Page 156 |
| Universal Fastener | 20-004 | Casters | Page 167 |
| End Caps | | Plates | Page 102 |
| 160x80 | 18-818 | Gussets | Page 104 |



11-160



Heavy Corner Profile



11-084



Application

Designed for very high load or wide span applications and construction corner posts in structures or machine assemblies. This high strength profile is also suitable for multiple channel compressed air piping.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------|------------------|
| 11-084 | 127.47 | 128.57 | 27.62 | 27.66 | 23.23 | 6.27 |

Ordering Information

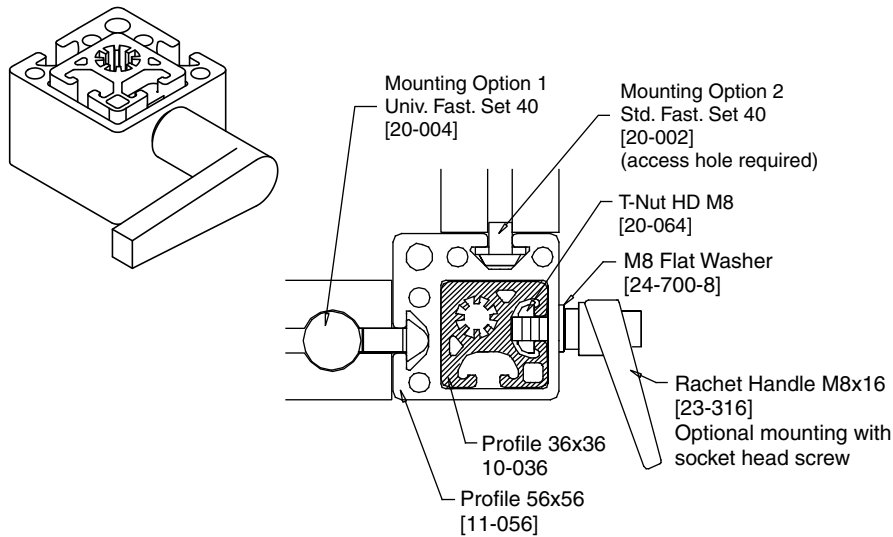
| Description | Unit** | Part # (Clear) |
|-----------------------------------|--------|----------------|
| Profile 80x80x40 Corner Heavy | Each | 11-084 |
| *Saw Cut Needed for Cut to Length | | 19-003 |

Quick Reference for Mating Components

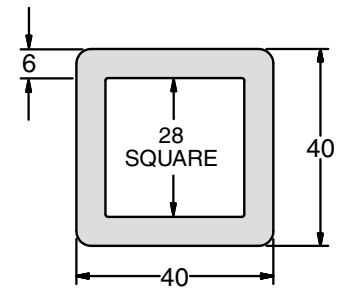
| Fasteners | | T-Nut Examples | |
|--------------------|--------|----------------------|--------|
| Standard Fastener | 20-002 | M6 Roll-In | 20-056 |
| Universal Fastener | 20-004 | M8 Roll-In | 20-058 |
| | | M8/40 Double Roll-In | 20-049 |
| | | T-Slot Nut, HD M8 | 20-064 |

** Available in 3m bar only





Post and Square Profiles



11-540

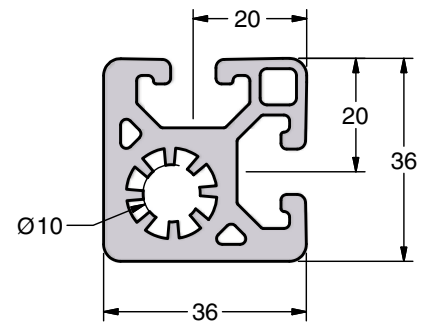
Application

These profiles are engineered as support elements for a variety of applications including table bases, frames and machine guarding. Profile 10-036 fits into the cavity of 11-056 to create a telescoping post for work stations or tables. This cavity can also be used as a channel for counterweights.

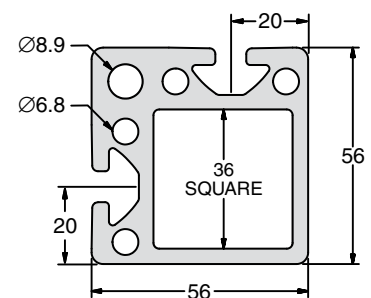
Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------|------------------|
| 11-540 | 15.78 | 15.78 | 7.89 | 7.89 | 7.98 | 2.16 |
| 10-036 | 8.55 | 8.55 | 4.32 | 4.32 | 7.18 | 1.94 |
| 11-056 | 46.09 | 46.09 | 14.98 | 14.98 | 13.17 | 3.53 |



10-036



11-056

Ordering Information

| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 40x40 Heavy Square | Cut off max. 6m | 11-540 |
| Profile Post 36x36 | Cut off max. 6m | 10-036 |
| Profile Post 56x56 | Cut off max. 6m | 11-056 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

Quick Reference for Mating Components

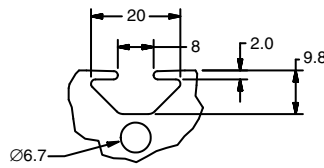
| End Caps | | Structural Accessories | |
|---------------------|--------|------------------------|--------|
| 40x40 (11-540 only) | 18-805 | Ratchet Handle | 23-316 |
| 56x56 Post Profile | 18-819 | Flat Plate Fastener | 20-028 |



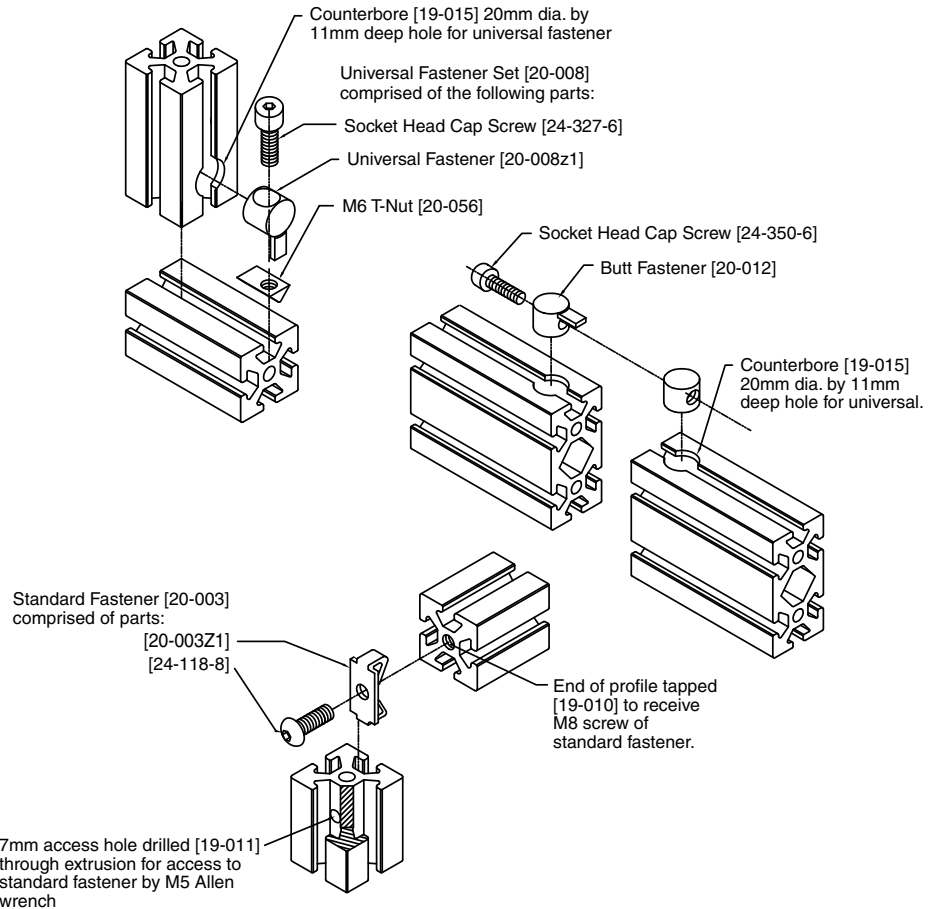
30 Series Profiles

| Part # | Description | Moment of Inertia | | Section Modulus | | Section [cm ²] | Weight [kg/m] | Cat. Page |
|--------|------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------|---------------|-----------|
| | | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | | | |
| 12-030 | Profile 30x30 | 3.15 | 3.15 | 2.10 | 2.10 | 3.33 | 0.90 | 33 |
| 12-033 | Profile 30x30 Quarter Round | 2.48 | 2.48 | 1.51 | 1.51 | 3.13 | 0.85 | 34 |
| 12-034 | Profile 30x30 Bi-Slot Corner | 3.52 | 3.51 | 2.24 | 2.23 | 3.69 | 1.00 | 33 |
| 12-060 | Profile 30x60 | 6.12 | 21.20 | 4.08 | 7.07 | 6.19 | 1.68 | 35 |

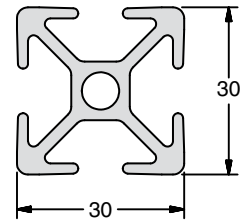
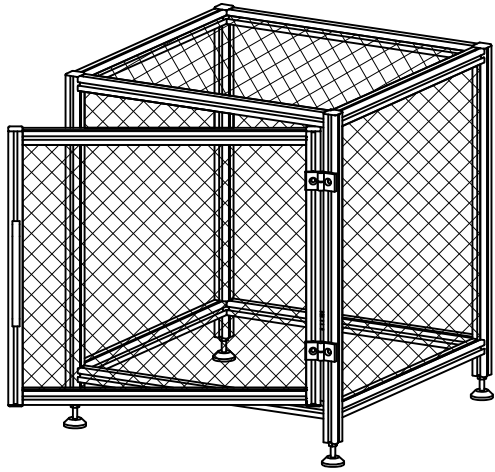
T-Slot Detail



Service



30x30 Profiles



12-030

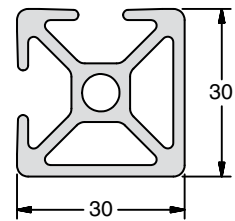
Application

Designed for general structures, safety guards and partition frames, light duty enclosures and industrial peripherals. Profile 12-034 has closed faces on two perpendicular sides making it ideal for constructing smooth corners.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 12-030 | 3.15 | 3.15 | 2.10 | 2.10 | 3.33 | 0.90 |
| 12-034 | 3.52 | 3.51 | 2.24 | 2.23 | 3.69 | 1.00 |



12-034

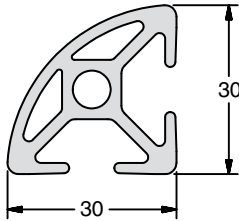
Ordering Information

| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 30x30 | Cut off max. 6m | 12-030 |
| Profile 30x30 Bi-Slot Corner | Cut off max. 6m | 12-034 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

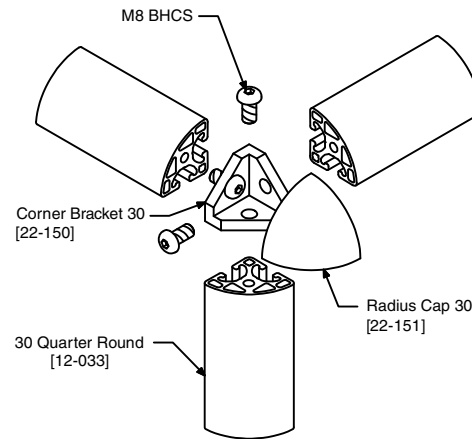
Quick Reference for Mating Components

| Fasteners | | Structural Accessories | |
|--------------------|--------|------------------------|-----------|
| Standard Fastener | 20-003 | Corner Bracket 30 | 22-150 |
| Universal Fastener | 20-008 | Connector Cap 30 (Sq) | 22-152 |
| End Caps | | Leveling Foot | 21-001-30 |
| 30x30 | 18-803 | T-Slot Nuts | Page 82 |

30x30 Quarter Round



12-033



Application

Designed with a quarter round smooth face and T-Slots, this profile is particularly useful for engineering frames, shelving or enclosures where a radius edge is aesthetically or functionally desirable.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 12-033 | 2.48 | 2.48 | 1.51 | 1.51 | 3.13 | 0.85 |

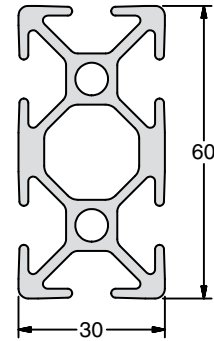
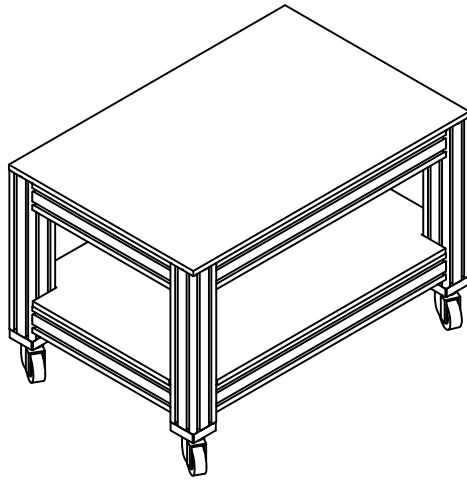
Ordering Information

| Description | Unit | Part # |
|-----------------------------------|-----------------|--------|
| Profile 30x30 Quarter Round | Cut off max. 6m | 12-033 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

Quick Reference for Mating Components

| Fasteners | | Corner Connector Caps | Pg. 98 |
|---------------------|--------|------------------------|--------|
| Flat Plate Fastener | 20-028 | Connector Cap, Radius | 22-151 |
| Miter Connector 30 | 20-024 | Tap Profile End for M8 | 19-010 |
| Corner Bracket 30 | 22-150 | 45° Miter Cut | 19-104 |

60x30 Profiles



12-060

Application

These profiles are ideal for general use structures, safety guards and partition frames, light duty enclosures and industrial peripherals.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 12-060 | 6.12 | 21.20 | 4.08 | 7.07 | 6.19 | 1.68 |

Ordering Information

| Description | Unit | Part # |
|-----------------------------------|-----------------|--------|
| Profile 30x60 | Cut off max. 6m | 12-060 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

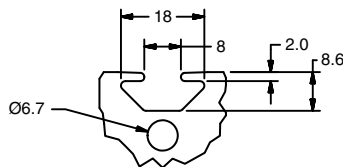
Quick Reference for Mating Components

| Fasteners | | T-Nut Examples | |
|--------------------|--------|----------------------|--------|
| Standard Fastener | 20-003 | M6 Roll-In | 20-056 |
| Universal Fastener | 20-008 | M8 Roll-In | 20-058 |
| End Caps | | M8/40 Double Roll-In | 20-049 |
| 30x60 | 18-863 | T-Slot Nut, HD M8 | 20-064 |

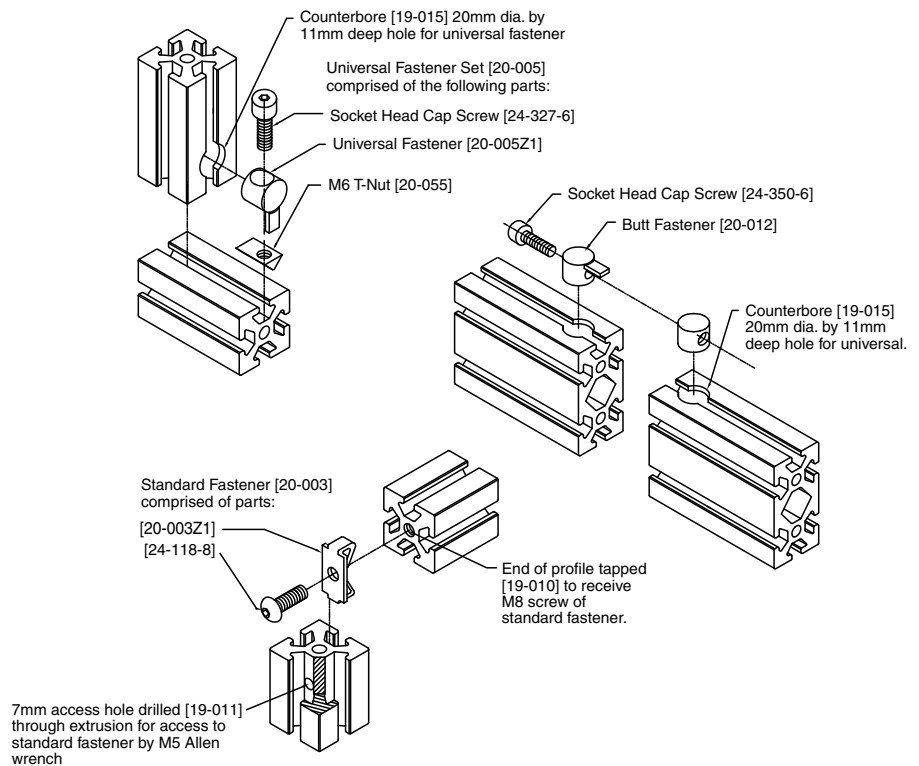
28 Series Profiles

| Part # | Description | Moment of Inertia | | Section Modulus | | Section [cm ²] | Weight [kg/m] | Cat. Page |
|--------|---------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------|---------------|-----------|
| | | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | | | |
| 12-028 | Profile 28x28 Quad-Slot | 2.37 | 2.27 | 1.70 | 1.62 | 2.96 | 0.81 | 37 |
| 12-428 | Profile 28x56 Open Slot | 4.65 | 16.42 | 3.32 | 5.86 | 5.60 | 1.51 | 37 |
| 12-056 | Profile 56x56 Light | 30.44 | 30.44 | 10.87 | 10.87 | 8.87 | 2.40 | 37 |
| 12-128 | Profile 28x28 Tri-Slot | 2.64 | 2.35 | 1.78 | 1.68 | 3.12 | 0.84 | 38 |
| 12-228 | Profile 28x28 Bi-Slot | 2.69 | 2.69 | 1.83 | 1.83 | 3.32 | 0.90 | 38 |
| 12-328 | Profile 28x28 Bi-Slot Mid-Frame | 2.41 | 3.00 | 1.72 | 2.14 | 3.32 | 0.90 | 38 |
| 12-044 | Profile 28x28 45 Deg. | 1.97 | 1.97 | 1.28 | 1.28 | 2.87 | 0.78 | 39 |
| 12-628 | Profile 28x56 Bi-Slot | 5.92 | 18.01 | 4.23 | 6.43 | 6.36 | 1.72 | 40 |
| 12-728 | Profile 28x56 Quad-Slot | 5.23 | 17.10 | 3.53 | 6.11 | 5.96 | 1.62 | 40 |

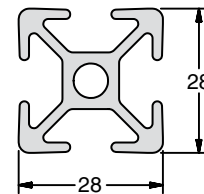
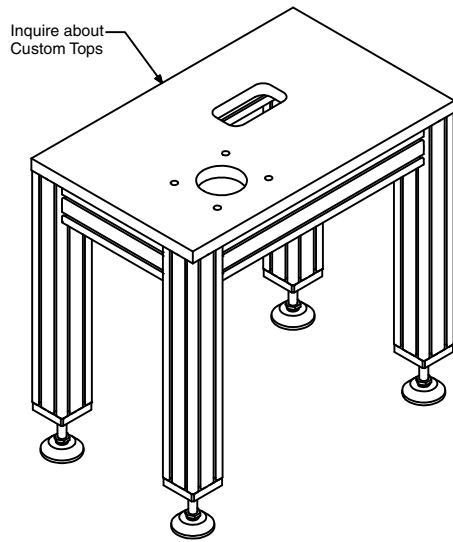
T-Slot Dimensions



Service



28x28, 56x28 and 56x56 Slotted Profiles



12-028

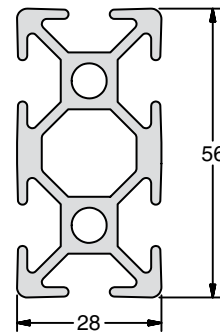
Application

These profiles are designed with T-slot faces on all four sides. They are useful for constructing safety guards, partition frames, light duty enclosures and industrial peripherals.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 12-028 | 2.37 | 2.27 | 1.70 | 1.62 | 2.96 | 0.81 |
| 12-428 | 4.65 | 16.42 | 3.32 | 5.86 | 5.60 | 1.51 |
| 12-056 | 30.44 | 30.44 | 10.87 | 10.87 | 8.87 | 2.40 |



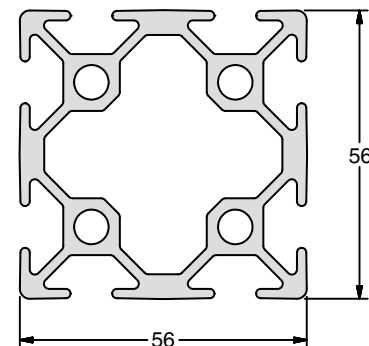
12-428

Ordering Information

| Description | Unit | Part # |
|-----------------------------------|-----------------|--------|
| Profile 28x28 Quad-Slot | Cut off max. 6m | 12-028 |
| Profile 28x56 Open Slot | Cut off max. 6m | 12-428 |
| Profile 56x56 | Cut off max. 6m | 12-056 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

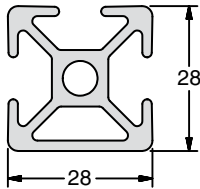
Quick Reference for Mating Components

| Fasteners | | T-Nut Examples | |
|--------------------|--------|---------------------|--------|
| Standard Fastener | 20-003 | Roll-In Single M6 | 20-055 |
| Universal Fastener | 20-005 | Roll-In Single M8 | 20-057 |
| End Caps | | Economy Standard M6 | 20-090 |
| 28x28 | 18-808 | Economy Offset M6 | 20-190 |
| 28x56 | 18-809 | Economy Standard M8 | 20-091 |
| | | Economy Offset ¼-20 | 20-193 |

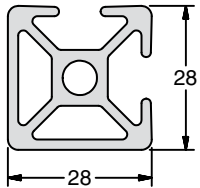


12-056

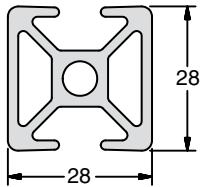
28x28 Closed Face Square Profiles



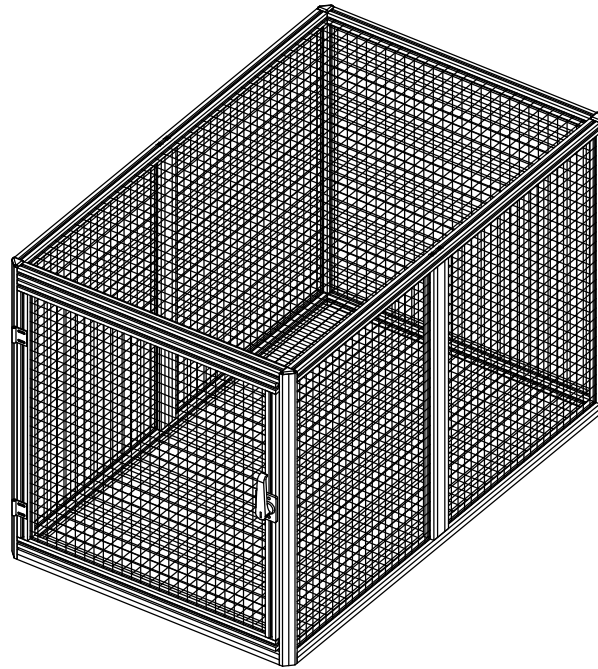
12-128



12-228



12-328



Application

Designed with various closed faces, these profiles provide efficient fastening in a variety of configurations while retaining a smooth exterior for an aesthetically clean look.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 12-128 | 2.64 | 2.35 | 1.78 | 1.68 | 3.12 | 0.84 |
| 12-228 | 2.69 | 2.69 | 1.83 | 1.83 | 3.32 | 0.90 |
| 12-328 | 2.41 | 3.00 | 1.72 | 2.14 | 3.32 | 0.90 |

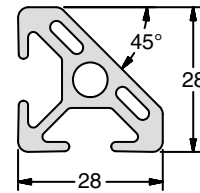
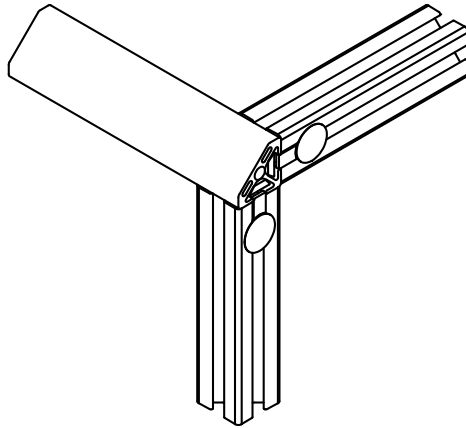
Ordering Information

| Description | Unit | Part # |
|-----------------------------------|-----------------|--------|
| Profile 28x28 Tri-Slot | Cut off max. 6m | 12-128 |
| Profile 28x28 Bi-Slot | Cut off max. 6m | 12-228 |
| Profile 28x28 Bi-Slot Mid-Frame | Cut off max. 6m | 12-328 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

Quick Reference for Mating Components

| Fasteners | | End Caps | |
|--------------------------|--------|----------|--------|
| Flat Plate Fastening Set | 20-028 | 28x28 | 18-808 |
| Universal Fastening Set | 20-005 | | |
| Standard Fastener | 20-003 | | |

28x28 Angled Closed Face Profile



12-044

Application

Designed with an angled closed face and T-Slots on two sides. This profile is ideal for applications where perpendicular surfaces are not desired.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 12-044 | 1.97 | 1.97 | 1.28 | 1.28 | 2.87 | 0.78 |

Ordering Information

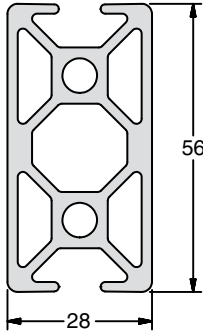
| Description | Unit | Part # |
|-----------------------------------|-----------------|--------|
| Profile 28x28 45° | Cut off max. 6m | 12-044 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

Quick Reference for Mating Components

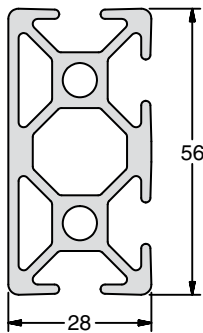
| Fasteners | T-Nut Examples |
|---------------------------------|----------------------------|
| Flat Plate Fastening Set 20-028 | Roll-In Single M6 20-055 |
| End Caps 28x28-45° 18-844 | Roll-In Single M8 20-057 |
| | Economy Standard M6 20-090 |



56x28 Closed Face Profiles



12-628



12-728

Application

Designed with various closed faces, these profiles provide efficient fastening in a variety of configurations while retaining a smooth exterior for an aesthetically clean look.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 12-628 | 5.92 | 18.01 | 4.23 | 6.43 | 6.36 | 1.72 |
| 12-728 | 5.23 | 17.10 | 3.53 | 6.11 | 5.96 | 1.62 |

Ordering Information

| Description | Unit | Part # |
|-----------------------------------|-----------------|--------|
| Profile 28x56 Bi-Slot | Cut off max. 6m | 12-628 |
| Profile 28x56 Quad-Slot | Cut off max. 6m | 12-728 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

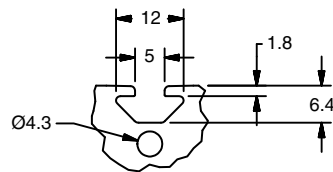
Quick Reference for Mating Components

| Fasteners | End Caps |
|---------------------------------|--------------|
| Flat Plate Fastening Set 20-028 | 28x56 18-809 |
| Universal Fastening Set 20-005 | |
| Standard Fastener 20-003 | |

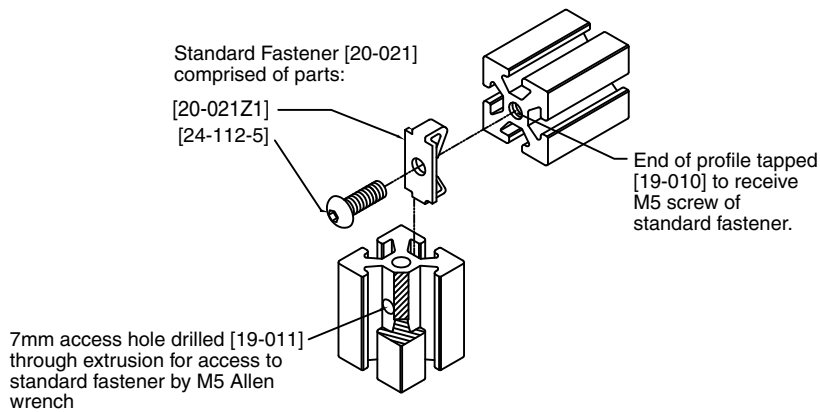
20 Series Profiles

| Part # | Description | Moment of Inertia | | Section Modulus | | Section [cm ²] | Weight [kg/m] | Cat. Page |
|--------|-------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------|---------------|-----------|
| | | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | | | |
| 12-120 | Profile 20x10 | 0.12 | 0.53 | 0.22 | 0.53 | 1.29 | 0.35 | 42 |
| 12-020 | Profile 20x20 | 0.73 | 0.73 | 0.73 | 0.73 | 1.80 | 0.52 | 42 |
| 12-040 | Profile 40x40 20 Series | 8.74 | 8.74 | 4.37 | 4.37 | 4.83 | 1.32 | 43 |
| 12-124 | Profile 20x40 | 1.33 | 5.03 | 1.33 | 2.52 | 3.16 | 0.86 | 42 |

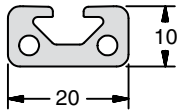
T-Slot Detail



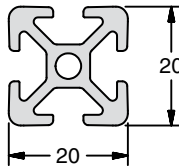
Service



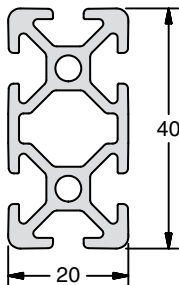
20x10, 20x20 & 40x20 Profiles



12-120



12-020



12-124

Application

20 Series profiles are designed for light duty enclosures and fixtures. They are also useful in building light accessories and components on workstations or assembly tables. The 5mm T-slot requires 20 Series hardware.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 12-120 | 0.12 | 0.53 | 0.22 | 0.53 | 1.29 | 0.35 |
| 12-020 | 0.73 | 0.73 | 0.73 | 0.73 | 1.80 | 0.52 |
| 12-124 | 1.33 | 5.03 | 1.33 | 2.52 | 3.16 | 0.86 |

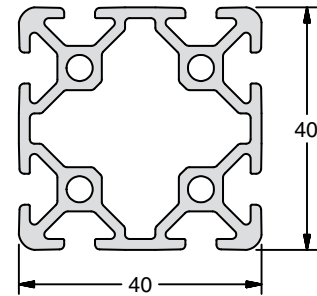
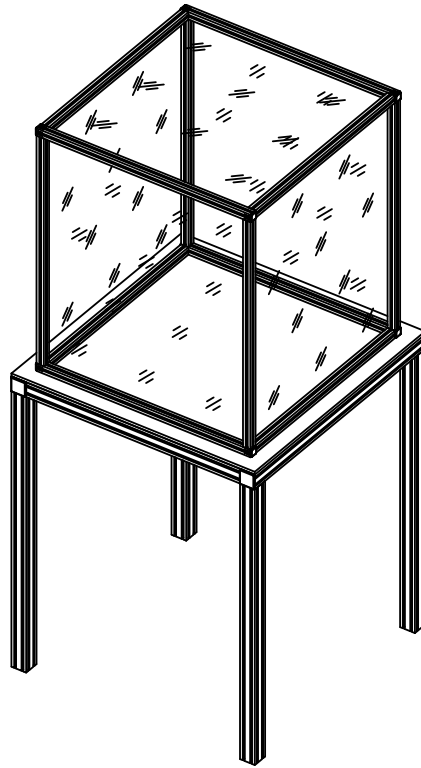
Ordering Information

| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 20x10 | Cut off max. 3m | 12-120 |
| Profile 20x20 | Cut off max. 3m | 12-020 |
| Profile 20x40 | Cut off max. 3m | 12-124 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

Quick Reference for Mating Components

| Fasteners | | End Caps | |
|-------------------|--------|----------|--------|
| Standard Fastener | 20-021 | 20x10 | 18-830 |
| | | 20x20 | 18-802 |
| | | 20x40 | 18-831 |

40x40 Profile



12-040

Application

20 Series profiles are designed for light duty enclosures and fixtures. They are also useful in building light accessories and components on workstations or assembly tables. The 5mm T-Slot requires 20 Series hardware.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specifications)

| Part # | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | Section [cm ²] | Weight [kg/m] |
|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------|------------------|
| 12-040 | 8.74 | 8.74 | 4.37 | 4.37 | 4.83 | 1.32 |

Ordering Information

| Description | Unit | Part # (Clear) |
|-----------------------------------|-----------------|----------------|
| Profile 40x40, 20 Series | Cut off max. 4m | 12-040 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

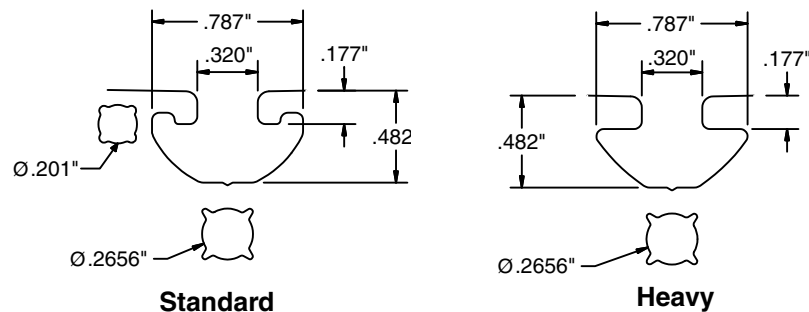
Quick Reference for Mating Components

| Fasteners | | End Caps | |
|-------------------|--------|----------|--------|
| Standard Fastener | 20-021 | 40x40 | 18-832 |
| T-Nuts | | | |
| Roll-In Single M4 | 20-044 | | |
| Roll-In Single M5 | 20-045 | | |

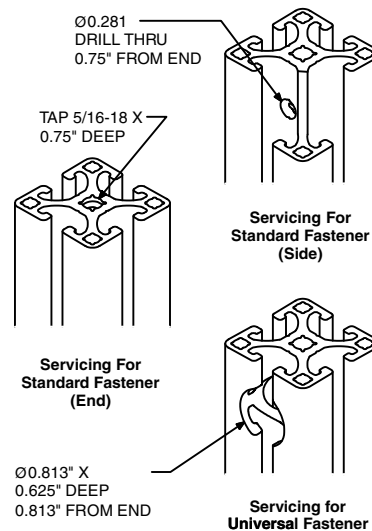
1.5" Series

| Part # | Description | Moment of Inertia | | Section Modulus | | Section [cm ²] | Weight [kg/m] | Page |
|---------|--------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------|---------------|------|
| | | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | | | |
| 10-1515 | 1.5" x 1.5" Standard Profile | 8.49 | 8.49 | 4.46 | 4.46 | 6.19 | 1.70 | 45 |
| 10-1530 | 3" x 1.5" Standard Profile | 15.15 | 61.85 | 7.95 | 16.23 | 10.38 | 2.81 | 48 |
| 10-1543 | 1.5" Quarter Round Profile | 6.16 | 6.16 | 2.90 | 2.90 | 5.48 | 1.47 | 47 |
| 10-1560 | 6" x 1.5" Standard Profile | 27.97 | 420.89 | 14.68 | 55.24 | 18.33 | 6.98 | 50 |
| 10-1591 | 1.5" x 1.5" Mono-Slot Profile | 8.53 | 8.70 | 4.47 | 4.57 | 6.20 | 1.68 | 46 |
| 10-1592 | 1.5" x 1.5" Bi-Slot Corner Profile | 8.62 | 8.62 | 4.51 | 4.51 | 3.24 | 1.68 | 46 |
| 10-1593 | 1.5" x 1.5" Tri--Slot Profile | 8.66 | 8.49 | 4.53 | 4.46 | 6.22 | 1.69 | 46 |
| 10-1594 | 1.5" x 1.5" Bi-Slot Midframe Profile | 8.78 | 8.45 | 4.61 | 4.44 | 6.21 | 1.68 | 46 |
| 10-3030 | 3" x 3" Standard Profile | 113.38 | 113.38 | 29.76 | 29.76 | 17.42 | 4.72 | 49 |
| 11-1515 | 1.5" x 1.5" Heavy Profile | 11.24 | 11.24 | 5.90 | 5.90 | 7.74 | 2.10 | 45 |
| 11-1530 | 3" x 1.5" Heavy Profile | 21.10 | 78.79 | 11.08 | 20.68 | 14.00 | 3.72 | 48 |
| 11-3030 | 3" x 3" Heavy Profile | 146.43 | 146.43 | 38.43 | 38.43 | 22.61 | 6.04 | 49 |
| 12-1515 | 1.5" x 1.5" Light Profile | 7.08 | 7.08 | 3.72 | 3.72 | 4.82 | 1.31 | 45 |
| 12-1530 | 3" x 1.5" Light Profile | 13.10 | 49.63 | 6.88 | 13.03 | 8.43 | 2.28 | 48 |

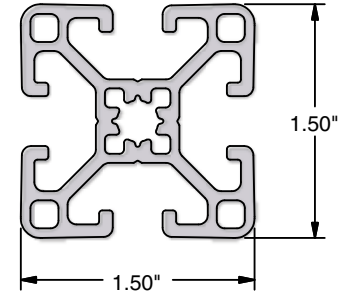
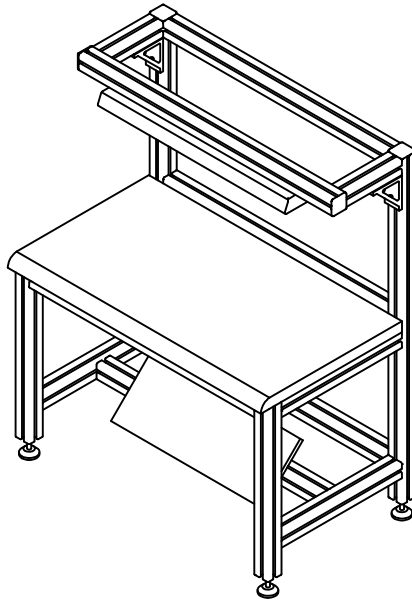
T-Slot Detail



Service



**1.5" x 1.5"
 Slotted Profiles**



12-1515

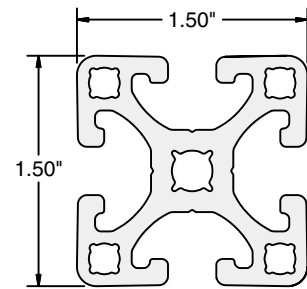
Application

10-1515 and 11-1515 are ideal general purpose extrusions for guards, enclosures, work stations, tool carts and smaller machine frames. T-slots on four sides allows for effortless mounting of accessories directly onto the structure without additional machining.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specification)

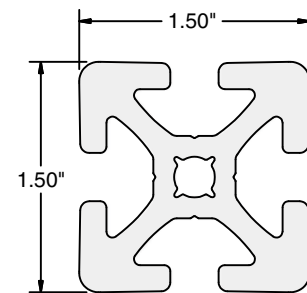
| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|---------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-1515 | 8.49 | 8.49 | 4.46 | 4.46 | 6.19 | 1.70 |
| 11-1515 | 11.24 | 11.24 | 5.90 | 5.90 | 7.74 | 2.10 |
| 12-1515 | 7.08 | 7.08 | 3.72 | 3.72 | 4.82 | 1.31 |



10-1515

Ordering Information

| Description | Unit | Part # |
|------------------------------------|---------------------|---------|
| 1.5" x 1.5" Light Profile | Cut off max 240 in | 12-1515 |
| 1.5" x 1.5" Standard Profile | Cut off max. 240 in | 10-1515 |
| 1.5" x 1.5" Heavy Profile | Cut off max. 240 in | 11-1515 |
| * Saw cut needed for Cut to Length | | 19-001 |



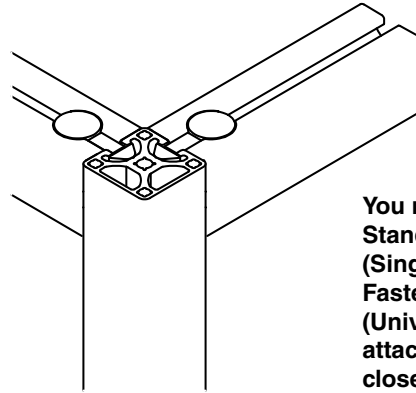
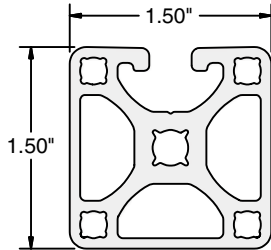
11-1515

Quick Reference for Mating Components

| Fasteners | | T-Nuts | |
|-------------------------|---------|------------------------|--------|
| 1.5" Standard Fastener | 25-003 | 1/4-20 Roll-In | 25-001 |
| 1.5" Single Fastener | 25-014 | 5/16-18 Roll-In | 25-002 |
| 1.5" Universal Fastener | 25-004 | 5/16-18 Double Roll-In | 25-041 |
| End Caps | | 1/4-20 Economy | 20-083 |
| 1.5" x 1.5" | 18-1515 | 5/16-18 Economy | 20-082 |

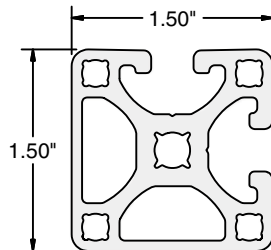


1.5" x 1.5" Closed Face Profiles



You must use 25-022 (Flat Standard Fastener), 25-014 (Single Ended Standard Fastener) or 25-004 (Universal Fastener) when attaching to the end of the closed slot profiles (as shown).

10-1591



Application

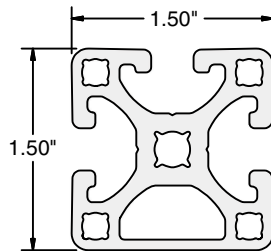
These profiles are designed with various closed faces. They are particularly useful when a smooth appearance is desired. The smooth surfaces are ideal for clean room, packaging, medical and pharmaceutical applications. The option of different T-slotted faces is ideal for fastening the profiles while retaining a smooth exterior to create the most aesthetic appearance.

Technical Data

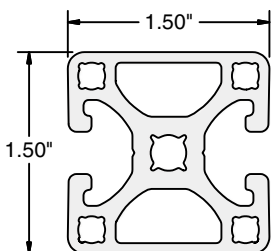
Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specification)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|---------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-1591 | 8.53 | 8.70 | 4.47 | 4.57 | 6.20 | 1.68 |
| 10-1592 | 8.62 | 8.62 | 4.51 | 4.51 | 6.24 | 1.68 |
| 10-1593 | 8.66 | 8.49 | 4.53 | 4.46 | 6.22 | 1.69 |
| 10-1594 | 8.78 | 8.45 | 4.61 | 4.44 | 6.21 | 1.68 |

10-1592



10-1593



10-1594

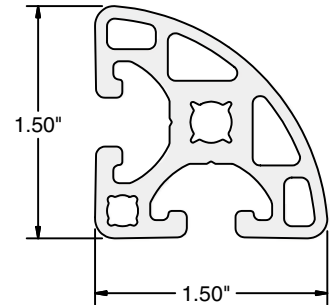
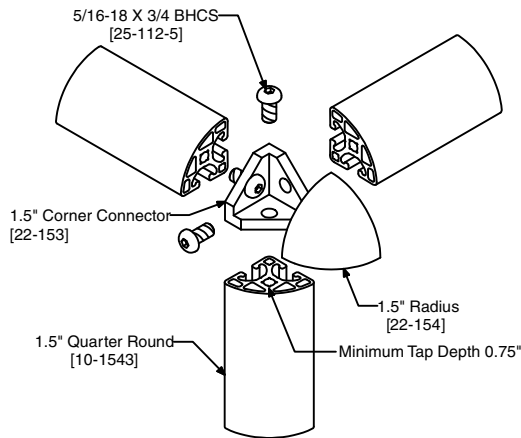
Ordering Information

| Description | Unit | Part # |
|--------------------------------------|---------------------|---------|
| 1.5" x 1.5" Mono Slot Profile | Cut off max. 240 in | 10-1591 |
| 1.5" x 1.5" Bi-Slot Corner Profile | Cut off max. 240 in | 10-1592 |
| 1.5" x 1.5" Tri-Slot Profile | Cut off max. 240 in | 10-1593 |
| 1.5" x 1.5" Bi-Slot Midframe Profile | Cut off max. 240 in | 10-1594 |
| * Saw cut needed for Cut to Length | | 19-001 |

Quick Reference for Mating Components

| Fasteners | | Structural Accessories | |
|-----------------------------|---------|------------------------|--------|
| 1.5" Flat Standard Fastener | 25-022 | Panels | pg 112 |
| 1.5" Single Fastener | 25-014 | Hinges | pg 138 |
| 1.5" Universal Fastener | 25-004 | Catches | pg 150 |
| End Caps | | Gussets | pg 104 |
| 1.5" x 1.5" | 18-1515 | | |

1.5" x 1.5" Quarter Round Profile



10-1543

Application

This profile is designed with curved surfaces while retaining T-slotted surfaces for connecting. This is particularly useful for rounding or smoothing off corners of structures where ergonomics apply. The smooth surfaces are ideal for clean room, medical and pharmaceutical applications.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish Specification)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|---------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-1543 | 6.16 | 6.16 | 2.90 | 2.90 | 5.48 | 1.47 |

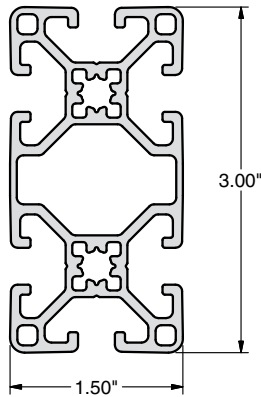
Ordering Information

| Description | Unit | Part # |
|------------------------------------|---------------------|---------|
| 1.5" Quarter Round Profile | Cut off max. 240 in | 10-1543 |
| * Saw Cut Needed for Cut to length | | 19-001 |

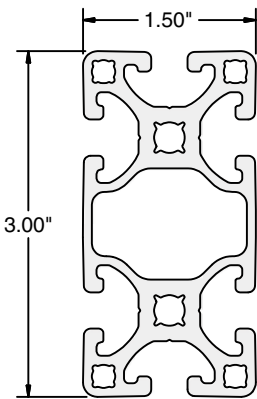
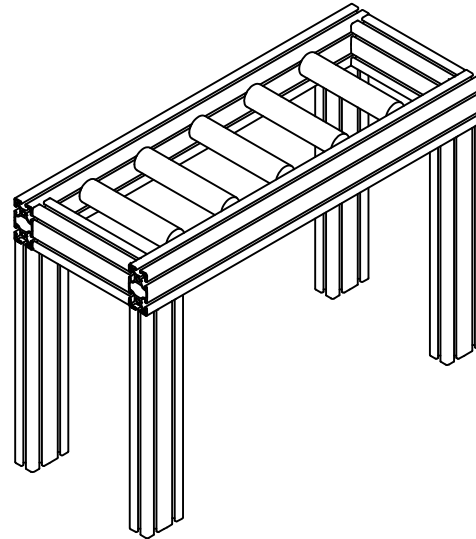
Quick Reference for Mating Components

| Fasteners | | End Caps | |
|--------------------------|--------|----------------------------|---------|
| 1.5" Standard Fastener | 25-003 | 1.5" Quarter (for 10-1543) | 18-1543 |
| 1.5" Single End Standard | 25-014 | 1.5" Radius | |
| 1.5" Universal Fastener | 25-004 | (for Corner Connector) | 22-154 |
| Corner Connector | | | |
| 1.5" Corner Connector | 22-153 | | |

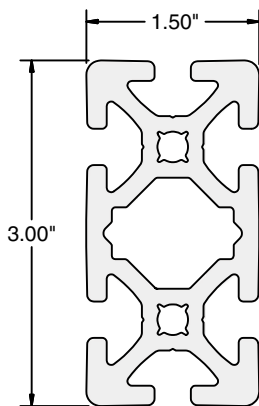
3" x 1.5" Profiles



12-1530



10-1530



11-1530

Application

Profiles 10-1530 and 11-1530 are ideal general purpose extrusions for guards, enclosures, work stations, tool carts and machine frames. They are designed with a high inertial strength in the 'y' axis. This allows higher structural integrity to create more stable and rigid structures. T-slots on four sides allow for effortless mounting of accessories directly onto the structure without additional machining.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish Specification)

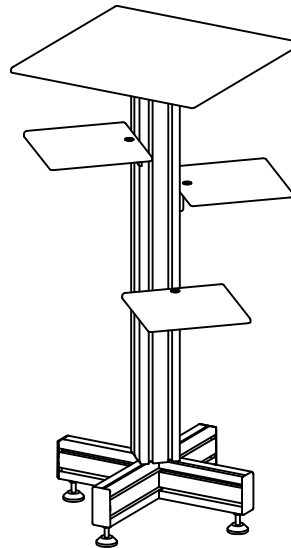
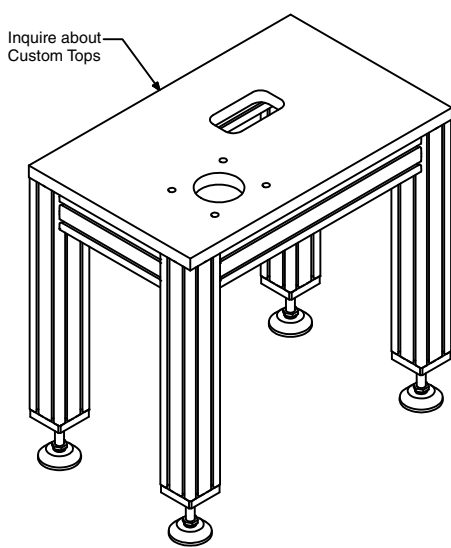
| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|---------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-1530 | 15.15 | 61.85 | 7.95 | 16.23 | 10.38 | 2.81 |
| 11-1530 | 21.10 | 78.79 | 11.08 | 20.68 | 14.00 | 3.72 |
| 12-1530 | 13.10 | 49.63 | 6.88 | 13.03 | 8.43 | 2.28 |

Ordering Information

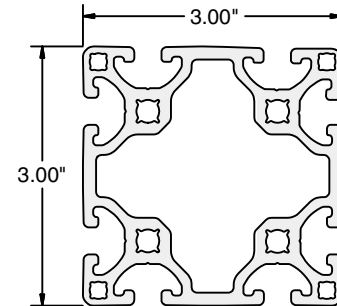
| Description | Unit | Part # |
|------------------------------------|---------------------|---------|
| 3" x 1.5" Light Profile | Cut off max 240 in | 12-1530 |
| 3" x 1.5" Standard Profile | Cut off max. 240 in | 10-1530 |
| 3" x 1.5" Heavy Profile | Cut off max. 240 in | 11-1530 |
| * Saw Cut Needed for Cut to length | | 19-001 |

Quick Reference for Mating Components

| Fasteners | | T-Nuts | |
|-------------------------|---------|------------------------|--------|
| 1.5" Standard Fastener | 25-003 | 1/4-20 Roll-In | 25-001 |
| 1.5" Universal Fastener | 25-004 | 5/16-18 Roll-In | 25-002 |
| End Caps | | 5/16-18 Double Roll-In | 25-041 |
| 3" x 1.5" | 18-1530 | 1/4-20 Economy | 20-083 |
| | | 5/16-18 Economy | 20-082 |



3" x 3" Profiles



10-3030

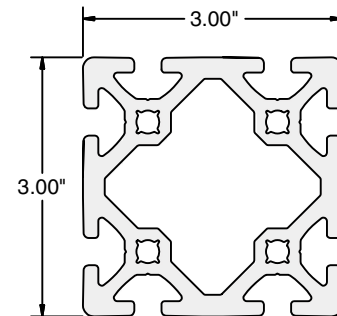
Application

These profiles are designed for medium to heavy duty structures and are ideal for structural support and post applications. These profiles have high structural integrity to create extra stable and rigid structures. T-slots on four sides allow for effortless mounting of accessories directly onto the structure without additional machining.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specification)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|---------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-3030 | 113.38 | 113.38 | 29.76 | 29.76 | 17.42 | 4.72 |
| 11-3030 | 146.43 | 146.43 | 38.43 | 38.43 | 22.61 | 6.04 |



11-3030

Ordering Information

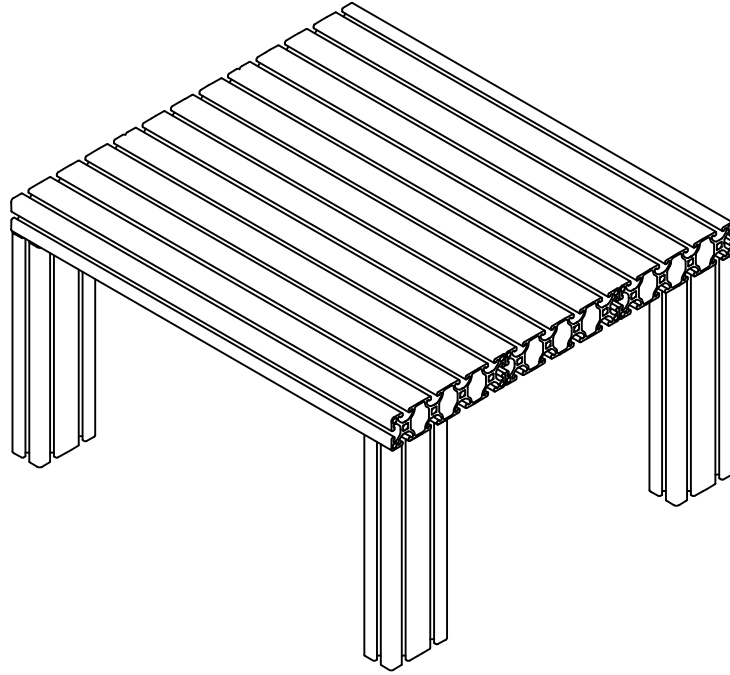
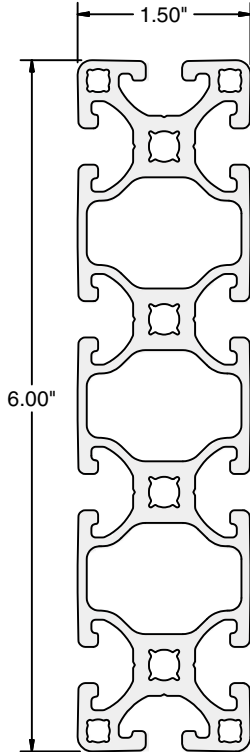
| Description | Unit | Part # |
|------------------------------------|---------------------|---------|
| 3" x 3" Standard Profile | Cut off max. 240 in | 10-3030 |
| 3" x 3" Heavy Profile | Cut off max. 240 in | 11-3030 |
| * Saw Cut Needed for Cut to length | | 19-002 |

Quick Reference for Mating Components

| Fasteners | | Structural Accessories | |
|-------------------------|---------|------------------------|--------|
| 1.5" Standard Fastener | 25-003 | Levelers | pg 156 |
| 1.5" Universal Fastener | 25-004 | Casters | pg 167 |
| End Caps | | Plates | pg 102 |
| 3" x 3" | 18-3030 | Gussets | pg 104 |



6" x 1.5" Profiles



10-1560

Application

10-1560 is designed for heavy duty structures and is an ideal profile for structural support and post applications. 10-1560 is designed with a high inertial strength in the 'y' axis. This allows for very high structural integrity to create extra stable and rigid structures. T-slots on four sides allow for effortless mounting of accessories directly onto the structure without additional machining. Because of its multiple T-slots, it is also an ideal profile for a fixture table.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish specification.)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|---------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 10-1560 | 27.97 | 420.89 | 14.68 | 55.24 | 18.33 | 6.98 |

Ordering Information

| Description | Unit | Part # |
|------------------------------------|---------------------|---------|
| 6" x 1.5" Profile | Cut off max. 240 in | 10-1560 |
| * Saw Cut Needed for Cut to length | | 19-003 |

Quick Reference for Mating Components

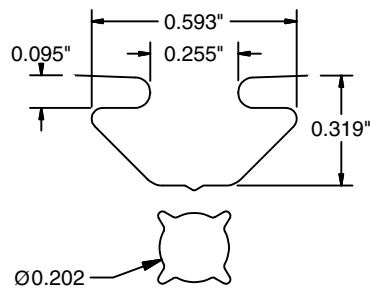
| Fasteners | | T-Nuts | |
|-------------------------|---------|------------------------|--------|
| 1.5" Standard Fastener | 25-003 | 1/4-20 Roll-In | 25-001 |
| 1.5" Universal Fastener | 25-004 | 5/16-18 Roll-in | 25-002 |
| End Caps | | 5/16-18 Double Roll-In | 25-041 |
| 3" x 1.5" | 18-1530 | 1/4-20 Economy | 20-083 |
| (Use 2 per end) | | 5/16-18 Economy | 20-082 |



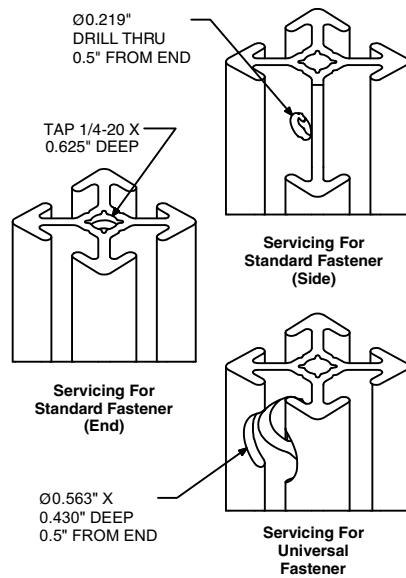
1" Series

| Part # | Description | Moment of Inertia | | Section Modulus | | Section [cm ²] | Weight [kg/m] | Page |
|---------|-----------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------|---------------|------|
| | | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ³] | W _y [cm ³] | | | |
| 12-1010 | Profile 1" x 1" | 1.91 | 1.91 | 1.51 | 1.51 | 2.84 | 0.77 | 52 |
| 12-1020 | Profile 2" x 1" | 3.62 | 13.03 | 2.85 | 5.13 | 5.16 | 1.41 | 52 |
| 12-2020 | Profile 2" x 2" | 23.68 | 23.68 | 9.32 | 9.32 | 8.13 | 2.21 | 52 |

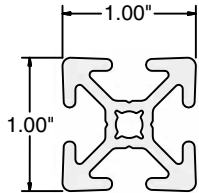
T-Slot Detail



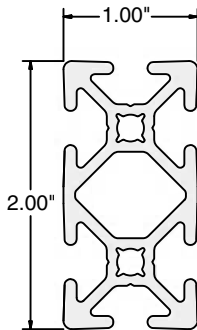
Service



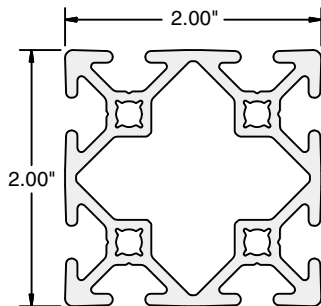
1" x 1", 2" x 1" and 2" x 2" Profiles



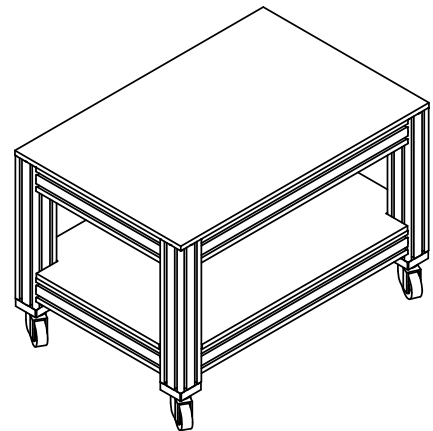
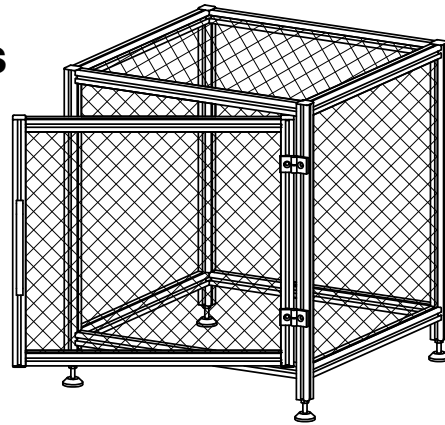
12-1010



12-1020



12-2020



Application

1" Series profiles are designed for safety guards, enclosures, shelves, and other light to medium duty applications. T-Slots on four sides allows for effortless mounting of accessories directly onto the structure without additional machining.

The T-slot is smaller than the 1.5" Series, requiring different hardware. With profile 12-1020, higher rigidity can be attained by orienting the extrusion on its 'y' axis.

The 12-2020 profiles are ideal for support and post applications. With their higher rigidity, structures can be built with higher stability.

Technical Data

Aluminum, Clear Anodized (See Technical Data page 9 for full material and finish Specification)

| Part # | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] | Section [cm ²] | Weight [kg/m] |
|---------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------------|------------------|
| 12-1010 | 1.91 | 1.91 | 1.51 | 1.51 | 2.84 | 0.77 |
| 12-1020 | 3.62 | 13.03 | 2.85 | 5.13 | 3.16 | 1.41 |
| 12-2020 | 23.68 | 23.68 | 9.32 | 9.32 | 8.13 | 2.21 |

Ordering Information

| Description | Unit | Part # |
|------------------------------------|---------------------|---------|
| 1" x 1" Profile | Cut off max. 240 in | 12-1010 |
| 2" x 1" Profile | Cut off max. 240 in | 12-1020 |
| 2" x 2" Profile | Cut off max. 240 in | 12-2020 |
| * Saw Cut Needed for Cut to length | | 19-001 |

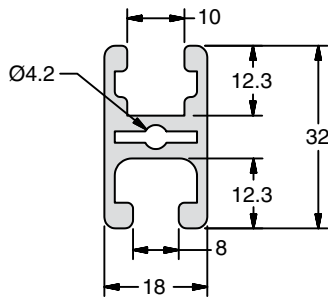
Quick Reference for Mating Components

| Fasteners | Structural Accessories |
|-------------------------------|------------------------|
| 1" Standard Fastener 25-022 | Levelers pg 156 |
| 1" Universal Fastener 25-023 | Casters pg 167 |
| End Caps | Plates pg 102 |
| 1" x 1" (for 12-1010) 18-1010 | Gussets pg 104 |
| 2" x 1" (for 12-1020) 18-1020 | |
| 2" x 2" (for 12-2020) 18-2020 | |

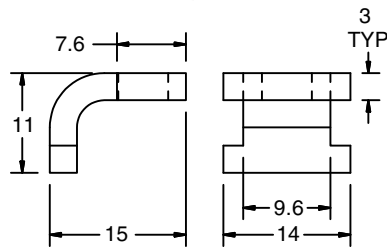
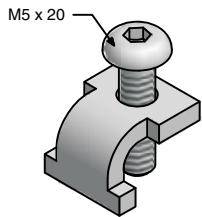
Specialty Profiles

| Profile Type | Compatibility | | | | Part # | Description | Page |
|--------------------------|---------------|----|----|------|----------|----------------------------------------|------|
| Bi-Slot | | | | | 12-032 | Profile 18x32 Bi-Slot | 54 |
| Rolling Door Guides | | | | | 12-022 | Profile Rolling Door Guide | 55 |
| | | | | | 12-421 | Guide Profile UHMW | 55 |
| Sliding Door Guides | | | 40 | 1.5" | 12-012 | Profile Sliding Door Guide 40 Upper | 56 |
| | | | 40 | 1.5" | 12-013 | Profile Sliding Door Guide 40 Lower | 56 |
| | 28 | 30 | | | 12-014 | Profile Sliding Door Guide 30/28 Upper | 56 |
| | 28 | 30 | | | 12-015 | Profile Sliding Door Guide 30/28 Lower | 56 |
| Stiffener/Handle Profile | | | | | 12-011 | Profile Stiffener / Handle | 57 |
| Mesh Clamp | 28 | 30 | 40 | 1.5" | 12-010 | Profile Mesh Clamp | 58 |
| Panel Holder | 28 | 30 | 40 | 1.5" | 12-016 B | Profile Panel Holder - Black | 57 |
| Clamp Bar | | | 40 | 1.5" | 12-105 | Profile Clamp | 58 |
| Rack Angle | 28 | 30 | 40 | 1.5" | 12-109 | Profile Rack Angle with Holes | 59 |
| | 28 | 30 | 40 | 1.5" | 12-110 | Profile Rack Angle no Holes | 59 |
| | | | | 1.5" | 20-075 | Rack Angle Clip Nut M5 | 59 |
| | | | | 1.5" | 20-076 | Rack Angle Clip Nut M6 | 59 |
| | | | | 1.5" | 25-075 | Rack Angle Clip Nut #10-32 | 59 |
| | | | | 1.5" | 25-076 | Rack Angle Clip Nut 1/4-20 | 59 |
| UHMW Slide Bar | | | 40 | 1.5" | 12-400 | Slide Bar UHMW | 60 |
| | | | 40 | 1.5" | 12-420 | Slide Bar UHMW 40x10 | 60 |
| | 28 | 30 | | | 12-430 | Slide Bar UHMW 28/30x8 | 60 |
| | 28 | 30 | 40 | 1.5" | 12-410 | Slide Strip UHMW | 60 |
| Panel Gasket | | | | | 12-106 | Panel Gasket 8 | 61 |
| | | | | | 12-108 | Panel Gasket 10 | 61 |
| Mesh Gasket | | | | | 12-107 | Mesh Gasket 8 | 61 |
| Cover/Gasket Strips | | | 40 | 1.5" | 12-101 | Cover/Gasket Strip 40 | 62 |
| | 28 | | | | 12-103B | Cover/Gasket Strip 28 | 62 |
| | | | | | 12-115 | Cover/Gasket Strip 20 | 62 |
| | | | 40 | | 12-117 | Push-In Panel Seal | 62 |
| Cover Strips | | | 40 | 1.5" | 12-102 | Aluminum Cover Strip | 62 |
| | | | 40 | 1.5" | 12-111 | PVC Cover Strip | 62 |
| | 28 | 30 | | | 12-116 | PVC Cover Strip | 62 |
| Safety Cover | | | 40 | 1.5" | 12-113 | Safety Cover | 62 |

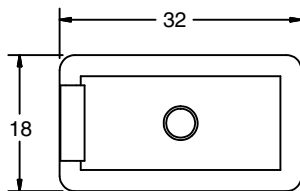
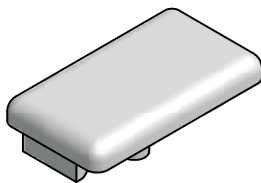
32x18 Bi-Slot Profile



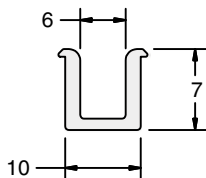
12-032



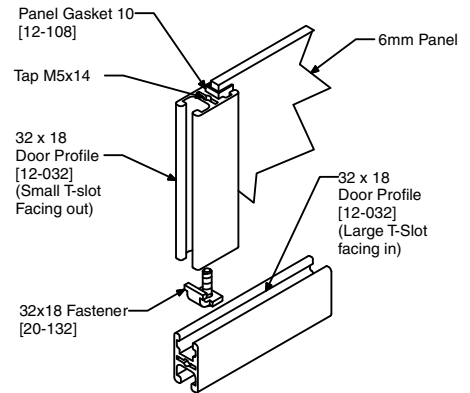
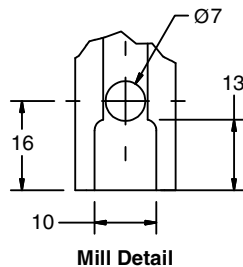
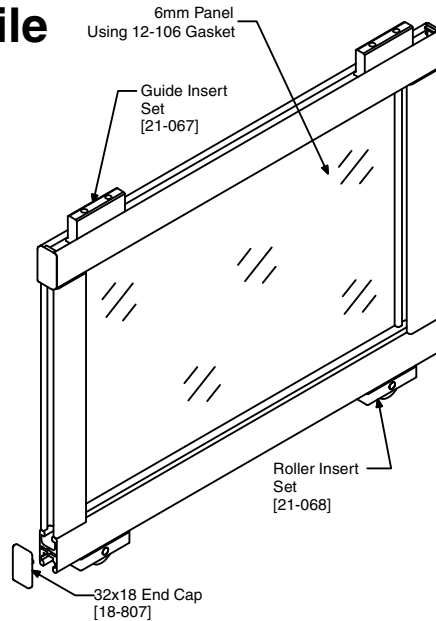
20-132



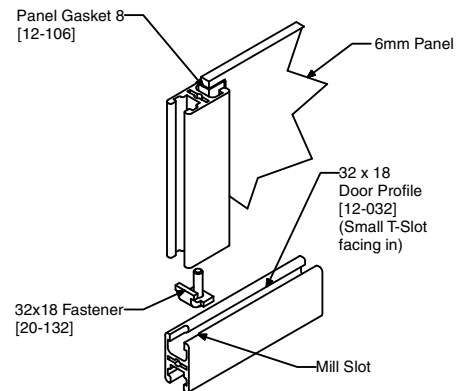
18-807



12-108



Frame for holding panels with small T-slot facing out. (No milling required)



Frame for holding panels with large T-slot facing out. (You must mill slot for fastener)

Application

Suitable for guarding, sliding doors, and enclosures. Panels up to 9mm thick may be clamped using spring clamp (22-032).

T-Slots will accept 6mm panels with Panel Gasket 8 or 10 (12-106 and 12-108).

Ordering Information

| Description | Unit | Part # |
|-----------------------|-----------------|--------|
| Profile 18x32 Bi-Slot | Cut off max. 6m | 12-032 |

*Saw Cut Needed for Cut to Length

19-001

Technical Data

Aluminum, Clear Anodized
Weight 0.67 kg/m

Fastening Set: Steel, galvanized
Weight: 9.0 g

Clamp Spring: Steel
Weight: 4g

Quick Reference for Mating Components

Fasteners

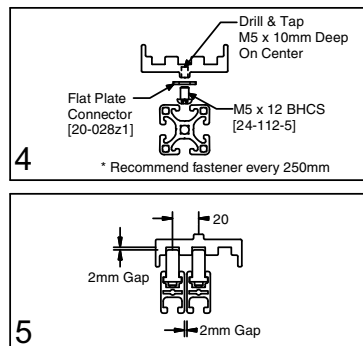
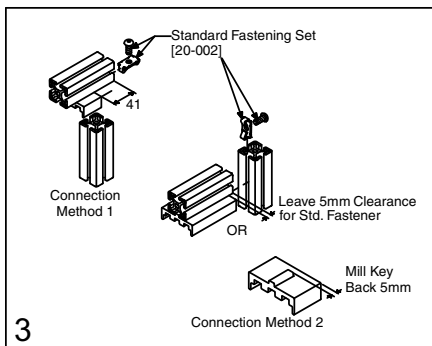
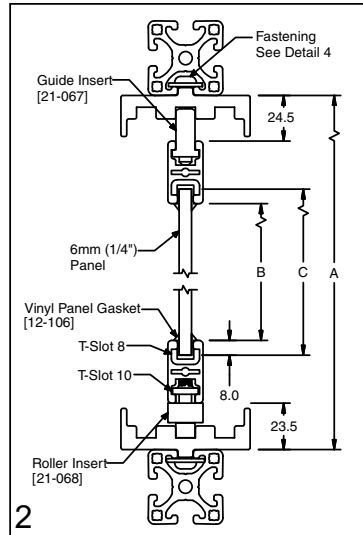
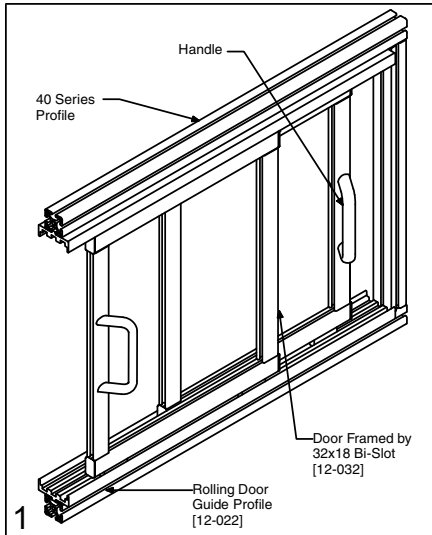
| | |
|------------------------|--------|
| 32x18 Bi-Slot Fastener | 20-132 |
| Clamp Spring | 22-032 |

End Caps

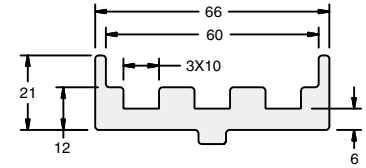
| | |
|-------|--------|
| 32x18 | 18-807 |
|-------|--------|

Structural Accessories

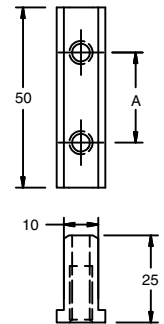
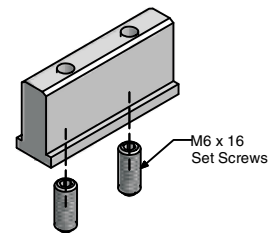
| | |
|-------------------|--------|
| Panel Gasket 8 | 12-106 |
| Panel Gasket 10 | 12-108 |
| Roller Insert Set | 21-068 |
| Guide Insert Set | 21-067 |



Rolling Door Guide Profile



12-022



21-067
21-073

Application

Designed for large doors with removable door panels for maintenance. Applications include case packers, material handling equipment, packaging installations and access panels for large machine enclosures.

Ordering Information

Description

Profile Rolling Door Guide
Guide Profile UHMW

*Saw Cut Needed for Cut to Length

Technical Data

Profile

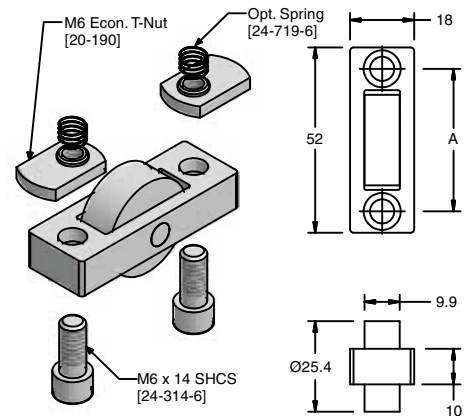
Aluminum, Clear Anodized
Weight: 1.78 kg/m

Guide Insert

UHMW (white)

Roller Insert

Roller: Delrin (black), Pin: Steel
Housing: Aluminum, Clear Anodized



21-068
21-075

Roller Insert Set

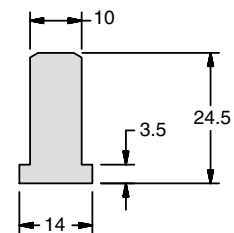
40 Series (A=40mm) **21-068**
1.5" Series (A=1.5") **21-075**

Roller Set includes
(1) Housing, (1) roller,
(2) SCHS screws
and (2) Offset T-Slot nuts
with compression spring

Guide Insert Set

40 Series (A=25mm) **21-067**
1.5" Series (A=1") **21-073**

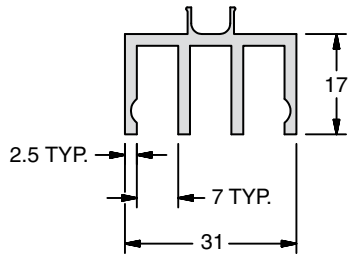
Guide Set including
(1) 50mm guide insert,
(2) setscrews



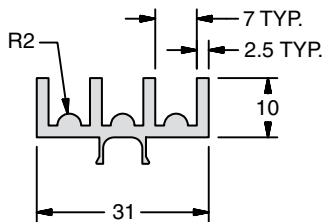
12-421



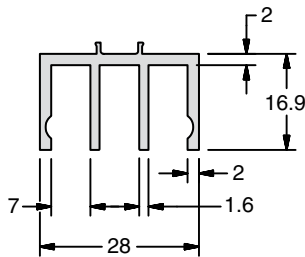
Sliding Door Guide Profile



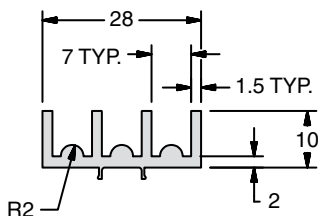
12-012



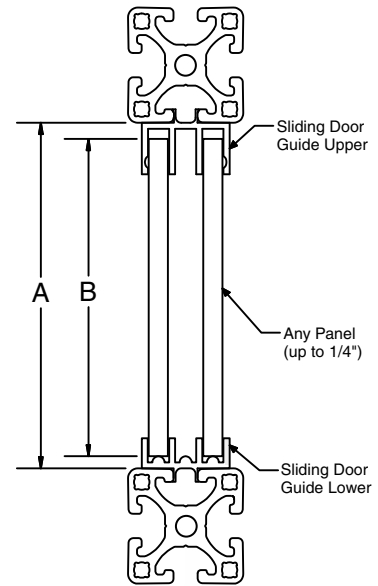
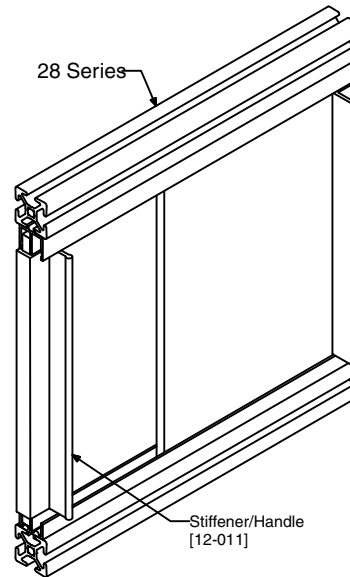
12-013



12-014



12-015



B = A - 15mm for removable doors
B = A - 10mm for non-removable doors
*Designed for panels up to 1/4" (6.4mm)

Application

These profiles create light duty sliding panels for windows and access ports for safety guards, enclosures or partitions. Installation onto 40, 30, 28 or 1.5" Series profiles do not require fasteners and will snap into the T-Slot. The lower guides are designed to reduce friction. The upper guides facilitate lift-out removal of the panel without disassembly. Tamper proof mounting may also be provided.

Ordering Information

| Description | Unit | Part # |
|------------------------------------------|---------|--------|
| 40/1.5" Series | | |
| Profile Sliding Door Guide 40/1.5" Upper | 3m each | 12-012 |
| Profile Sliding Door Guide 40/1.5" Lower | 3m each | 12-013 |
| 28/30 Series | | |
| Profile Sliding Door Guide 30/28 Upper | 3m each | 12-014 |
| Profile Sliding Door Guide 30/28 Lower | 3m each | 12-015 |
| *Saw Cut Needed for Cut to Length | | 19-001 |

Technical Data

Aluminum, Clear Anodized
Three panel tracks
Panel width up to 6.4mm
Weight: 12-012, 12-014 0.45kg/m
12-013, 12-015 0.50kg/m

Quick Reference for Mating Components

Structural Accessories

Panels Page 112

Application

Designed as a combination handle and stiffener for sliding panel doors (1/4" thick material). Panels snap into the profile slot and may be secured by an adhesive or a fastener.

Technical Data

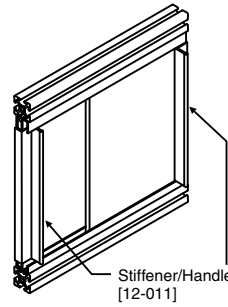
Aluminum, Clear Anodized
 Weight: 0.93kg/m

Ordering Information

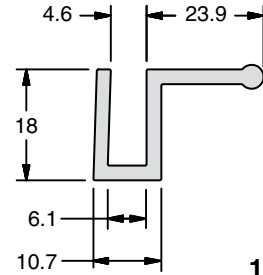
Description

Panel Handle Stiffener
 *Saw Cut Needed for Cut to Length

| Unit | Part # |
|---------|--------|
| 3m each | 12-011 |
| | 19-001 |



**Stiffener/Handle
 Profile**



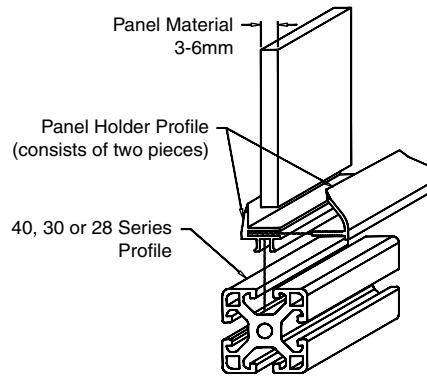
12-011

Application

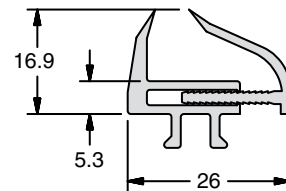
Profile designed for panels 3-6mm thick. Built-in seal for splash guard applications. Can be used for 40, 30, 28 and 1.5" Series profiles.

Technical Data

Base: Rigid PVC Lip
 Seal: Vinyl
 Weight: 0.16kg/m



Panel Holder



12-016

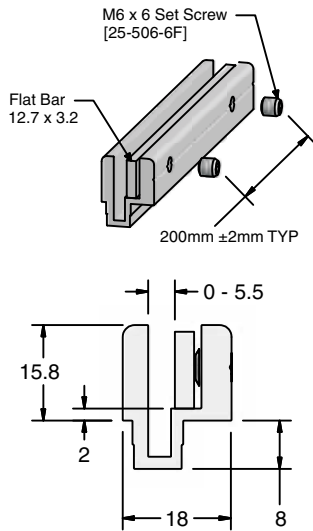
Ordering Information

Description

Panel Holder Profile
 *Saw Cut Needed for Cut to Length

| Unit | Part # (Black) |
|-----------------|----------------|
| Cut off max. 2m | 12-016B |
| | 19-001 |

Mesh Clamp Profile



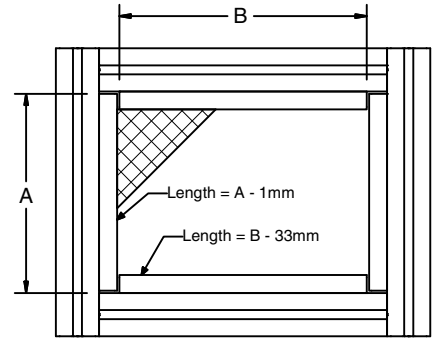
Application

Captures wire mesh panels up to 5.5mm thick. Excellent for constructing safety guards. Installs onto 40, 30, 28 and 1.5" series profiles without additional fasteners.

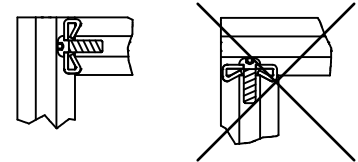
Technical Data

Aluminum, Clear Anodized
Weight: 0.53 kg/m

Tapped for M6 every 200mm (±2mm)
Includes clamp strip and M6X6 flat point screws



* Wire Mesh Size: A - 6mm and B - 6mm



Standard fastener position is critical to avoid interference with the mesh clamp.

12-010

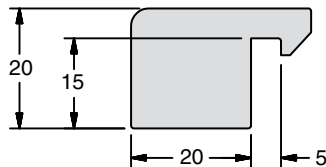
Ordering Information

Description

Mesh Clamp Profile
*Saw Cut Needed for Cut to Length

| Unit | Part # |
|---------|--------|
| 3m each | 12-010 |
| | 19-001 |

Clamp Bar



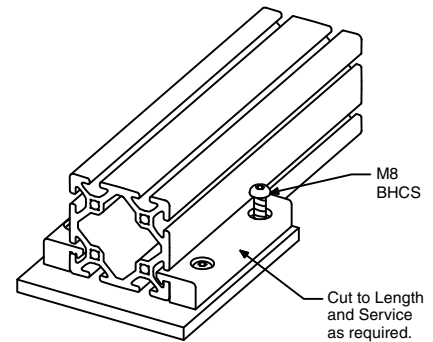
12-105

Application

Attaches 40 Series profiles to base plates or other parts. Must be used in pairs. Not recommended for linear applications.

Technical Data

Aluminum, Clear Anodized
Weight: 1.24 kg/m



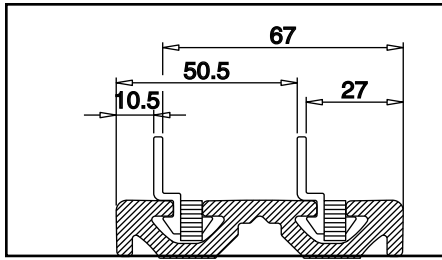
Ordering Information

Description

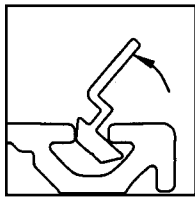
Clamp Bar Profile
*Saw Cut Needed for Cut to Length

| Unit | Part # |
|---------|--------|
| 2m each | 12-105 |
| | 19-001 |

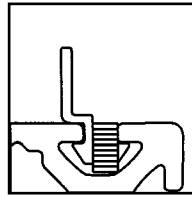
Rack Angle Profile



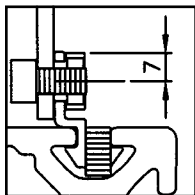
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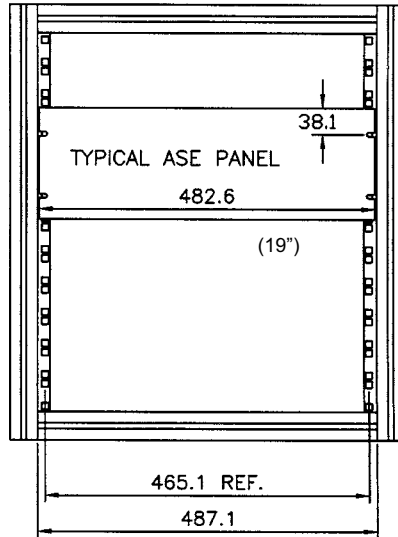
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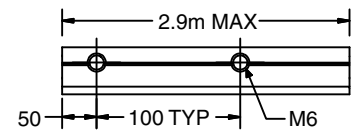
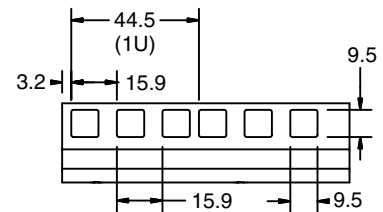
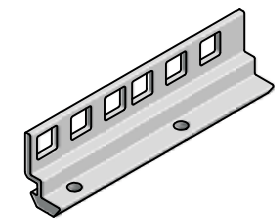
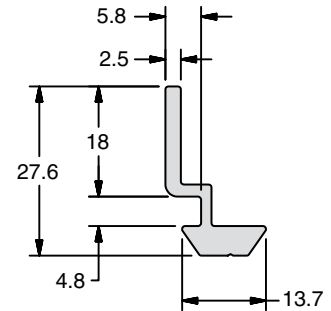
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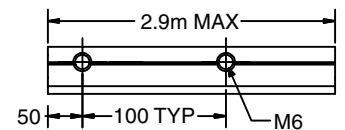
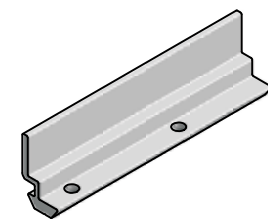
4



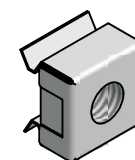
- 1 Mounting dimensions
- 2 Inserting rack angle into 40 series T-slot
- 3 Rack Angle is secured in T-slot with set screw M6x12. Requires 2 cuts to ensure matching pair
- 4 Panel is attached to Rack Angle with M5 or M6 screw and clip nut



12-109



12-110



20-075
20-076
25-075
25-076

Application

Used for attaching standard 19" rack components to 40, 30, 28 and 1.5" Series Profiles (30 and 28 series require installation from end of profile).

12-109 is machined with square holes for installation of a Clip Nut. Clip Nut snaps into square holes for attaching panels and accessories.

12-110 is blank and can be used to support horizontal panels such as ceiling tiles.

Ordering Information

Description

Profile Rack Angle with Holes

Profile Rack Angle no Holes

*Saw Cut Needed for Cut to Length

Rack Angle Clip Nut M5

Rack Angle Clip Nut M6

Rack Angle Clip Nut #10-32

Rack Angle Clip Nut 1/4-20

Unit

3m each

3m each

1 pc

1 pc

1 pc

1 pc

Part

12-109

12-110

19-001

20-075

20-076

25-075

25-076

Technical Data

Extrusion

Aluminum, Clear Anodized
Weight: 12-109 0.62kg/m
12-110 0.63kg/m

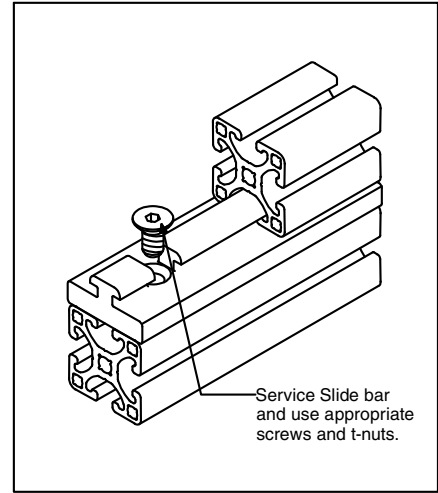
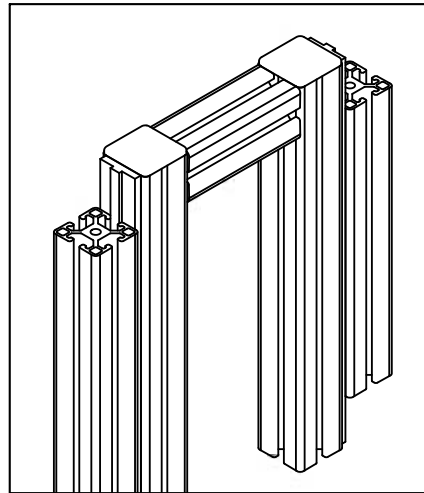
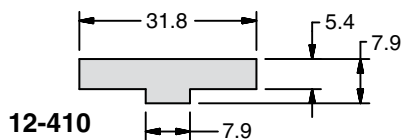
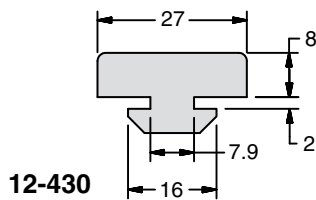
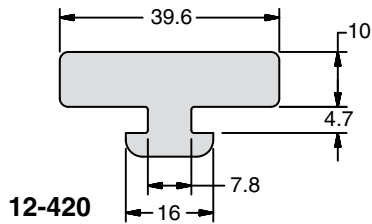
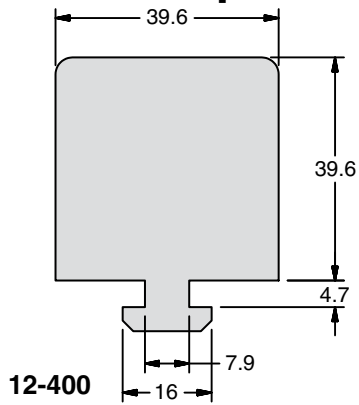
Includes M6X12 flat point set screws

Clip Nut (Order separately)

Steel, Zinc Plated

Weight 5g

UHMW Slide Bar & Slide Strip



Application

Durable, low-friction material that is self lubricating and easily machined. These profiles provide a smooth gliding surface for a wide range of applications including linear systems to adjustable work surfaces or sliding panels.

Technical Data

Extrusion

UHMW, White

40/1.5" Series Applications use:
12-400, 12-420, and 12-410

28/30 Series Applications use:
12-430 or 12-410

Ordering Information

Description

Slide Bar UHMW
Slide Bar UHMW 40x10
Slide Bar UHMW 28/30x8
Slide Strip UHMW
*Saw Cut Needed for Cut to Length

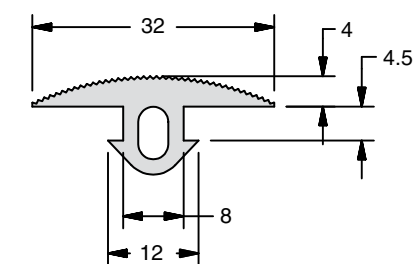
Unit

Cut off max. 3m
Cut off max. 3m
Cut off max. 3m
Cut off max. 3m

Part

12-400
12-420
12-430
12-410
19-001

Anti-Skid Cover

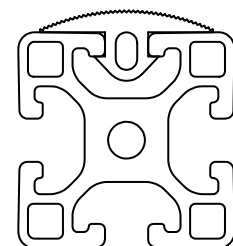


Application

Cover for 40 and 1.5" Series profiles is used for non-slip surfaces such as ladders and stops for sliding doors. Oil and water resistant.

Technical Data

Rubber, Black
Hardness 80 Shore



Ordering Information

Description

Anti-Skid Cover

Unit

Cut off max. 20m

Weight

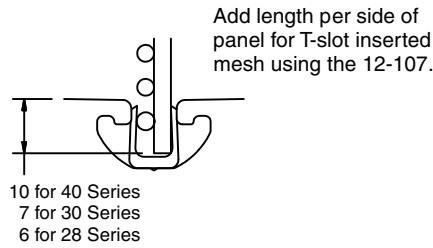
180 g/m

Part

12-114

Application

Mesh gasket for mounting 12 gage wire mesh in 40, 30, 28 and 1.5" Series T-Slots.



Technical Data

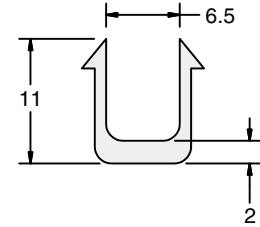
Molded vinyl (Clear)

Weight: 90g/m

Ordering Information

| Description | Unit | Part # |
|---------------|--------------------|---------|
| Mesh Gasket 8 | Cut off max. 30.5m | 12-107 |
| Full Roll | 30.5m (ea) | 12-107R |

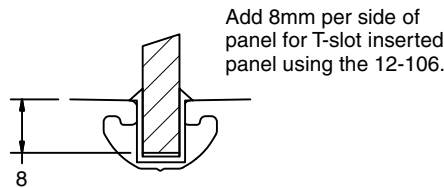
Mesh Gasket 8



12-107

Application

Panel gasket for installing 6mm panels in 40, 30, 28 and 1.5" Series profile T-slot.



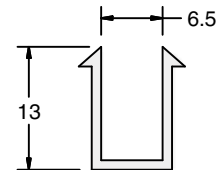
Technical Data

Molded vinyl (Grey)
 Weight: 40g/m

Ordering Information

| Description | Unit | Part # |
|----------------|--------------------|---------|
| Panel Gasket 8 | Cut off max. 30.5m | 12-106 |
| Full Roll | 30.5m (ea) | 12-106R |

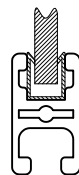
Panel Gasket 8



12-106

Application

Panel gasket for installing 6/8mm panels in T-slots of 32x18 Door Profile.



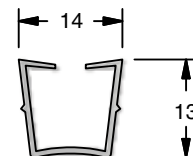
Technical Data

PP & TPE, Black
 Weight: 90g/m

Ordering Information

| Description | Unit | Part # |
|-----------------|---------|--------|
| Panel Gasket 10 | 2m each | 12-108 |

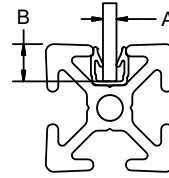
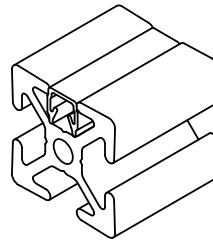
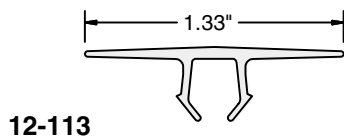
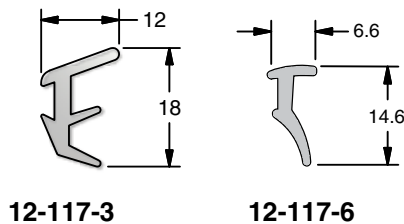
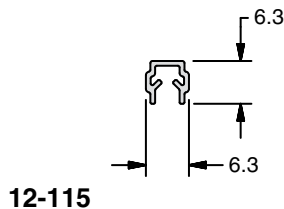
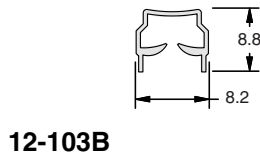
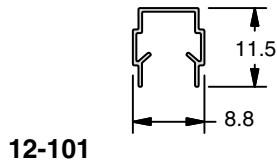
Panel Gasket 10



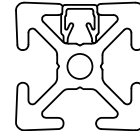
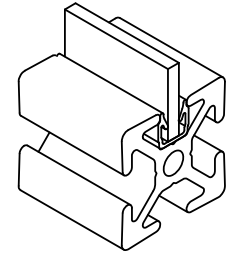
12-108



Cover/Gasket Strips



| Series | A (mm) | B (mm) |
|------------|--------|--------|
| 40/30/1.5" | 6 | 10 |
| 28 | 4-6 | 7 |
| 20 | 2 | 6 |



- T-slot covering can be cut easily with tin snips.
- Wires and cables can be concealed in T-slot with use of T-slot cover.

Application

Primarily used to cover the T-Slot to prevent dust and debris from building up, or to conceal wiring routed in the T-Slot. These covers can also be inverted and used as a panel gasket. These items are easily cut with tin snips.

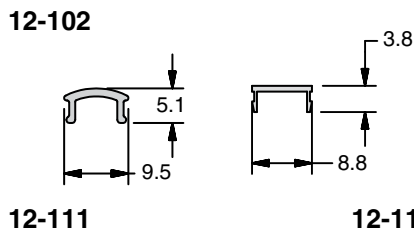
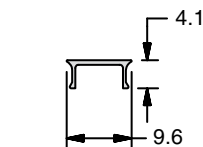
Technical Data

12-101, 12-103, 12-115: Polypropylene,
 See ordering for colors
 12-113: Rigid PVC, Yellow
 12-117-3/6: TPE, Black
 Weight: 12-101 52 g/m
 12-103 44 g/m
 12-113 100 g/m
 12-115 27 g/m
 12-117-3 70 g/m
 12-117-6 31 g/m

Ordering Information

| Description | Unit | Part # (Clear) | Part # (Black) | Part # (Yellow) | Part # (Gray) |
|-----------------------------------|--------------|----------------|----------------|-----------------|---------------|
| Cover/Gasket Strip 40/1.5" Series | Each at 2m | 12-101 | 12-101B | 12-101Y | 12-101G |
| Cover/Gasket Strip 28 Series | Each at 2m | | 12-103B | | |
| Cover/Gasket Strip 20 Series | Each at 2m | 12-115 | 12-115B | | |
| Safety Cover Strip 40/1.5" Series | Each at 2m | | | 12-113 | |
| Push-in Panel Seal (3mm) | Each at 100m | | 12-117-3 | | |
| Push-in Panel Seal (6mm) | Each at 100m | | 12-117-6 | | |

Cover Strips



Application

Used to cover the T-Slot to prevent dust and debris from building up, or to conceal wiring routed in the T-Slot.

Technical Data

Aluminum, Anodized
 Colors: Clear
 PVC
 Colors: Clear, Black, Yellow, or Blue

Ordering Information

| Description | Unit | Part # (Clear) | Part # (Black) | Part # (Yellow) | Part # (Blue) |
|-------------------------------------|------------|----------------|----------------|-----------------|---------------|
| Aluminum Cover Strip 40/1.5" Series | Each at 2m | 12-102 | | | |
| PVC Cover Strip 40/1.5" Series | Each at 2m | 12-111 | 12-111B | 12-111Y | 12-111BL |
| PVC Cover Strip 30/28 Series | Each at 2m | 12-116 | 12-116B | | |

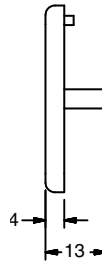


Application

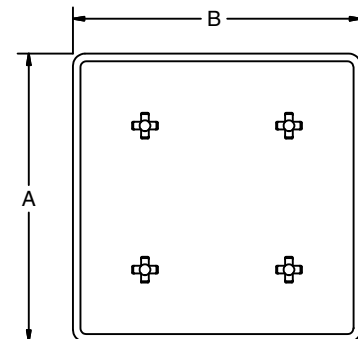
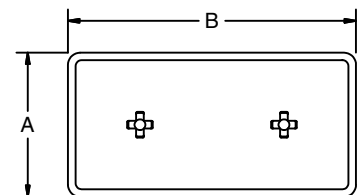
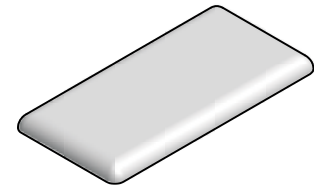
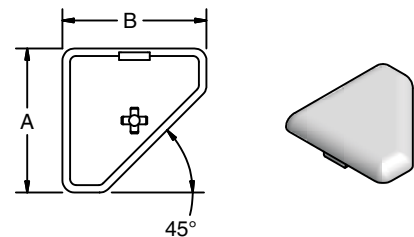
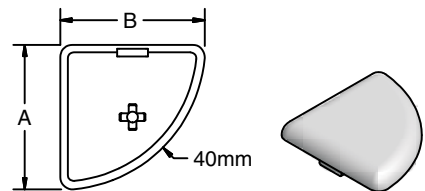
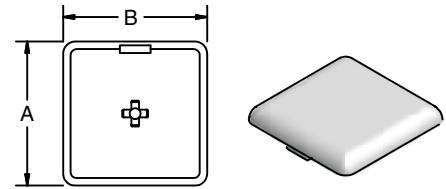
Caps are used to cover the exposed ends of profiles after assembly. The caps provide both protection from potentially sharp edges, and also an aesthetically pleasing appearance.

Technical Data

Glass-Filled Nylon (Black)



**Metric End Caps
 Access Hole Plugs**

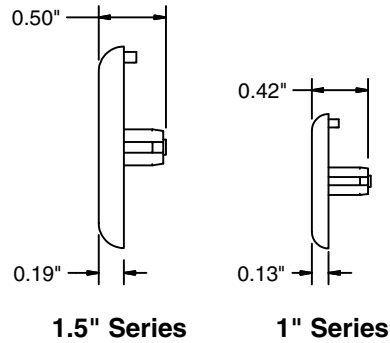
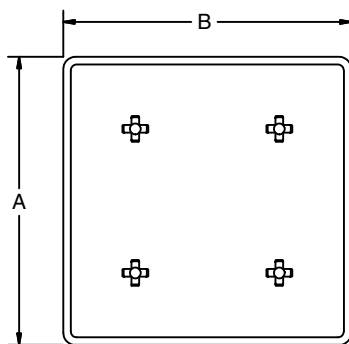
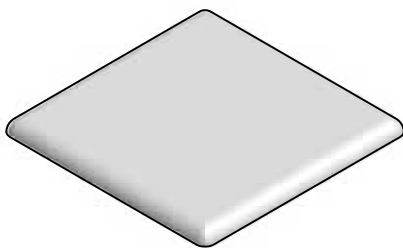
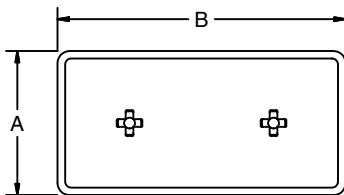
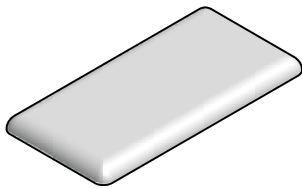
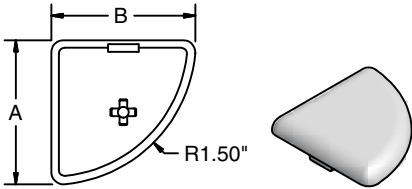
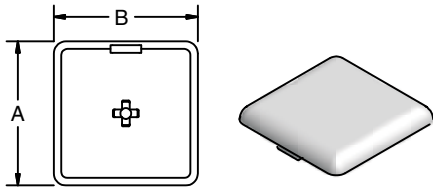


Ordering Information

| Series | Description (B x A) | Unit | Wt (g) | Part # |
|--------------------|-----------------------|------|--------|--------|
| 40 Series | 40x16 | Each | 4 | 18-811 |
| | 40x40 | Each | 7 | 18-813 |
| | 40x40 Heavy Square | Each | 10 | 18-805 |
| | 40x40 Quarter Round | Each | 5 | 18-843 |
| | 80x16 | Each | 6 | 18-812 |
| | 80x40 | Each | 15 | 18-814 |
| | 80x80 | Each | 28 | 18-815 |
| | 120x40 | Each | 22 | 18-840 |
| | 120x80 | Each | 43 | 18-841 |
| | 160x16 | Each | 10 | 18-806 |
| | 160x28 | Each | 20 | 18-816 |
| | 160x40 | Each | 28 | 18-817 |
| | 160x80 | Each | 66 | 18-818 |
| | 40x40-45° | Each | 6 | 18-820 |
| | 40-45° | Each | 4 | 18-845 |
| | R40/80-30 | Each | 17 | 18-883 |
| R40/80-45 | Each | 19 | 18-885 | |
| R40/80-60 | Each | 22 | 18-886 | |
| 30 Series | 30 x 30 Quarter Round | Each | 4 | 18-838 |
| | 30x30 | Each | 5 | 18-803 |
| | 60x30 | Each | 11 | 18-863 |
| 28 Series | 28x28 | Each | 4 | 18-808 |
| | 28x56 | Each | 8 | 18-809 |
| | 28x28-45° | Each | 3 | 18-844 |
| 20 Series | 20x10 | Each | 0.5 | 18-830 |
| | 20x20 | Each | 1 | 18-802 |
| | 20x40 | Each | 2 | 18-831 |
| | 40x40, 20 Series | Each | 4 | 18-832 |
| Specialty Profiles | 56x56 (Post Profile) | Each | 16 | 18-819 |
| | 32x18 Door Profile | Each | 3 | 18-807 |
| Access Hole Plugs | 7mm Plastic | Each | 0.1 | 18-710 |
| | 7mm Nickel | Each | 0.5 | 18-713 |



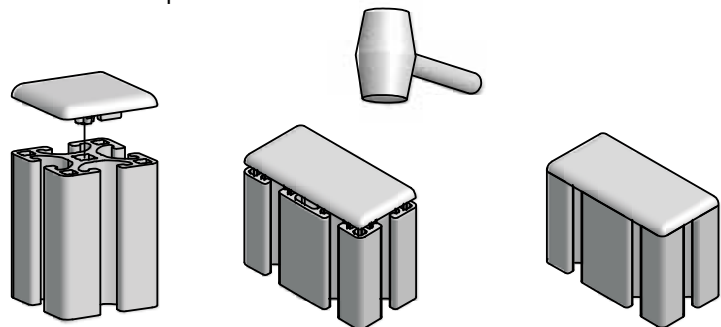
Inch End Caps Access Hole Plug



Ordering Information

| Series | Size (B x A) | Unit | Weight | Part # |
|--------------------------|---------------------------|------|---------|----------------|
| 1.5" Series | 1.5" x 1.5" | Each | 0.25 oz | 18-1515 |
| | 1.5" x 1.5" Quarter Round | Each | 0.21 oz | 18-1543 |
| | 3" x 1.5" | Each | 0.5 oz | 18-1530 |
| | 3" x 3" | Each | 1 oz | 18-3030 |
| 1" Series | 1" x 1" | Each | 0.12 oz | 18-1010 |
| | 2" x 1" | Each | 0.25 oz | 18-1020 |
| | 2" x 2" | Each | 0.49 oz | 18-2020 |
| Access Hole Plugs | 9/32" Plastic | Each | 0.04 oz | 18-710 |
| | 9/32" Nickel Plated Steel | Each | 0.18 oz | 18-713 |

Assembly Hint
 Press end cap into end hole(s), then lightly tap with rubber or plastic mallet.

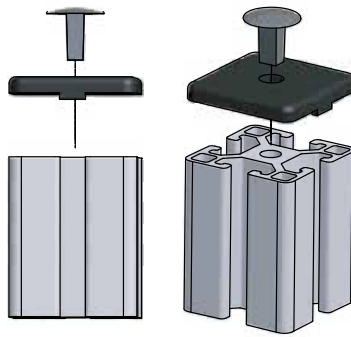


Application

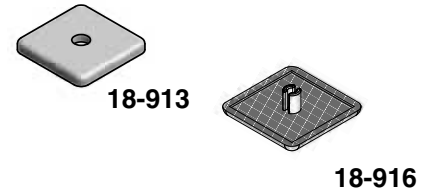
Secured End Caps are attached to profile end with push-in fastener (sold separately). No profile servicing is required.

Technical Data

Glass-Filled Nylon (Black)
 Screw: St, black oxide



Secure End Caps



Ordering Information

| Description | Unit | Weight | Part # | w/Studs | Screws |
|------------------|------|--------|---------|----------|--------------|
| 28x28 - Secure | Each | 7g | 18-911* | | |
| 28x56 - Secure | Each | 7g | 18-912* | | |
| 30x30 - Secure | Each | 7g | | 18-919** | (1) 24-210-4 |
| 60x30 - Secure | Each | 7g | | 18-920** | (2) 24-210-4 |
| 40x40 - Secure | Each | 7g | 18-913* | 18-916** | (1) 24-210-4 |
| 80x40 - Secure | Each | 23g | 18-914* | 18-917** | (2) 24-210-4 |
| 80x80 - Secure | Each | 26g | 18-918* | 18-915** | (4) 24-210-4 |
| Push-in Fastener | Each | 2 | 18-715 | | |

* Requires push-in-fastener

** Requires screws

Conduit Elements

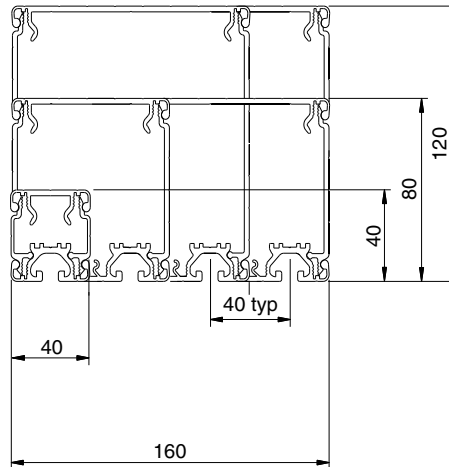
Conduit profiles provide a convenient way to integrate cable, hose and control components to an IPS structural assembly or linear system.

These anodized aluminum profiles are modular and provide great flexibility and are easy to assemble. The dimensions are based on 40mm increments and are compatible with all standard IPS elements.

Assembled conduit sections may be attached to any IPS profile using standard T-slot fastening methods. Reference grooves allow for accurate positioning of any necessary holes or machining.

IPS conduit profiles offer snap-together assembly that can be secured with optional locking screws.

Modular Dimensions

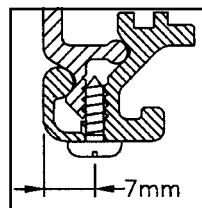
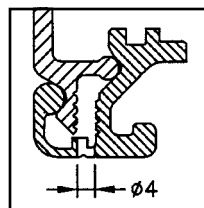
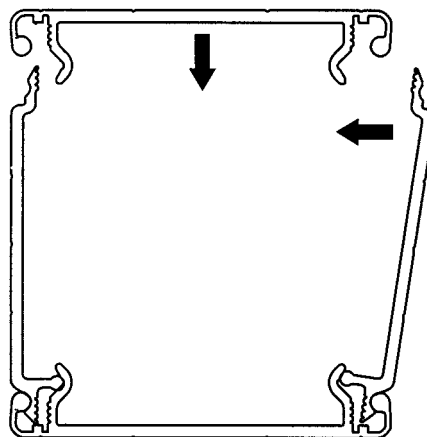


The conduit is made up of high tensile strength aluminum elements:

- Wall duct profile 40, 80 and 120
- Conduit support profile 40, 80, 120 and 160 (with or without T-slot)

Wall duct profiles of any required length are snapped into a support profile. Another support profile closes the duct with a "snap in" fit. The conduit may be secured with screws where necessary.

Assembly of Conduit Elements



1 Scored groove for locating locking screw (24-695) in Support Profile.

2 Locking screw turned into the pre-extruded threads of the support wall profiles.

Conduit Cross Section Guide

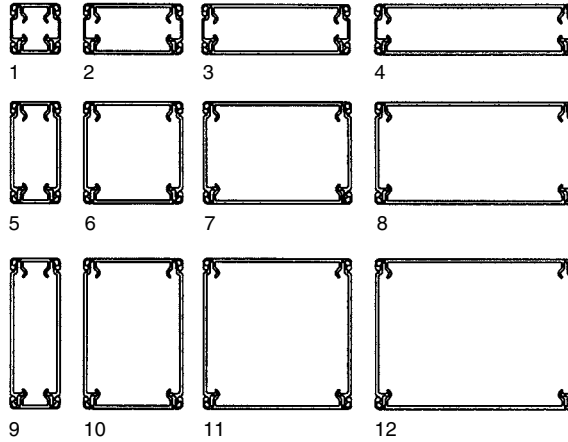
| Type | Item # | Dimensions H x W [mm] | Qty | Wall Part# | Qty | Support Part #1 | Qty | Support Part #2 | Area [cm ²] | Area [inch ²] |
|--------------------------------------------|--------|--------------------------|-----|---------------|-----|--------------------|-----|--------------------|----------------------------|------------------------------|
| Conduits Without T-Slots | 1 | 40x40 | 2 | 15-042 | 2 | 15-040 | — | — | 16.00 | 2.48 |
| | 2 | 40x80 | 2 | 15-042 | 2 | 15-080 | — | — | 32.00 | 4.96 |
| | 3 | 40x120 | 2 | 15-042 | 2 | 15-120 | — | — | 48.00 | 7.44 |
| | 4 | 40x160 | 2 | 15-042 | 2 | 15-160 | — | — | 64.00 | 9.92 |
| | 5 | 80x40 | 2 | 15-082 | 2 | 15-040 | — | — | 32.00 | 4.96 |
| | 6 | 80x80 | 2 | 15-082 | 2 | 15-080 | — | — | 64.00 | 9.92 |
| | 7 | 80x120 | 2 | 15-082 | 2 | 15-120 | — | — | 96.00 | 14.88 |
| | 8 | 80x160 | 2 | 15-082 | 2 | 15-160 | — | — | 128.00 | 19.84 |
| | 9 | 120x40 | 2 | 15-122 | 2 | 15-040 | — | — | 48.00 | 7.44 |
| | 10 | 120x80 | 2 | 15-122 | 2 | 15-080 | — | — | 96.00 | 14.88 |
| | 11 | 120x120 | 2 | 15-122 | 2 | 15-120 | — | — | 144.00 | 22.32 |
| | 12 | 120x160 | 2 | 15-122 | 2 | 15-160 | — | — | 192.00 | 29.76 |
| Conduits With T-Slots on one Side | 13 | 40x40 | 2 | 15-042 | 1 | 15-040 | 1 | 15-041 | 9.20 | 1.43 |
| | 14 | 40x160 | 2 | 15-042 | 1 | 15-160 | 1 | 15-161 | 36.80 | 5.70 |
| | 15 | 80x40 | 2 | 15-082 | 1 | 15-040 | 1 | 15-041 | 25.20 | 3.91 |
| | 16 | 80x160 | 2 | 15-082 | 1 | 15-160 | 1 | 15-161 | 100.80 | 15.62 |
| | 17 | 120x40 | 2 | 15-122 | 1 | 15-040 | 1 | 15-041 | 41.20 | 6.39 |
| | 18 | 120x160 | 2 | 15-122 | 1 | 15-160 | 1 | 15-161 | 164.80 | 25.54 |
| Conduits with T-Slots on Both Sides | 19 | 80x160 | 2 | 15-082 | 2 | 15-161 | — | — | 73.60 | 11.41 |
| | 20 | 120x160 | 2 | 15-122 | 2 | 15-161 | — | — | 137.60 | 21.33 |
| Conduits with Partitions | 21 | 40x160 | 5 | 15-042 | 1 | 15-160 | 1 | 15-041 | 36.80 | 5.70 |
| | 22 | 80x160 | 5 | 15-082 | 1 | 15-160 | 1 | 15-161 | 100.80 | 15.62 |
| | 23 | 160x160 | 5 | 15-122 | 1 | 15-160 | 1 | 15-161 | 164.80 | 25.54 |



Cross Sections

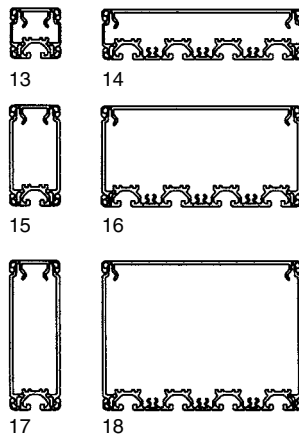
Conduits without T-slots

- 1 40x40
- 2 40x80
- 3 40x120
- 4 40x160
- 5 80x40
- 6 80x80
- 7 80x120
- 8 80x160
- 9 120x40
- 10 120x80
- 11 120x120
- 12 120x160



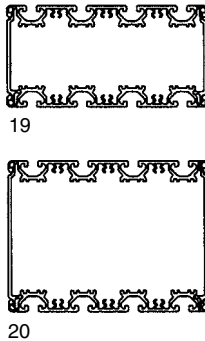
Conduits with T-slots on one side

- 13 40x40
- 14 40x160
- 15 80x40
- 16 80x160
- 17 120x40
- 18 120x160



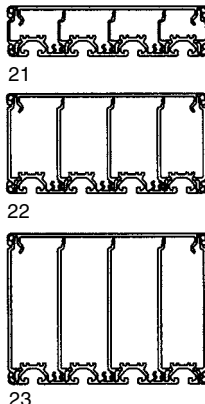
Conduits with T-slots on both sides

- 19 80x160
- 20 120x160

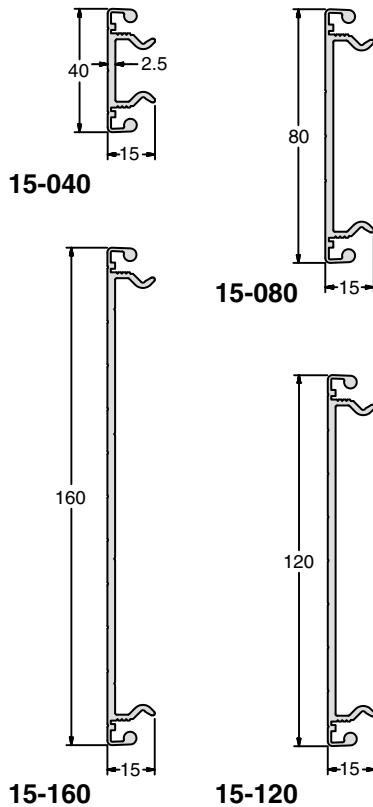


Conduits with Partitions

- 21 40x160
- 22 80x160
- 23 160x160



Conduit Support



Application

Bottom or cover components for conduit assemblies. Wall Duct profiles snap in for fast applications. Locking screw (24-695) can be added to secure the assembly and provide ground continuity between profiles members.

Technical Data

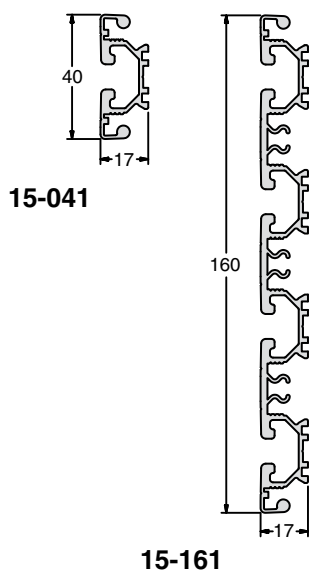
| | |
|--------------------------|-------|
| Aluminum, Clear Anodized | |
| Weight | kg/pc |
| 15-040 | 1.96 |
| 15-080 | 3.04 |
| 15-120 | 3.92 |
| 15-160 | 5.00 |

Ordering Information

| Description | Unit | Part # |
|-----------------------------------|---------|--------|
| Conduit Support 40 | 4m each | 15-040 |
| Conduit Support 80 | 4m each | 15-080 |
| *Saw Cut Needed for Cut to Length | | 19-001 |
| Conduit Support 120 | 4m each | 15-120 |
| Conduit Support 160 | 4m each | 15-160 |
| *Saw Cut Needed for Cut to Length | | 19-002 |

Sold in full pieces only.

Conduit Support with T-Slot



Application

Bottom or cover components for conduit assemblies with 40 Series T-Slots on external face for mounting with standard hardware. Wall Duct Profiles can be used to create partitions.

Technical Data

| | |
|--------------------------|-------|
| Aluminum, Clear Anodized | |
| Weight | kg/pc |
| 15-041 | 2.40 |
| 15-161 | 9.16 |

Ordering Information

| Description | Unit | Part # |
|-----------------------------------|---------|--------|
| Conduit Support 40 W/ T-Slot | 4m each | 15-041 |
| *Saw Cut Needed for Cut to Length | | 19-001 |
| Conduit Support 160 W/T-Slot | 4m each | 15-161 |
| *Saw Cut Needed for Cut to Length | | 19-002 |

Sold in full pieces only.

Wall Duct Profiles

Application

This profile creates the sides of the conduit assembly and can be used to create partitioned spaces within assemblies using T-Slotted top and bottom supports.

Technical Data

Aluminum, Clear Anodized

| Weight | kg/pc |
|--------|-------|
| 15-042 | 0.84 |
| 15-082 | 2.20 |
| 15-122 | 3.24 |

Ordering Information

Description

Conduit Wall Duct 40

Conduit Wall Duct 80

Conduit Wall Duct 120

*Saw Cut Needed for Cut to Length

Sold in full pieces only.

Unit

4m each

4m each

4m each

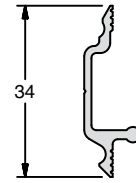
Part

15-042

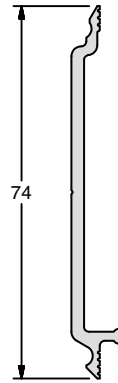
15-082

15-122

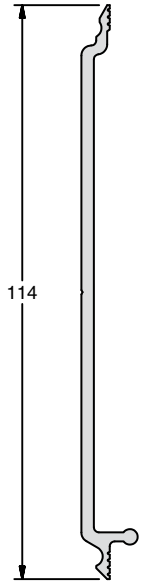
19-001



15-042

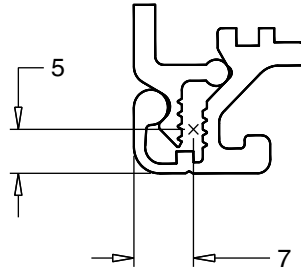
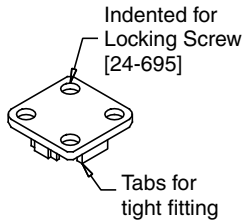


15-082

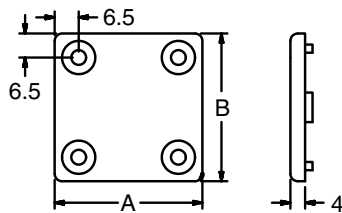


15-122

Conduit End Caps



Recommended location of 5mm hole for locking screw on custom conduit caps (note orientation).



Application

End Caps

Face covering for sealing the end openings of conduit assemblies. Not for use on 40 Series profiles.

Locking Screw

Securely fastens support and wall profiles and breaks the anodized coating creating a positive ground between profile members.

Technical Data

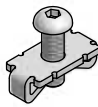
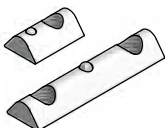
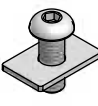
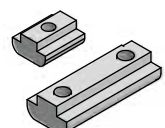
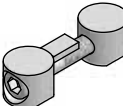
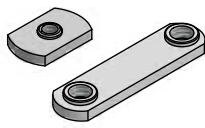


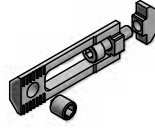


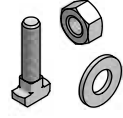

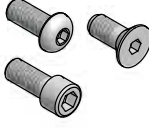

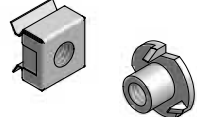

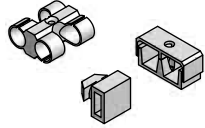
End Caps
 Glass-filled nylon, Black

Locking Screw
 Steel, Galvanized
 4.2 x 9.5mm, DIN 7971

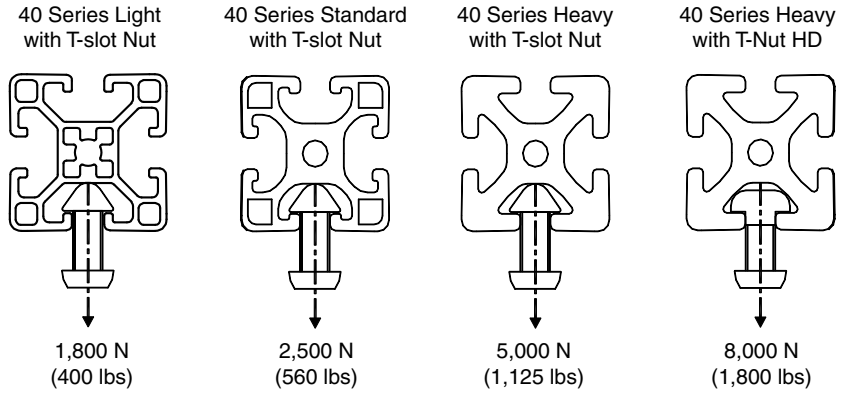
Ordering Information

| Description [AxB] | Unit | Part # | Weight |
|-------------------------|------|--------|--------|
| Conduit Cap 40x40 | 1 pc | 15-803 | 8g |
| Conduit Cap 40x80 | 1 pc | 15-804 | 14g |
| Conduit Cap 40x120 | 1 pc | 15-810 | 30g |
| Conduit Cap 40x160 | 1 pc | 15-806 | 30g |
| Conduit Cap 80x80 | 1 pc | 15-805 | 30g |
| Conduit Cap 80x120 | 1 pc | 15-811 | 50g |
| Conduit Cap 80x160 | 1 pc | 15-807 | 58g |
| Conduit Cap 120x120 | 1 pc | 15-812 | 70g |
| Conduit Cap 120x160 | 1 pc | 15-813 | 90g |
| Locking Screw 4.2 x 9.5 | 1 pc | 24-695 | 2g |

Section 2 Fasteners

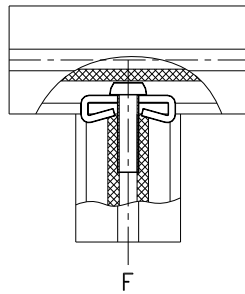
| | | | | | |
|----------------------|----|-------------------------------------------------------------------------------------|------------------------|-------|---------------------------------------------------------------------------------------|
| Standard Fasteners | 76 |  | T-Nuts | 83 |  |
| | | | Double T-Nuts | 84 | |
| | | | Self-Aligning T-Nuts | 84 | |
| | | | T-Slot Bars | 85 | |
| Flat Plate Fasteners | 77 |  | Heavy Duty T-Nuts | 85 |  |
| | | | Heavy Duty T-Slot Bars | 85 | |
| Butt-Fastening Sets | 77 |  | Economy T-Nuts | 86 |  |
| | | | Drop-in Economy | 87 | |
| Universal Fasteners | 78 |  | T-Nut Zn | 87 |  |
| Milling Connectors | 79 |  | Anodize Breaker | 88 |  |
| Central Connector | 79 |  | T-Bolts | 88 |  |
| | | | Nuts | 89 | |
| | | | Washers | 89 | |
| Self-Tapping | 80 |  | Metric Screws | 90-91 |  |
| | | | Imperial Screws | 92-93 | |
| | | | Set Screws | 94 | |
| Profile-to-Wall | 80 |  | Clip Nuts | 94 |  |
| | | | High Cycle Nut | 94 | |
| Miter Connectors | 81 |  | T-Clips | 95 |  |
| | | | Cable Tie Holders | 95 | |
| | | | Cable/Hose Holders | 96 | |

Safe Load




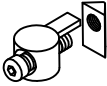


Pull Test

Two pieces of 40x40 Heavy profile were assembled to form a tee with a standard fastener and a button head screw. Force was applied until the tee started to separate. The profile failed before the fastener. The profiles were still held together at the end of the test. There were no catastrophic failures. Extra screw length beyond standard 18mm did not significantly change test results.



| Screw | Engaged Length | Force (F) | |
|-------|----------------|-----------|-------|
| | | N | Lbs |
| M8x18 | 10.8 mm | 27,250 | 6,126 |
| M8x20 | 12.8 mm | 26,761 | 6,016 |
| M8x25 | 17.8 mm | 25,350 | 5,699 |
| M8x30 | 22.8 mm | 26,774 | 6,019 |

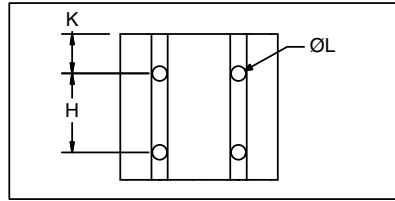
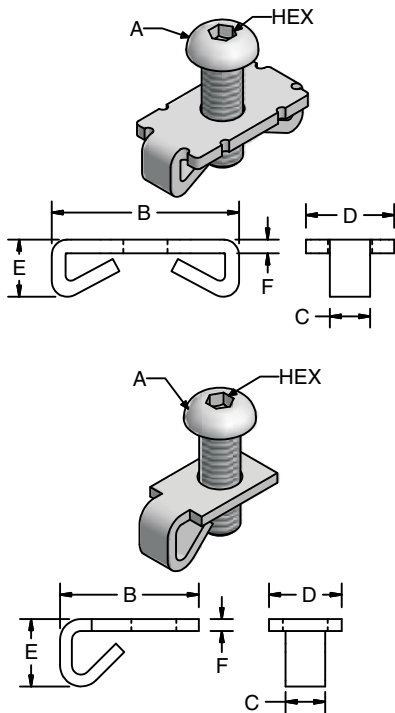
Fastener Quick Reference

| Fastener Type | Hardware | 40 Series | 30 Series | 28 Series | 20 Series | 1.5" Series | 1" Series |
|----------------------------------------------------------------------------------------------------------------|-------------|-----------------------|-----------|-----------|-----------|-------------|-----------|
| Standard Fastener  | M5 | | | | 20-021 | | |
| | M8 | 20-002 | 20-003 | 20-003 | | 20-002 | |
| | M8 SS | 20-002SS | 20-003SS | 20-003SS | | 20-002SS | |
| | 1/4-20 | | | | | | 25-022 |
| | 5/16-18 | 25-003 | | | | 25-003 | |
| | 5/16-18 SS | 25-003SS | | | | 25-003SS | |
| Standard Fastener Single Tab | M8 | 20-144 | | | | 20-144 | |
| | 5/16-18 | 25-014 | | | | 25-014 | |
| Universal Fastener  | M6 | | 20-008 | 20-005 | | | |
| | M8 | 20-004 ⁽¹⁾ | | | | 20-004 | |
| | 1/4-20 | | | | | | 25-023 |
| | 5/16-18 | 25-004 | | | | 25-004 | |
| Flat Plate  | M8x16 | 20-028 | | | | 20-028 | |
| | M8x10 | | 20-028Z1 | 20-028Z1 | | | |
| | 5/16-18 | 25-028 | | | | 25-028 | |
| Butt Fastener  | M8x45 | 20-006 ⁽²⁾ | 20-012 | 20-012 | | 20-006 | |
| | 1/4-20 | | | | | | 25-017 |
| | 5/16-18 | 25-016 | | | | 25-016 | |
| Milling Connector | M5 | 28-004 | 28-005 | | | | |
| Central Connector | M6 | 20-704 | | | | | |
| | | 20-705 | | | | | |
| Profile-to-Wall | M8 | 20-015 | | | | 20-015 | |
| | 5/16-18 | 25-015 | | | | 25-015 | |
| Self-Tapping | | 20-019 | | | | | |
| Miter Connector | Variable HD | 20-022 | | | | 25-024 | |
| | 90° Fixed | | 20-128 | 20-128 | | | 25-026 |

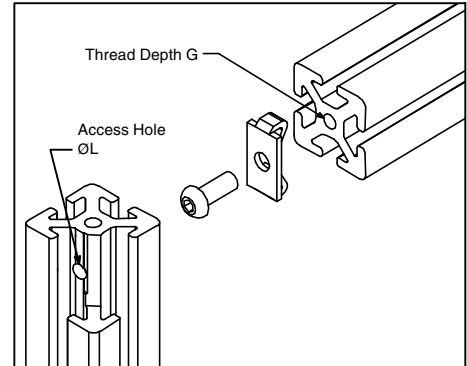
(1) Use 20-011 for 40 Series Pneumatic Applications

(2) Use 20-012 for 40 Series Pneumatic Applications

Standard



| Series | G | H* | K | L |
|--------|--------|------|-------|--------|
| 40 | 16 | 40 | 20 | 7 |
| 30 | 16 | 30 | 15 | 7 |
| 28 | 16 | 28 | 14 | 7 |
| 20 | 10 | 20 | 10 | 4.3 |
| 1.5" | 0.75" | 1.5" | 0.75" | 0.281" |
| 1" | 0.625" | 1" | 0.5" | 0.219" |



*All dimensions in mm unless otherwise noted.
H dimension is required when using multiple T-slot profiles.

Application

This is the primary fastening method used to join two pieces of profiles together.

The fastener couples with the taper in the T-Slots to create an extremely rigid joint. The tabs on the fastener align the profiles and provide anti-rotational support.

Technical Data

- Plate
- Std - Steel, Zinc Plated
- SS - Stainless Steel
- SAE - Steel, Zinc Plated w/ SAE hardware

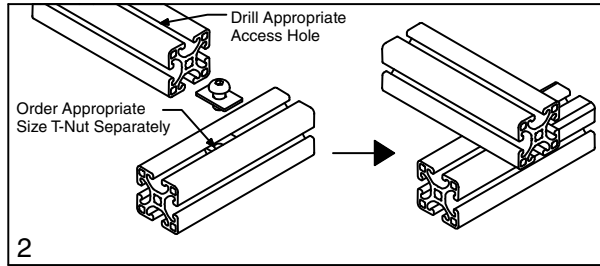
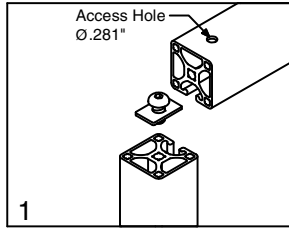
Note: You must use 20-028 Flat Standard Fastener or 20-144/25-014 Single Tab Standard Fastener set on closed face profiles.

Ordering Information

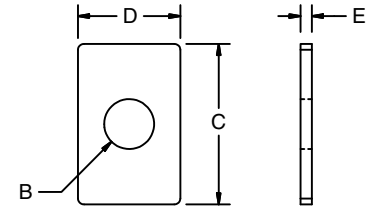
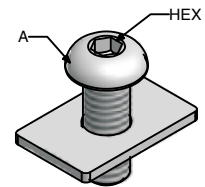
| Profile Series | Type | Dimensions | | | | | | | Torque Nm (in-lb) | Weight (g) | Part #* |
|----------------|----------|----------------|-------|-------|--------|--------|--------|--------|-------------------|------------|----------|
| | | A | Hex | B | C | D | E | F | | | |
| 40 | Std | M8x18* | 5 | 36 | 7.8 | 17 | 11 | 2.9 | 25 (220) | 25 | 20-002 |
| | SS | M8x18* | 5 | 36 | 7.8 | 17 | 11 | 2.9 | 20 (180) | 21 | 20-002SS |
| | SAE | 5/16-18 x 3/4" | 3/16" | 36 | 7.8 | 17 | 11 | 2.3 | 25 (220) | 25 | 25-003 |
| | SAE SS | 5/16-18 x 3/4" | 3/16" | 36 | 7.8 | 17 | 11 | 2.3 | 25 (220) | 25 | 25-003SS |
| | S End | 5/16-18 x 3/4" | 3/16" | 27 | 7.6 | 14 | 13 | 2.3 | 25 (220) | 21 | 25-014 |
| | S End | M8x18 | 5 | 27 | 7.8 | 17 | 11 | 2.3 | 25 (220) | 21 | 20-144 |
| | Flat Std | M8x18 | 5 | 27 | — | 17 | 11 | 2 | 25 (220) | 41 | 20-028 |
| | SAE Flat | 5/16-18 x 5/8" | 3/16" | 27 | — | 17 | 11 | 2 | 25 (220) | 21 | 25-028 |
| 30/28 | Std | M8x18 | 5 | 23.7 | 7.8 | 16 | 8.9 | 1.9 | 25 (220) | 15 | 20-003 |
| | SS | M8x18 | 5 | 23.7 | 7.8 | 16 | 8.9 | 1.9 | 20 (180) | 14 | 20-003SS |
| | S End | M8x18 | 5 | 21 | 7.8 | 14 | 8.9 | 1.9 | 25 (220) | 15 | 20-143 |
| 20 | Std | M5x12 | 3 | 4.8 | 4.8 | 10 | 4.5 | 1.1 | 4.5 (40) | 5 | 20-021 |
| 1.5" | Std | 5/16-18 x 3/4" | 3/16" | 1.42" | 0.307" | 0.669" | 0.433" | 0.114" | 25 (220) | 25 | 25-003 |
| | SS | 5/16-18 x 3/4" | 3/16" | 1.42" | 0.307" | 0.669" | 0.433" | 0.114" | 25 (220) | 25 | 25-003SS |
| | S End | 5/16-18 x 3/4" | 3/16" | 1.05" | 0.300" | 0.550" | 0.510" | 0.090" | 25 (220) | 21 | 25-014 |
| | Flat | 5/16-18 x 3/4" | 3/16" | 1.30" | 0.307" | 0.669" | 0.433" | 0.090" | 25 (220) | 21 | 25-028 |
| 1" | Std | 1/4-20 x 5/8" | 5/32" | 0.795 | 0.250 | 0.520 | 0.300 | 0.060 | 20 (180) | 13 | 25-022 |

*Fastening plates may be ordered without a screw by adding "Z1" to part number, i.e. 20-002Z1.





Flat Plate



20-028
25-028

Application

This fastening set is suitable for connecting two profiles at 90° when a standard fastener cannot be used. It can also be used to connect two profiles where no end hole is available (see detail 2).

Technical Data

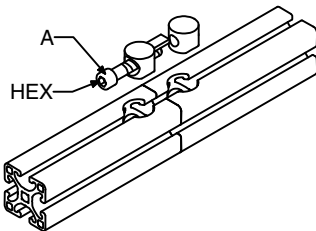
Plate: Steel, Zinc Plated

Ordering Information

| Profile Series | A | HEX | B | C | D | E | Torque Nm (in-lb) | Wgt. | Part # |
|----------------|----------------|-------|-------|-------|--------|--------|-------------------|------|--------|
| 40 | M8 x 18 | 5 | 8 | 27 | 17.5 | 2 | 25 (220) | 13 g | 20-028 |
| 1.5" | 5/16-18 x 5/8" | 3/16" | 0.31" | 1.06" | 0.677" | 0.075" | 25 (220) | 13 g | 25-028 |

For 28 Series order:

Flat Plate Only **20-028Z1**
M8x10 BHCS Screw **24-110-8**



* All fastener dimensions and servicing dimensions for butt-fasteners are the same as the corresponding universal fastener.

Butt-Fastening

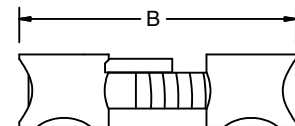
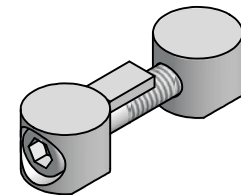
Application

For joining profiles end to end. Fastening dimensions and servicing are the same as corresponding universal fasteners.

For 40 Series pneumatic applications use M6 fastener (20-012). See page 178.

Technical Data

Plate: Zinc Cast, galvanized
Requires service part #19-015.

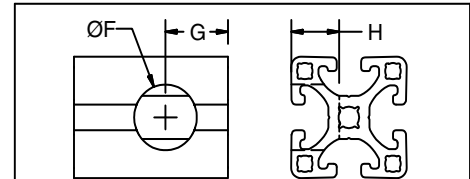
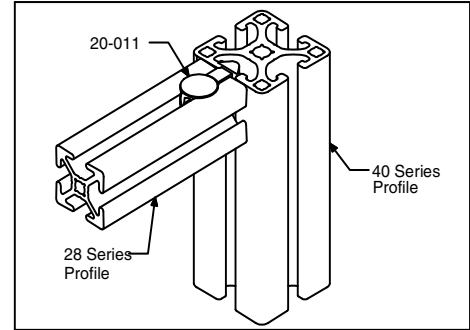
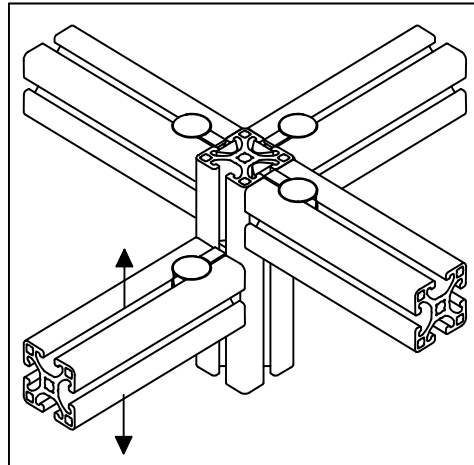
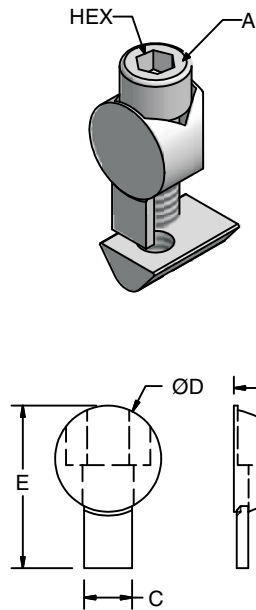


20-006
20-012
25-016
25-017

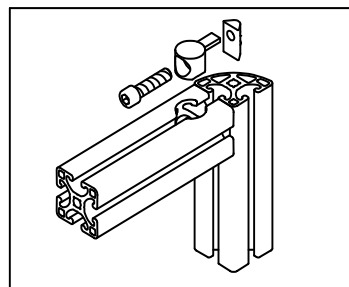
Ordering Information

| Profile Series | Dimensions (mm) | | | Torque, Nm (lb-in) | Weight | Part # |
|----------------|------------------|-------|-------|--------------------|--------|--------|
| | A | HEX | B | | | |
| 40 | M8 x 45 | 6 | 60 | 25 (220) | 59 g | 20-006 |
| 30 & 28 | M6 x 50 & M6 Nut | 5 | 60 | 14 (125) | 45 g | 20-012 |
| 1.5" | 5/16-18 x 1 3/4" | 3/16" | 2.41" | 25 (220) | 59 g | 25-016 |
| 1" | 1/4-20 x 7/8" | 5/32" | 1.55" | 13.5 (120) | 40 g | 25-017 |

Universal



| Series | F | G | H |
|--------|--------|--------|--------|
| 40 | 20 | 20 | 16 |
| 30 | 20 | 20 | 11 |
| 28 | 20 | 20 | 11 |
| 1.5" | 0.813" | 0.813" | 0.625" |
| 1" | 0.563" | 0.500" | 0.430" |



Application

For adjustable 90° profile connections. Ideal for retrofits and additions to existing frames.

Fastening set 20-011 is used to connect 28 Series to 40 Series profiles and for pneumatic applications. See page 178.

Fastening set 25-015 is used for connecting 1.5" Series to other parts without T-slots. (See page 108 for corner element examples.)

Technical Data

Zinc Cast, galvanized

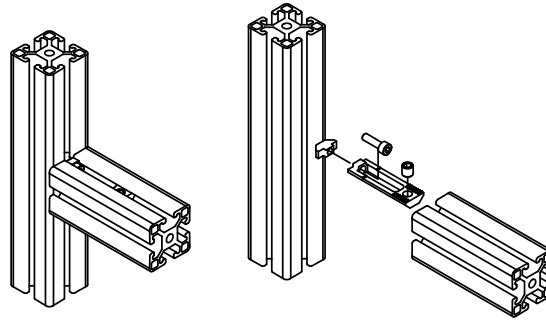
Includes screw and T-Nut

Requires service part #19-015.

Ordering Information

| Series | A (SHCS) | Hex | B | C | D | E | Torque Nm (in-lb) | Wt. (g) | Part # |
|--------------------------------------------------------------|------------------|-------|------|-----|----|------|-------------------|---------|----------|
| 40, | M8x30 | 6 | 16 | 8 | 20 | 33.8 | 25 (220) | 41 | 20-004 |
| 1.5" | 5/16-18 x 1 1/4" | 3/16" | 16 | 8 | 20 | 33.8 | 25 (220) | 41 | 25-004 |
| 28 | M6x27 | 5 | 11 | 8 | 20 | 31.3 | 14 (125) | 30 | 20-005 |
| 28 to 40 | M6x30 | 5 | 11 | 8 | 20 | 33.5 | 14 (125) | 36 | 20-011 |
| 30 | M6x27 | 5 | 11 | 8 | 20 | 31.3 | 14 (125) | 31 | 20-008 |
| 1" | 1/4-20 x 3/4" | 5/32" | 10.7 | 6.4 | 14 | 21.5 | 13 (120) | 25 | 25-023 |
| Universal Zinc Casting 40 (40 Series without T-Nut or Screw) | | | | | | | | | 20-004Z1 |
| Universal Zinc Casting 28 (28 Series without T-Nut or Screw) | | | | | | | | | 20-005Z1 |

* Fastening plates may be ordered without a screw by adding "Z1" to the part number, i.e. 20-004Z1



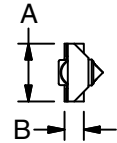
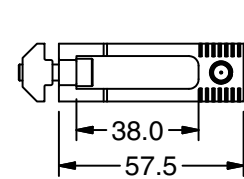
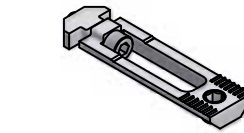
Milling Connector

Application

For adjustable 90° profile connections. Milling Connectors allow the connection of two profiles without additional machining.

Technical Data

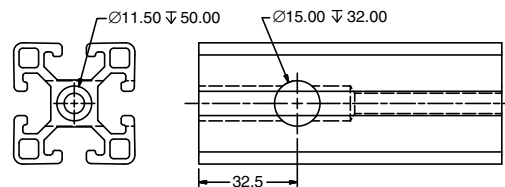
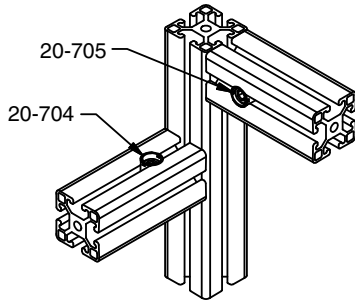
Plate: Steel, Zinc Plated
Includes screw and T-nut.



Ordering Information

| Profile Series | A | B | Weight (g) | Part # |
|----------------|----|-----|------------|--------|
| 40, 1.5" | 18 | 6.8 | 37.3 | 28-004 |
| 30 | 16 | 6.3 | 31.7 | 28-005 |

28-004
28-005



Central Connector

Application

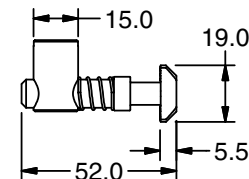
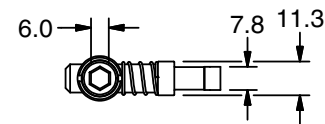
For adjustable 90° profile connections. Central Connectors allow the connection of two profiles. A step drill operation (19-015) is required to one of the profiles in addition to an end drill (19-014) to accommodate the barrel and tightening screw.

Technical Data

Plate: Steel, Zinc Plated
Requires services 19-014 and 19-015.
See detail above.



20-704



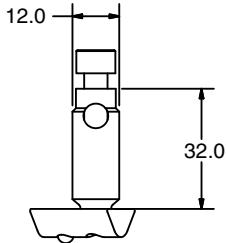
Ordering Information

| Description | Unit | Weight | Part # |
|--------------------------------|------|--------|--------|
| Hammer Perpendicular to Barrel | Each | 49 g | 20-704 |
| Hammer Parallel to Barrel | Each | 49 g | 20-705 |

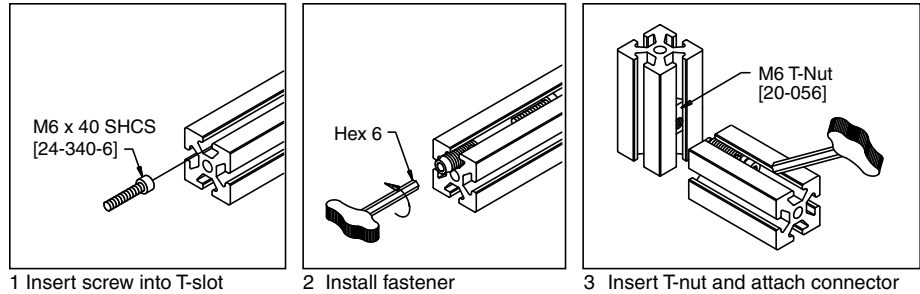


20-705

Self Tapping Connector



20-019



Application

For right angle attachment of 40 and 1.5" Series Profiles. No servicing is required making it ideal for retrofitting existing structures.

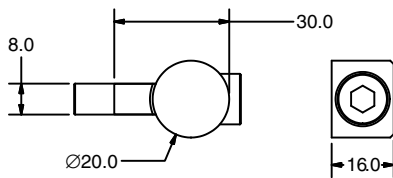
Ordering Information

| Description | Unit | Weight | Part # |
|--------------------------------|-------|--------|--------|
| Self Tapping Connector 40/1.5" | 1 Set | 34 g | 20-019 |

Technical Data

Steel
Torque: 14 Nm (125 in-lb)
Threads – Left Handed

Profile to Wall Fastening Set



20-015

Application

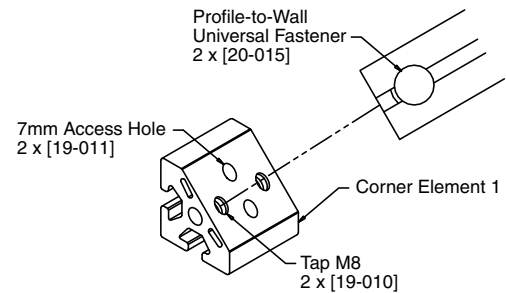
Designed for connecting 40 and 1.5" Series profiles to parts without T-Slots such as corner elements or reversing units.

Technical Data

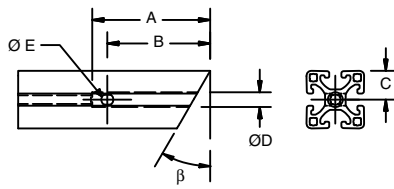
Plate: Steel, Zinc Plated
Requires service part #19-015.

Ordering Information

| Profile Series | Dimensions | | | | | | Torque Nm (in-lb) | Weight (g) | Part # |
|----------------|------------------|-------|--------|--------|--------|-------|-------------------|------------|--------|
| | A | HEX | B | C | D | E | | | |
| 40 | M8x30 SHCS | 6 | 16 | 8 | 20 | 30 | 25 (220) | 32 | 20-015 |
| 1.5" | 5/16-18 x 1 1/4" | 3/16" | 0.630" | 0.315" | 0.787" | 1.18" | 20 (180) | 32 | 25-015 |



Profile to wall casting without screw or washer **20-015Z1**

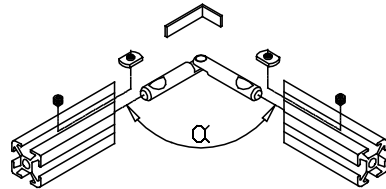
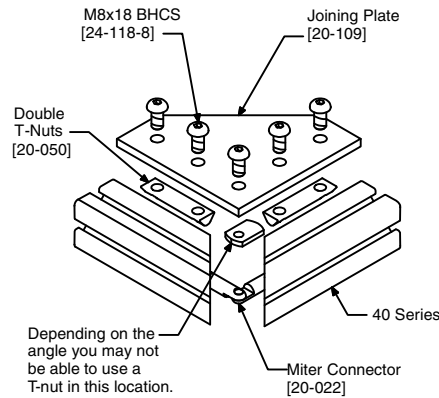


40 Series
 $\beta = 90^\circ - \alpha/2$
 $A = 45 + C \tan \beta$
 $B = 35 + C \tan \beta$
 $D = 9.6$
 $E = 8$

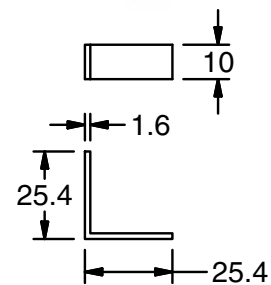
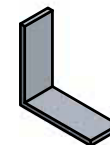
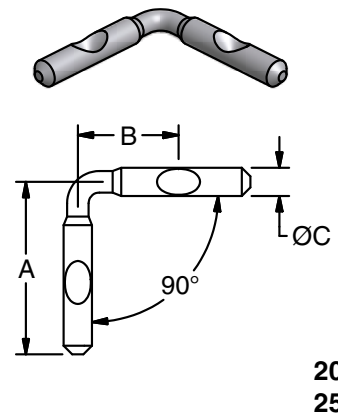
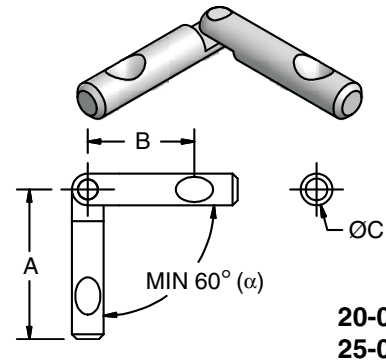
1.5" Series
 $\beta = 90^\circ - \alpha/2$
 $A = 1.77" + C \tan \beta$
 $B = 1.38" + C \tan \beta$
 $D = 0.386"$
 $E = 0.313"$

28 Series
 $\beta = 90^\circ - \alpha/2$
 $A = 38 + C \tan \beta$
 $B = 25.5 + C \tan \beta$
 $D = 6.8$
 $E = 6$

1" Series
 $\beta = 90^\circ - \alpha/2$
 $A = 1.50" + C \tan \beta$
 $B = 1.00" + C \tan \beta$
 $D = 0.266"$
 $E = 0.250"$



Miter Connectors



Application

Variable angle connectors are available for 40 and 1.5" series profiles.

Fixed 90° connectors are available for 28, 30 and 1" Series Profiles.

Miter Bracket (20-127) prevents twisting.

Not for use as a structural fastener.
Secure with joining plates as necessary.

Technical Data

Connector: Steel, Zinc Plated

Miter Bracket: Aluminum, Anodized

Sets include necessary T-nuts and cone point screws.

Loctite® Thread Locker No. 262 is recommended to secure set screws.


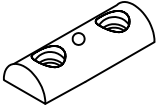

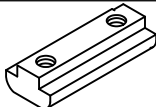


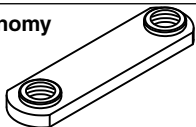

Ordering Information

| Series | Description | A | B | C | Unit | Weight | Part # |
|--------|---------------|-------------|--------|--------|-------|--------|---------|
| 40 | Variable | 45 | 32 | 9.53 | 1 Set | 67 g | 20-022 |
| 28,30 | Fixed 90° | 37 | 23.4 | 6.57 | 1 Set | 31 g | 20-128* |
| 1.5" | Variable | 1.77" | 1.260" | 0.375" | 1 Set | 67 g | 25-024 |
| 1" | Fixed 90° | 1.46" | 0.92" | 0.26" | 1 Set | 31 g | 25-026 |
| All | Miter Bracket | See drawing | | | 1 Pc | 4 g | 20-127 |

*Fixed 90° Miter Connector only 1 Pc 20-128Z1



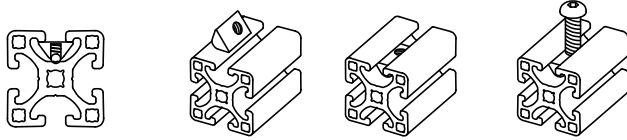
Quick Reference

| Type | Thread Size | 40 Series | 30 Series | 28 Series | 20 Series | 1.5" Series | 1" Series |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------|-----------------------|-----------------------|-----------|------------------------------------------------|-----------|
| Standard T-Nut  | M4 | 20-051 | | | 20-044 | 20-051 | |
| | M5 | 20-052 | 20-052 | | 20-045 | 20-052 | |
| | M6 | 20-056 (SS) | 20-056 (SS) | 20-055 | | 20-056 (SS) | |
| | M8 | 20-058 (SS) | 20-058 (SS) | 20-057 | | 20-058 (SS) | |
| | #10-32 | 25-009 | 25-009 | | | 25-009 | 25-030 |
| | 1/4-20 | 25-001 | 25-001 | 25-055 | | 25-001 | 25-031 |
| | 5/16-18 | 25-002 | 25-002 | 25-057 | | 25-002 | |
| Double T-Nut Standard  | M8 | 20-049 ⁽¹⁾ | 20-049 ⁽¹⁾ | | | 20-049 | |
| | M8 | 20-050 ⁽²⁾ | 20-050 ⁽²⁾ | | | 20-050 | |
| | M8 HD | 20-063 ⁽³⁾ | | | | 20-063 ⁽³⁾ | |
| | 5/16-18 | 25-041 | | | | 25-041 | |
| Self Aligning T- Nut | M5 | 20-065 | 20-065 ⁽⁴⁾ | 20-065 ⁽⁴⁾ | | 20-065 | |
| | M6 | 20-066 | 20-066 ⁽⁴⁾ | 20-066 ⁽⁴⁾ | | 20-066 | |
| | M8 | 20-068 | 20-068 ⁽⁴⁾ | 20-068 ⁽⁴⁾ | | 20-068 | |
| Heavy Duty T-Nut  Ret. Spring 20-0614 ⁽³⁾ | M5 | 20-067 | | | | 20-067 | |
| | M6 | 20-060 ⁽³⁾ | | | | 20-060 ⁽³⁾ | |
| | M8 | 20-064 ⁽³⁾ | | | | 20-064 ⁽³⁾ | |
| | 1/4-20 | 25-050 | | | | 25-050 | |
| | 5/16-18 | 25-051 | | | | 25-051 | |
| Double Heavy Duty T-Nut  | M8 | 20-063 | | | | 20-063 | |
| | 1/4-20 | 25-052 | | | | 25-052 | |
| | 5/16-18 | 25-053 | | | | 25-053 | |
| Economy Standard T-Nut  | M5 | | | | 20-085 | | |
| | M6 | 20-080 | 20-090 (SS) | 20-090 (SS) | | 20-080 | |
| | M8 | 20-081 | 20-091 | 20-091 | | 20-081 | |
| | #10-32 | 20-088 | | | | 20-088 | 20-088 |
| | 1/4-20 | 20-083 | 20-093 | 20-093 | | 20-083 | 25-034 |
| | 5/16-18 | 20-082 | 20-092 | 20-092 | | 20-082 | |
| | #10-24 | | | | | 20-086 | |
| Economy Offset T-Nut  | M6 | | 20-190 | 20-190 | | | |
| | M8 | 20-181 | | | | | |
| | #8-32 | 25-045 | | | | 25-045 | 25-045 |
| | 1/4-20 | 20-193 | 20-193 | 20-193 | | 20-193 | |
| | 5/16-18 | 20-182 | | | | 20-182 | |
| Double Economy T-Nut  | 1/4-20 | | | | | 25-048 | |
| | 5/16-18 | 25-046 ⁽⁵⁾ 25-047 ⁽⁶⁾ | | | | 25-046 ⁽⁵⁾ 25-047 ⁽⁶⁾ | |
| T-Slot Nut Zn  | M3 | 20-033 | 20-036 | 20-036 | | 20-033 | |
| | M4 | 20-034 | 20-037 | 20-037 | | 20-034 | |
| | M5 | 20-035 | 20-038 | 20-038 | | 20-035 | |

(1) 24mm hole centerline spacing
(2) 40 mm hole centerline spacing

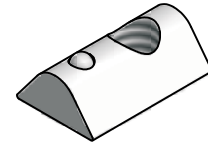
(3) 40/1.5" Series only, nut must be installed from profile end
(4) On 30 and 28 Series, nut must be installed from profile end

(5) 7/8" hole spacing
(6) 1" hole spacing



Standard T-nuts conveniently roll into profile T-slots at any location. The spring/ball locking feature keeps the T-nut in place in vertical applications.

T-Nuts St



Application

Standard mounting elements for profiles. The T-Nut can be inserted into profile T-Slots at any location to provide an instant threaded hole for mounting accessories or connectors.

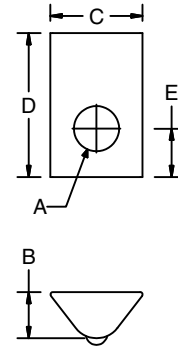
Technical Data

Steel, Black Zinc Plated or clear color varies.

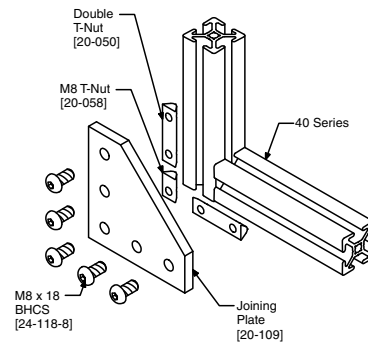
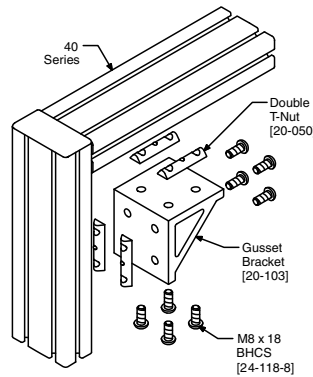
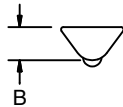
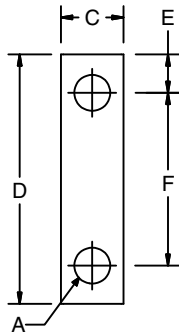
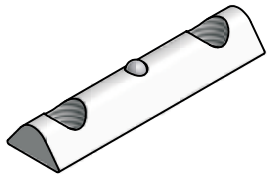
Parts designated with "SS" are stainless steel. Others may be available in stainless. Contact factory for availability.

Ordering Information

| Profile Series | Dimensions (mm) | | | | | Weight (g) | Color | Part # |
|----------------|-----------------|--------|--------|--------|--------|------------|-------|----------|
| | A | B | C | D | E | | | |
| 40, 30, 1.5" | M4 | 7.3 | 13.8 | 23 | 7.5 | 11 | C | 20-051 |
| | M5 | 7.3 | 13.8 | 23 | 7.5 | 11 | C | 20-052 |
| | M6 | 7.3 | 13.8 | 23 | 5.5 | 11 | C | 20-056 |
| | M6 SS | 7.3 | 13.8 | 23 | 6.5 | 11 | C | 20-056SS |
| | M8 | 7.3 | 13.8 | 23 | 7.5 | 10 | C | 20-058 |
| | M8 SS | 7.3 | 13.8 | 23 | 6.5 | 11 | C | 20-058SS |
| | 1/4-20 | 7.3 | 13.8 | 23 | 7.5 | 10 | B | 25-001 |
| | 5/16"-18 | 7.3 | 13.8 | 23 | 7.5 | 9 | C | 25-002 |
| 28 | #10-32 | 7.3 | 13.8 | 23 | 7.5 | 10 | C | 25-009 |
| | M6 | 6 | 13.8 | 23 | 7 | 10 | C | 20-055 |
| | M8 | 6 | 13.8 | 23 | 7 | 10 | C | 20-057 |
| | 1/4-20 | 6 | 12.9 | 23 | 7 | 10 | B | 25-055 |
| 20 | 5/16-18 | 6 | 12.9 | 23 | 7 | 10 | B | 25-057 |
| | M4 | 4 | 8 | 23 | 4 | 1 | C | 20-044 |
| 1" | M5 | 4 | 8 | 11.5 | 4 | 1 | C | 20-045 |
| | #10-32 | 0.200" | 0.400" | 0.625" | 0.210" | 0.21" | B | 25-030 |
| | 1/4-20 | 0.200" | 0.400" | 0.625" | 0.210" | 0.21" | B | 25-031 |



Double St



Application

Standard mounting element where fastening hardware requires two T-Nuts.

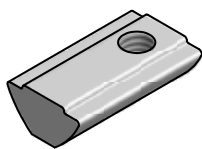
Technical Data

Metric T-Nuts: Steel, Clear Zinc Plated
Imperial T-Nuts: Steel, Black Zinc Plated

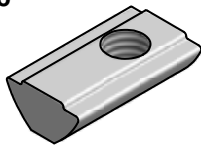
Ordering Information

| Profile Series | Dimensions | | | | | | Weight (g) | Part # |
|----------------|------------|--------|--------|--------|--------|-------|------------|--------|
| | A | B | C | D | E | F | | |
| 40, 30, | M8 | 7.3 | 13.8 | 38 | 7 | 24 | 15 | 20-049 |
| 1.5" | M8 | 7.3 | 13.8 | 55 | 7.5 | 40 | 23 | 20-050 |
| | 5/16-18 | 0.287" | 0.543" | 2.165" | 0.333" | 1.50" | 23 | 25-041 |

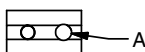
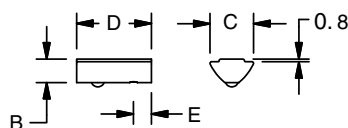
Self Aligning T-Nut



20-066



20-068



Application

Rolls into the T-Slot of 40 and 1.5" Series profiles at any location and held into position using a spring-loaded ball. The raised area fits into the T-Slot to prevent twisting. Should not be used where the raised area might interfere with other accessories such as tabs on universal fasteners, hinges, etc.

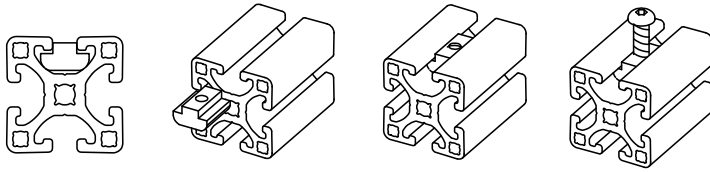
Technical Data

Steel, Zinc Plated
Fits 30 and 28 Series profiles but must be inserted from profile end.

Ordering Information

| Profile Series | Dimensions (mm) | | | | | Weight (g) | Part # |
|----------------|-----------------|-----|------|----|-----|------------|--------|
| | A | B | C | D | E | | |
| 40, 30* | M5 | 6.4 | 13.5 | 22 | 64 | 10 | 20-065 |
| 28* & | M6 | 6.4 | 13.5 | 22 | 6.4 | 10 | 20-066 |
| 1.5" | M8 | 6.4 | 13.5 | 22 | 6.4 | 10 | 20-068 |

*Fits 30 and 28 Series profiles but must be inserted from profile end.



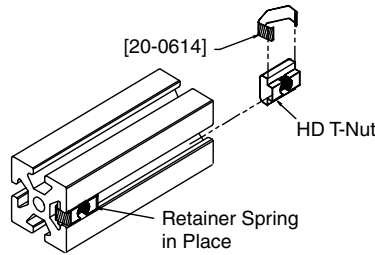
Heavy duty T-nuts must be inserted from the ends and slid to the desired location.

Application

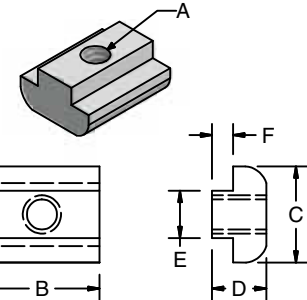
Heavy duty T-Slot Nut for 40 and 1.5" Series profiles. Recommended for mounting Roller Bearing Units.

Technical Data

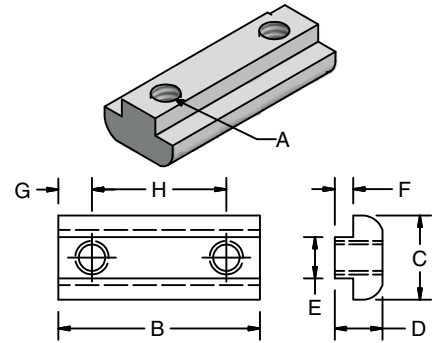
Steel Zinc Plated



Single & Double HD



Single



Double

Ordering Information

| Style | Dimensions | | | | | | | | Wt. (g) | Part # |
|-------------------------------------------|------------|-------|-------|-------|-------|-------|-------|-------|---------|---------|
| | A | B | C | D | E | F | G | H | | |
| Single | M5 | 22 | 16 | 8.8 | 7.9 | 3.5 | — | — | 13 | 20-067 |
| | M6 | 20 | 16 | 8.8 | 7.9 | 3.5 | — | — | 13 | 20-060 |
| | M8 | 20 | 16 | 8.8 | 7.9 | 3.5 | — | — | 13 | 20-064 |
| | 1/4-20 | 0.75" | 0.63" | 0.35" | 0.31" | 0.14" | — | — | 14 | 25-050 |
| | 5/16-18 | 0.75" | 0.63" | 0.35" | 0.31" | 0.14" | — | — | 13 | 25-051 |
| Retainer Spring for HD Single T-Slot Nuts | | | | | | | | | | 20-0614 |
| Double | M8 | 38 | 16 | 8.8 | 7.9 | 3.5 | 6 | 24 | 25 | 20-063 |
| | 1/4-20 | 1.50" | 0.63" | 0.35" | 0.31" | 0.14" | 0.25" | 1.00" | 28 | 25-052 |
| | 5/16-18 | 2.00" | 0.63" | 0.35" | 0.31" | 0.14" | 0.25" | 1.50" | 32 | 25-053 |

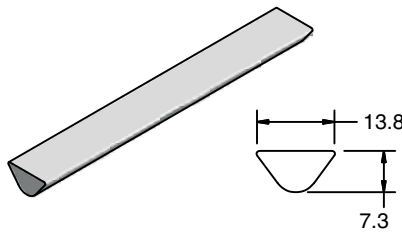
Application

Bar stock for custom length T-Nuts. Can be cut to length and tapped. Sold Each Length 500mm.

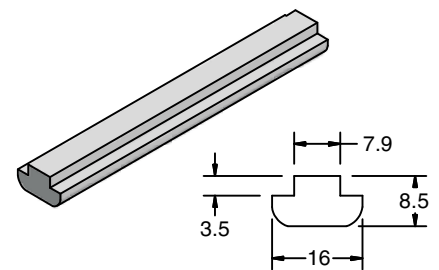
Technical Data

20-059 & 20-062

Steel - Max. tap hole: M8 (5/16")



20-059



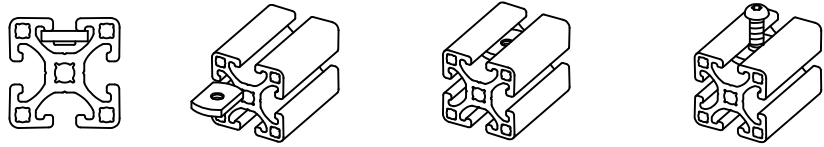
20-062

Ordering Information

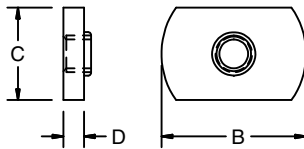
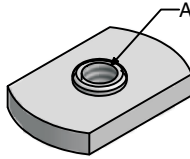
| Series | Description | Unit | Weight | Part # |
|----------|---------------|------|---------|--------|
| 40, 30 | T-Slot Bar HD | Each | 0.42 kg | 20-062 |
| and 1.5" | T-Slot Bar St | Each | 0.26 kg | 20-059 |



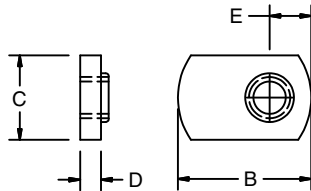
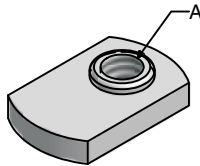
Economy



Economy T-nuts must be inserted from the ends of the profiles and slid to the desired location. A compression spring can be added to help keep the T-nut in location.



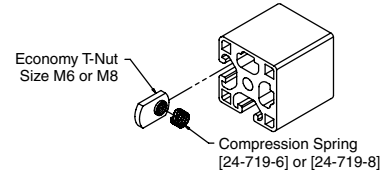
Standard



Offset

Application

Economical solution for fastening hardware or components to T-Slots. Economy T-Nuts slide into profile from the end to provide threaded hole for fastening. Available in standard or offset versions.



Technical Data

Metric T-Nuts: Steel, Clear Zinc Plated
Imperial T-Nuts: Steel, Black Zinc Plated
Parts designated with "SS" are stainless steel.

Ordering Information

| | Profile Series | Dimensions (mm or inch) | | | | | Weight (g) | Part # |
|----------|----------------|-------------------------|--------|--------|-------|-------|------------|----------|
| | | A | B | C | D | E | | |
| Standard | 40, 1.5" | M6 | 25 | 16 | 3.6 | - | 10 | 20-080 |
| | | M8 | 25 | 16 | 3.6 | - | 10 | 20-081 |
| | | #10-32 | 22.5 | 11 | 2.4 | - | 5 | 20-088 |
| | | 1/4-20 | 25 | 16 | 3.6 | - | 10 | 20-083 |
| | | 5/16-18 | 25 | 16 | 3.6 | - | 10 | 20-082 |
| | 30, 28 | M6 | 20.5 | 13 | 3.2 | - | 5 | 20-090 |
| | | M6 | 20.5 | 13 | 3.2 | - | 5 | 20-090SS |
| | | M8 | 20.5 | 13 | 3.2 | - | 5 | 20-091 |
| | | 1/4-20 | 20.5 | 13 | 3.2 | - | 5 | 20-093 |
| | | 5/16-18 | 20.5 | 13 | 3.2 | - | 5 | 20-092 |
| | 20 | #10-24 | 16 | 9.6 | 2.4 | - | 5 | 20-086 |
| | | M5 | 16 | 9.6 | 2.4 | - | 5 | 20-085 |
| | 1" | #10-32 | 0.885" | 0.440" | 0.09" | - | 5 | 20-088 |
| | | 1/4-20 | 1.00" | 0.440" | 0.09" | - | 5 | 20-034 |
| Offset | 40, 1.5" | M8 | 25 | 16 | 3.6 | 7.1 | 10 | 20-181 |
| | | #8-32 | 16 | 11 | 2.4 | 4.8 | 5 | 25-045 |
| | | 1/4-20 | 20.5 | 13 | 3.2 | 6.4 | 5 | 20-193 |
| | | 5/16-18 | 25 | 16 | 3.6 | 7.1 | 10 | 20-182 |
| | 30, 28 | M6 | 20.5 | 13 | 3.2 | 6.4 | 5 | 20-190 |
| | | 1/4-20 | 20.5 | 13 | 3.2 | 6.4 | 5 | 20-193 |
| | 1" | #8-32 | 0.885" | 0.440" | 0.09" | 0.19" | 5 | 25-045 |

Description

Compression Spring for Economy T-Slot Nuts M6
Compression Spring for Economy T-Slot Nuts M8

Weight

4 g
4 g

Part

24-719-6*
24-719-8*

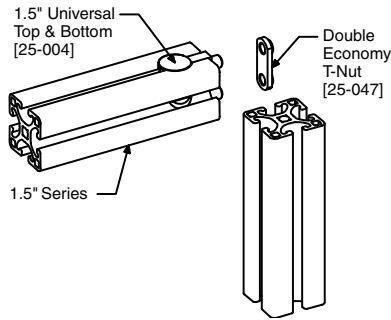
*Minimum order quantity = 100 pieces

Application

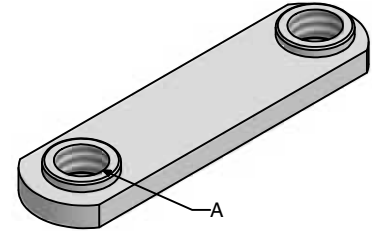
Double Economy T-Nuts are an economical solution for fastening accessories, double universal fasteners and the primary T-Nut to a cross connection.

Technical Data

Steel, Black Zinc Plated

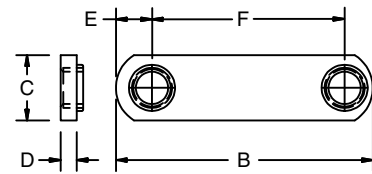


Double Economy



Ordering Information

| Profile Series | Dimensions | | | | | | Weight | Part # |
|----------------|------------|-------|-------|-------|-------|-------|--------|--------|
| | A | B | C | D | E | F | | |
| 40, 1.5" | 5/16-18 | 2.00" | 0.51" | 0.12" | 0.22" | 0.50" | 20g | 25-046 |
| | | 1.38" | 0.51" | 0.12" | 0.25" | 0.88" | 13 g | 25-047 |
| | 1/4-20 | 1.50" | 0.51" | 0.12" | 0.25" | 1.00" | 15g | 25-048 |



25-046
 25-047
 25-048

Application

Universal mounting element that wedges into the profile when tightened. Can be inserted into the T-Slot at any position.

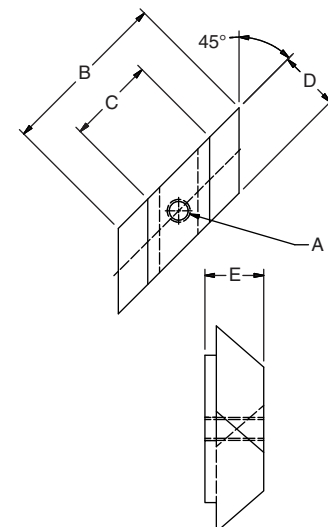
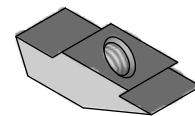
Technical Data

Zn Cast, Galvanized

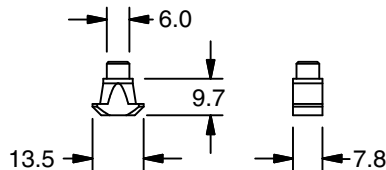
Ordering Information

| Profile Series | Dimensions (mm) | | | | | Weight (g) | Part # |
|----------------|-----------------|----|----|---|-----|------------|--------|
| | A | B | C | D | E | | |
| 40/1.5" | M3 | 22 | 11 | 8 | 7.7 | 5 | 20-033 |
| | M4 | 22 | 11 | 8 | 7.7 | 5 | 20-034 |
| | M5 | 22 | 11 | 8 | 7.7 | 5 | 20-035 |
| 30, 28 | M3 | 22 | 11 | 8 | 6 | 5 | 20-036 |
| | M4 | 22 | 11 | 8 | 6 | 5 | 20-037 |
| | M5 | 22 | 11 | 8 | 6 | 5 | 20-038 |

T-Nut Zn



Anodize Breaker



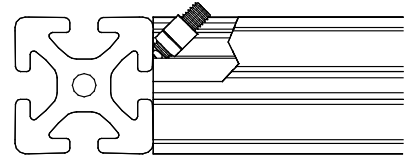
20-070

Application

Penetrates anodizing and provides ground continuity between 40, 30 and 1.5" Series profiles.

Technical Data

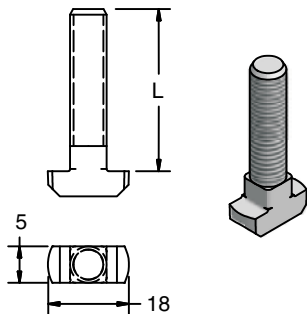
Steel, Galvanized
Dog point M6x12 set screw.



Ordering Information

| Description | Unit | Weight | Part # |
|-----------------|------|--------|--------|
| Anodize Breaker | Each | 10 g | 20-070 |

T-Bolt 40



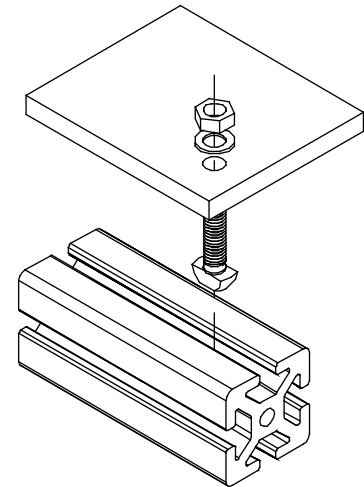
24-420-8
24-425-8
24-430-8
24-440-8

Application

Threaded stud with T-Slot head for insertion into T-Slot of 40 and 1.5" Series profiles. These will only fit in the standard profile.

Technical Data

Steel, Zinc Plated



Ordering Information

| Description (Thread x L) | Unit | Weight | Part # |
|--------------------------|------|--------|----------|
| T-Bolt 40, M8x20 | Each | 1 g | 24-420-8 |
| T-Bolt 40, M8x25 | Each | 1 g | 24-425-8 |
| T-Bolt 40, M8x30 | Each | 2 g | 24-430-8 |
| T-Bolt 40, M8x40 | Each | 2 g | 24-440-8 |

Application

All profiles.

Technical Data

Steel, Zinc Plated

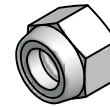
Nuts

Ordering Information

| Description | Unit | Weight | Part # |
|------------------------------|------|--------|-----------|
| M3 Hex Nut | Each | 0.3 g | 24-706-3 |
| M4 Hex Nut | Each | 0.5 g | 24-706-4 |
| M5 Hex Nut | Each | 1 g | 24-706-5 |
| M6 Hex Nut | Each | 2.5 g | 24-706-6 |
| M8 Hex Nut | Each | 5 g | 24-706-8 |
| M10 Hex Nut | Each | 11.6 g | 24-706-10 |
| M12 Hex Nut | Each | 17.3 g | 24-706-12 |
| M14 Hex Nut | Each | 25 g | 24-706-14 |
| M16 Hex Nut | Each | 33 g | 24-706-16 |
| M6 Lock Nut | Each | 3 g | 24-716-6 |
| M8 Lock Nut | Each | 5 g | 24-716-8 |
| 1/4-20 Hex Nut | Each | 4.5 g | 25-706-4 |
| 5/16-18 Hex Nut | Each | 4.5 g | 25-706-5 |
| 5/16-18 Lock Nut | Each | 4.5 g | 25-716-5 |
| 5/16-18 Flanged Serrated Nut | Each | 4.5 g | 25-726-5 |



Hex Nut



Lock Nut



Flanged
Serrated Nut

Application

All profiles.

Technical Data

Steel, Zinc Plated

Washers

Ordering Information

| Description | Unit | Weight | Part # |
|-------------------------|------|--------|-----------|
| M4 Flat Washer | Each | 0.1 g | 24-700-4 |
| M5 Flat Washer | Each | 0.3 g | 24-700-5 |
| M6 Flat Washer | Each | 0.4 g | 24-700-6 |
| M8 Flat Washer | Each | 1 g | 24-700-8 |
| M6 Lock Washer | Each | 6 g | 24-707-6 |
| M8 Lock Washer | Each | 9 g | 24-707-8 |
| M10 Lock Washer | Each | 11 g | 24-707-10 |
| M8 Rib Spring Washer | Each | 6 g | 24-718-8 |
| M8 Safety Spring Washer | Each | 6 g | 24-709-8 |
| M8 Spring Washer | Each | 3 g | 24-708-8 |
| M10 Spring Washer | Each | 6 g | 24-708-10 |
| 0' size M8/Flat Washer | Each | 6 g | 24-701-8 |
| 5/8" OD M6 Flat Washer | Each | 2 g | 24-711-6 |
| #10-32 Flat Washer | Each | 2.8 g | 25-700-2 |
| 1/4" Flat Washer | Each | 2.8 g | 25-700-4 |
| 5/16" Flat Washer | Each | 2.8 g | 25-700-5 |
| 3/8" Flat Washer | Each | 2.8 g | 25-700-6 |
| 5/16" Lock Washer | Each | 2.8 g | 25-707-5 |



Flat Washer



Lock Washer



Rib Spring Washer



Safety Spring Washer



Spring Washer



0' size M8/Flat Washer

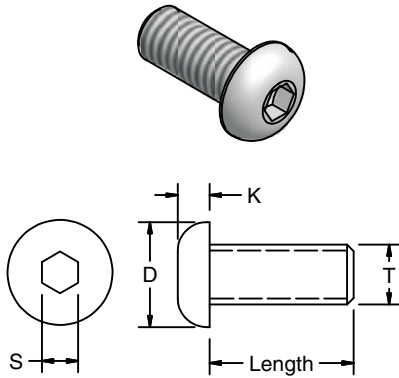


Metric Screws

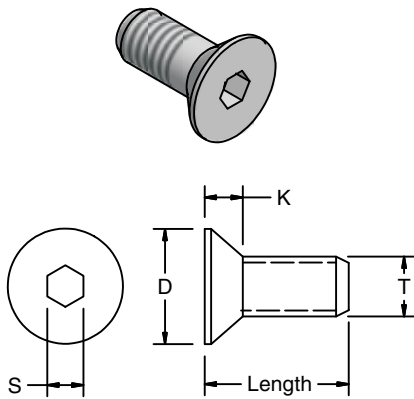
Part Number Example

Example would be a Button Head Screw M5x.08 at 20mm Long

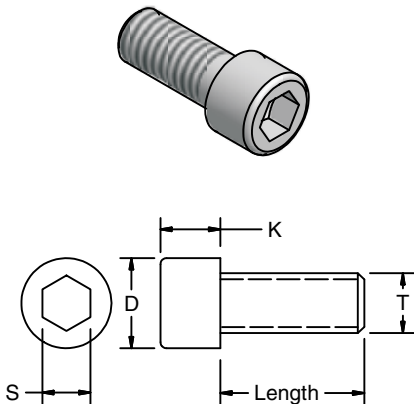
24 - 1 20 - 5



BUTTON HEAD



FLAT HEAD



SOCKET HEAD

| Screw Type | Code |
|-------------|------|
| Button Head | 1 |
| Flat Head | 2 |
| Socket Head | 3 |

| Length (mm) | Code |
|-------------|------|
| 8 | 08 |
| 10 | 10 |
| 12 | 12 |
| 14 | 14 |
| 16 | 16 |
| 18 | 18 |
| 20 | 20 |
| 22 | 22 |
| 25 | 25 |
| 27 | 27 |
| 28 | 28 |
| 30 | 30 |
| 35 | 35 |
| 40 | 40 |
| 45 | 45 |
| 50 | 50 |
| 60 | 60 |
| 80 | 80 |
| 90 | 90 |
| 100 | 100 |
| 120 | 120 |

| Thread Type | Code |
|-------------|------|
| M3x.05 | 3 |
| M4x0.7 | 4 |
| M5x0.8 | 5 |
| M6x1.0 | 6 |
| M8x1.25 | 8 |
| M10x1.5 | 10 |

Ordering Information

The chart on this page is to guide you in determining a part number from a specification. Verify that the part number created is a stocked item by using the chart on the next page or contacting your local representative.

Note: Only screw items listed by part number on the following pages are considered standard and are in stock. Non-stock items are special order with minimum quantity requirements.

Order Quantities: Order quantities are per screw. Contact customer service for box quantity and high volume orders.

Technical Data

Finish will vary between Zinc plated or black oxide depending on style. Stainless Steel is available on selected styles. Check with your local Service Center or current Price List

METRIC SCREW DIMENSIONS (mm)

| Thread | Button Head | | | Flat Head | | | Socket Head | | |
|--------|-------------|------|-----|-----------|-----|-----|-------------|----|-----|
| | D* | K* | S | D* | K | S | D* | K* | S |
| M3 | 5.7 | 1.65 | 2 | 6 | 1.7 | 2 | 5.5 | 3 | 2.5 |
| M4 | 7.6 | 2.2 | 2.5 | 8 | 2.3 | 2.5 | 7 | 4 | 3 |
| M5 | 9.5 | 2.75 | 3 | 10 | 2.8 | 3 | 8.5 | 5 | 4 |
| M6 | 10.5 | 3.3 | 4 | 12 | 3.3 | 4 | 10 | 6 | 5 |
| M8 | 14 | 4.4 | 5 | 16 | 4.4 | 5 | 13 | 8 | 6 |
| M10 | 17.5 | 5.5 | 6 | 20 | 5.5 | 6 | 16 | 10 | 8 |

*MAX size listed.



Metric Screw Quick Reference

| | Length | M3x.05 | M4x0.7 | M5x0.8 | M6x1.0 | M8x1.25 | M10x1.5 |
|--------------------|--------|----------|------------|--------------|------------|------------|-------------|
| Button Head Screws | 8 | | | 24-108-5 | 24-108-6 | | |
| | 10 | 24-110-3 | 24-110-4* | 24-110-5 * | 24-110-6 * | 24-110-8 * | |
| | 12 | | | 24-112-5 * | 24-112-6 * | 24-112-8 * | |
| | 14 | | | 24-114-5 | 24-114-6 | 24-114-8 | |
| | 16 | | | 24-116-5* | 24-116-6 * | 24-116-8 * | |
| | 18 | | | | | 24-118-8 * | |
| | 20 | | | 24-120-5 * | 24-120-6 * | 24-120-8 * | 24-120-10 |
| | 25 | | | 24-125-5 * | 24-125-6 * | 24-125-8 * | 24-125-10 |
| | 28 | | | | | 24-128-8 | |
| | 30 | | | 24-130-5 * | 24-130-6 * | 24-130-8 | 24-130-10 * |
| | 35 | | | 24-135-5 | 24-135-6 * | 24-135-8 | |
| | 40 | | | | 24-140-6 | 24-140-8 * | 24-140-10 |
| | 45 | | | 24-145-5 | | 24-145-8 | |
| | 50 | | | | | 24-150-8 | |
| | 60 | | | | 24-160-6 | 24-160-8 | |
| 80 | | | | | 24-180-8 | | |
| Flat Head Screws | 8 | | 24-208-4 | | 24-208-6 | | |
| | 10 | 24-210-3 | | 24-210-5 | 24-210-6 * | 24-210-8 | |
| | 12 | | 24-212-4 | 24-212-5 * | 24-212-6 * | 24-212-8 * | |
| | 14 | | 24-214-4SS | | 24-214-6 | 24-214-8 | |
| | 16 | 24-216-3 | 24-216-4 | 24-216-5 | 24-216-6 * | 24-216-8 * | |
| | 18 | | | | 24-218-6 | 24-218-8 | |
| | 20 | | 24-220-4 | | 24-220-6 * | 24-220-8 * | |
| | 25 | | 24-225-4 | 24-225-5 | 24-225-6 * | 24-225-8 | |
| | 30 | | | 24-230-5 | 24-230-6 | 24-230-8 * | |
| | 35 | | | | 24-235-6 | | |
| 45 | | | | | 24-245-8 | | |
| Socket Head Screws | 8 | | 24-308-4 | | | | |
| | 10 | | 24-310-4 | | 24-310-6 | 24-310-8 | |
| | 12 | 24-312-3 | 24-312-4 | 24-312-5 * † | 24-312-6 | 24-312-8 * | |
| | 14 | | 24-314-4 | | 24-314-6 | | |
| | 16 | | 24-316-4 * | | 24-316-6 | 24-316-8 * | |
| | 18 | | | | 24-318-6 | | |
| | 20 | | 24-320-4 | 24-320-5 | 24-320-6 * | 24-320-8 * | |
| | 25 | | | | 24-325-6 * | 24-325-8 * | |
| | 27 | | | | 24-327-6 | | |
| | 30 | | | | 24-330-6 | 24-330-8 * | |
| | 35 | | | | 24-335-6 | 24-335-8 | |
| | 40 | | | | 24-340-6 | 24-340-8 | |
| | 45 | | | | 24-345-6 | 24-345-8 * | |
| | 50 | | | | 24-350-6 | 24-350-8 | |
| | 80 | | | | 24-380-6 | 24-380-8 | |
| 90 | | | | 24-390-6 | | | |
| 100 | | | | | 24-3100-8 | | |
| 120 | | | | 24-3120-6 | | | |

* These items are available in Stainless Steel. Add "SS" to the end of the Part #.

† Low head

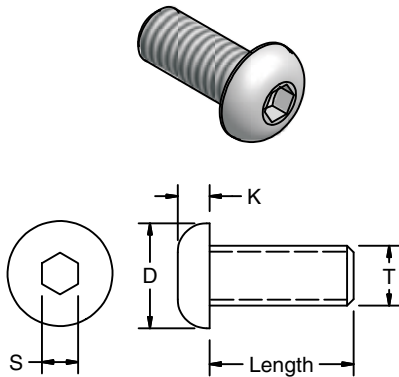


Imperial Screws

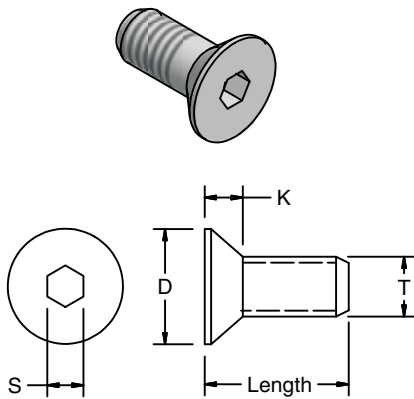
Part Number Example

Example would be a Button Head Cap Screw 5/16-18 x 3/4" long.

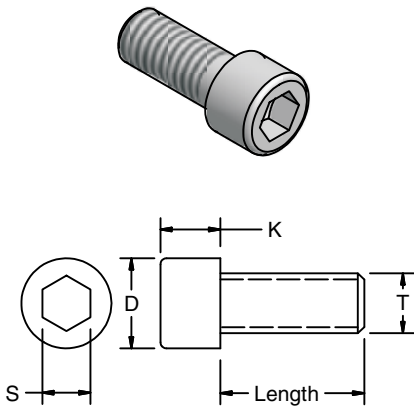
25 - 1 12 - 5



BUTTON HEAD



FLAT HEAD



SOCKET HEAD

| Screw Type | Code |
|-------------|------|
| Button Head | 1 |
| Flat Head | 2 |
| Socket Head | 3 |

Ordering Information

The charts on this page are to guide you in developing the appropriate part number to order the screw. Verify that the part number created is a stocked item by using the chart on the next page or contacting your local representative.

Note: Only screw items listed by part number on the following pages are considered standard and are in stock. Non-stock items are special order with minimum quantity requirements.

Order Quantities: Order quantities are per screw. Contact customer service for box quantity and high volume orders.

| Length (in) | Code |
|-------------|------|
| 1/8 | 02 |
| 3/16 | 03 |
| 1/4 | 04 |
| 5/16 | 05 |
| 3/8 | 06 |
| 7/16 | 07 |
| 1/2 | 08 |
| 9/16 | 09 |
| 5/8 | 10 |
| 11/16 | 11 |
| 3/4 | 12 |
| 13/16 | 13 |
| 7/8 | 14 |
| 15/16 | 15 |
| 1 | 16 |
| 1 1/8 | 18 |
| 1 1/4 | 20 |
| 1 3/8 | 22 |
| 1 1/2 | 24 |
| 1 3/4 | 28 |
| 2 | 32 |

| Thread Type | Code |
|-------------|------|
| #8-32 | 1 |
| #10-32 | 2 |
| 1/4-20 | 4 |
| 5/16-18 | 5 |
| 3/8-16 | 6 |
| 1/2-13 | 8 |

Technical Data

The standard finish on iSeries screws is Black Dicromate. Clear Zinc and stainless steel may be available on select styles.

Lengths shown in bold are industry standards for all threads.

ENGLISH SCREW DIMENSIONS (in)

| Thread | Button Head | | | Flat Head | | | Socket Head | | |
|---------|-------------|-------|------|-----------|-------|------|-------------|-------|------|
| | D* | K* | S | D* | K | S | D* | K* | S |
| #8-32 | 0.312 | 0.087 | 3/32 | 0.311 | 0.112 | 3/32 | 0.270 | 0.164 | 9/64 |
| #10-32 | 0.361 | 0.101 | 1/8 | 0.359 | 0.127 | 1/8 | 0.312 | 0.190 | 5/32 |
| 1/4-20 | 0.437 | 0.132 | 5/32 | 0.480 | 0.161 | 5.32 | 0.375 | 0.250 | 3/16 |
| 5/16-18 | 0.547 | 0.166 | 3/16 | 0.600 | 0.198 | 3/16 | 0.469 | 0.312 | 1/4 |
| 3/8-16 | 0.656 | 0.199 | 7/32 | 0.720 | 0.234 | 7/32 | 0.562 | 0.375 | 5/16 |
| 1/2-13 | 0.875 | 0.265 | 5/16 | 0.872 | 0.251 | 5/16 | 0.750 | 0.500 | 3/8 |

*MAX size listed.



Imperial Screw Quick Reference

| Type | Length | #8-32 | #10-32 | 1/4-20 | 5/16-18 | 3/8-16 |
|--------------------|--------|----------|----------|----------|------------|----------|
| Button Head Screws | 3/8" | 25-106-1 | 25-106-2 | 25-106-4 | 25-106-5 | |
| | 1/2" | 25-108-1 | 25-108-2 | 25-108-4 | 25-108-5 | |
| | 5/8" | 25-110-1 | 25-110-2 | 25-110-4 | 25-110-5 | |
| | 3/4" | | 25-112-2 | 25-112-4 | 25-112-5 * | |
| | 7/8" | | | 25-114-4 | 25-114-5 | |
| | 1" | | | | 25-116-5 | |
| | 1 1/8" | | | | 25-118-5 | |
| | 1 1/4" | | | | 25-120-5 | 25-120-6 |
| | 1 1/2" | | | | 25-124-5 | |
| | 1 3/4" | | | | 25-128-5 | |
| Flat Head Screws | 1/2" | | 25-208-2 | 25-208-4 | | |
| | 5/8" | | | 25-210-4 | 25-210-5 | |
| | 3/4" | | | 25-212-4 | 25-212-5 | |
| Socket Head Screws | 1/2" | 25-308-1 | | | 25-308-5 | |
| | 5/8" | 25-310-1 | | 25-310-4 | 25-310-5 * | |
| | 3/4" | | | 25-312-4 | 25-312-5 | |
| | 7/8" | | | 25-314-4 | 25-314-5 | |
| | 1" | | | 25-316-4 | 25-316-5 | |
| | 1 1/4" | | | 25-320-4 | 25-320-5 | |
| | 1 3/4" | | | | 25-328-5 | |
| | 2" | | | | 25-332-5 | |

* These Items are available as both Black Dicromate Finish and Stainless Steel.
Add "SS" to the end of the part # for stainless steel.

Set Screws (Hexagon Socket)

Application

All profiles.

Technical Data

Steel, Black Oxide

Ordering Information



24-5xx-xC



24-5xx-xD



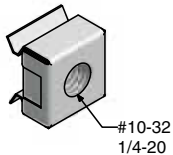
24-5xx-xF



24-508-8U

| Type | Description | Unit | Part # |
|------------|----------------|------|------------|
| Cone Point | M5 x 6 | Each | 24-506-5C |
| | M6 x 8 | Each | 24-508-6C |
| | M6 x 10 | Each | 24-510-6C |
| | M6 x 12 | Each | 24-512-6C |
| | M8 x 10 | Each | 24-510-8C |
| | M8 x 16 | Each | 24-516-8C |
| | 1/4-20 x 3/8" | Each | 25-506-4C |
| | 5/16-18 x 5/8" | Each | 25-510-5C |
| Dog Point | M6 x 12 | Each | 24-512-6D |
| | M8 x 30 | Each | 24-530-8D |
| Flat Point | M5 x 6 | Each | 24-506-5F |
| | M5 x 16 | Each | 24-516-5F |
| | M6 x 6 | Each | 24-506-6F |
| | M6 x 12 | Each | 24-512-6F |
| | M6 x 16 | Each | 24-516-6F |
| | M8 x 10 | Each | 24-510-8F |
| Cup Point | M10 x 25 | Each | 24-525-10F |
| | M8 x 8 | Each | 24-508-8U |
| | 1/4-20 x 5/8" | Each | 25-510-4U |

Clip Nuts



- 20-075
- 20-076
- 25-075
- 25-076

Application

Square nut with clip attachment for 19" Rack Angle. Nut snaps into square holes for attaching panels and accessories.

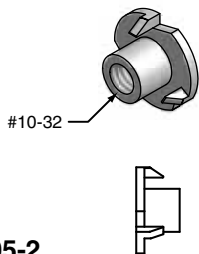
Technical Data

St., Zinc Plated
Weight 5g

Ordering Information

| Description | Unit | Weight | Part # |
|-----------------|------|--------|--------|
| Clip Nut M5 | Each | 4.5 g | 20-075 |
| Clip Nut M6 | Each | 4.5 g | 20-076 |
| Clip Nut #10-32 | Each | 4.5 g | 25-075 |
| Clip Nut 1/4-20 | Each | 4.5 g | 25-076 |

High Cycle Nut



25-705-2

Application

Threaded insert nut used to create high cycle UHMW slide blocks.

Technical Data

Steel, Zinc Plated
Accepts #10-32 screw.

Ordering Information

| Description | Unit | Weight | Part # |
|-----------------------|------|--------|----------|
| High Cycle Nut #10-32 | Each | 0.5 g | 25-705-2 |

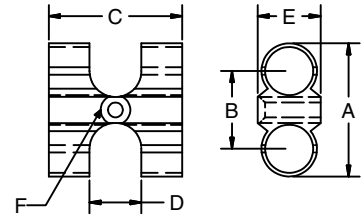
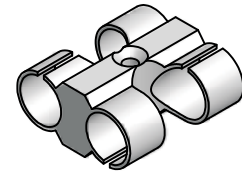
T-Clips

Application

Mounting element with two separate channels for fast, easy securing and routing of open wiring or tubing.

Technical Data

Glass Filled Nylon, Black
 Complete with screw and T-nut for 40 Series mounting.

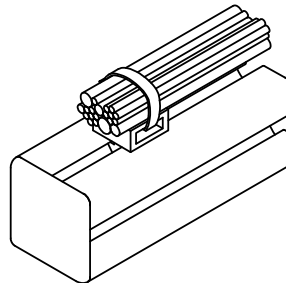


Ordering Information

| Range (mm) | Dimensions (in) | | | | | | Part # |
|------------|-----------------|----|----|----|----|---|--------|
| | A | B | C | D | E | F | |
| 6-8 | 20 | 12 | 20 | 8 | 9 | 3 | 22-206 |
| 8-10 | 25 | 15 | 24 | 10 | 12 | 4 | 22-208 |
| 10-13 | 31 | 18 | 28 | 12 | 12 | 4 | 22-210 |
| 13-16 | 35 | 21 | 36 | 14 | 17 | 4 | 22-212 |
| 16-19 | 44 | 25 | 43 | 17 | 20 | 5 | 22-215 |

Application

Mounting element provides point for cable tie mounting. Suitable for use on 40, 30, 28, 1.5" and 1" Series profiles.



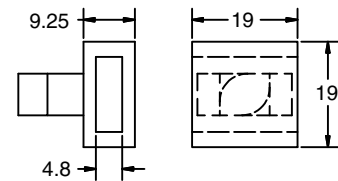
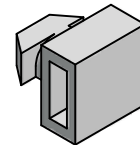
Technical Data

Glass Filled Nylon, Black
 Insert into T-slot and twist 90°

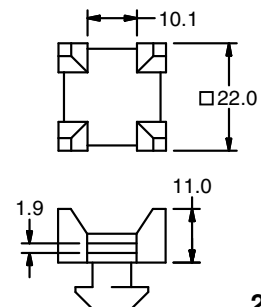
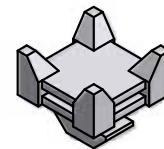
Ordering Information

| Description | Unit | Weight | Part # |
|---------------------------------|------|--------|--------|
| Cable Tie Holder, 40/1.5" | Each | 4 g | 22-202 |
| Cable Tie Holder, 28/30 | Each | 4 g | 22-201 |
| Cross Cable Tie Holder, 40/1.5" | Each | 4 g | 27-202 |
| Cross Cable Tie Holder, 1" | Each | 4 g | 27-203 |

Cable Tie Holder



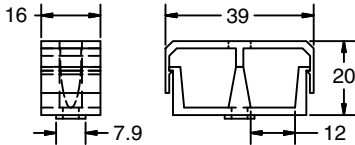
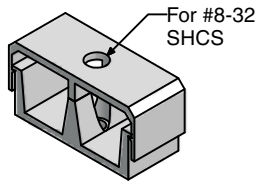
22-202
 22-201



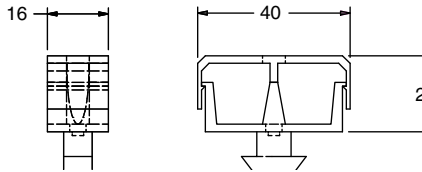
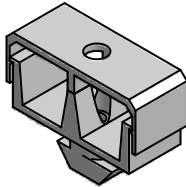
27-202
 27-203



Cable/Hose Holder



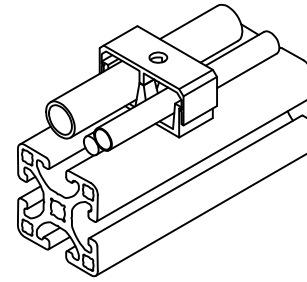
22-200
22-230



22-203

Application

Mounting element with two separate channels for routing open wiring or tubing along the profile surface




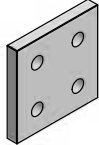
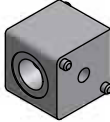

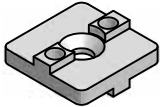


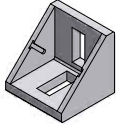
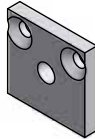

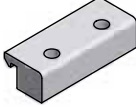
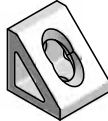
Technical Data

Glass Filled Nylon, Black
 Includes screw and T-Nut
 (12mm max dia.)

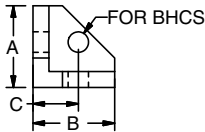
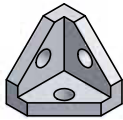
Ordering Information

| Description | Unit | Weight | Part # |
|-------------------------------------|------|--------|--------|
| Cable/Hose Holder, 40 Series | Set | 8 g | 22-200 |
| Cable/Hose Holder, 1.5" Series | Set | 8 g | 22-230 |
| Cable/Hose Holder (Qtr. Turn Style) | Set | 9 g | 22-203 |

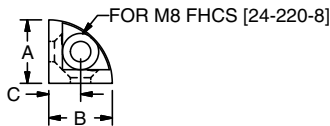
Section 3 Brackets, Gussets & Plates

| | | | | | |
|-------------------|-----|-------------------------------------------------------------------------------------|--------------------------|---------|---------------------------------------------------------------------------------------|
| Corner Brackets | 98 |  | Joining Plates | 102-103 |  |
| Corner Connectors | 99 |  | Angle Brackets | 104-105 |  |
| Cross Connector | 100 |  | Machined Gussets | 106 |  |
| Angle Connector | 100 |  | Cast Gussets | 107 |  |
| Mounting Plate | 101 |  | Corner Elements | 108 |  |
| Clamp Block | 101 |  | Machined Corner Elements | 109 |  |

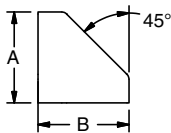
Corner Bracket



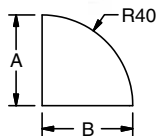
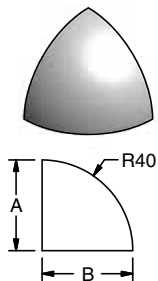
22-146
22-153



22-150

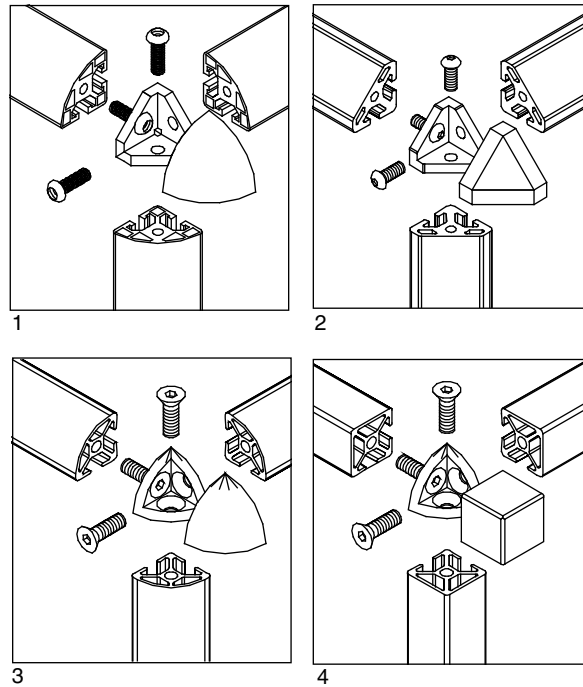
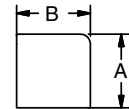
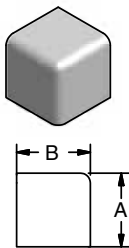


18-822



18-821
22-151
22-154

18-842
22-152



Application

Corner brackets are used for connecting 40,30 and 1.5" Series profiles at right angles. Ideal for construction of display cases, tables, cover hoods or anywhere a protected corner is desired. Caps are designed to match the contour of the profile.

Technical Data

Bracket: Die Cast Zinc
 End Cap: Glass-filled Nylon, Black
 Profile ends must be tapped for M8 (5/16-18) screws (included with set).

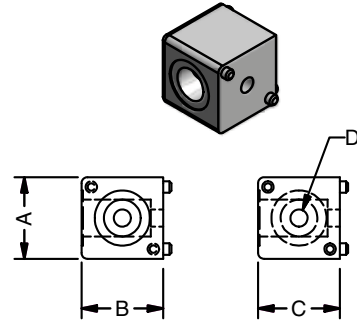
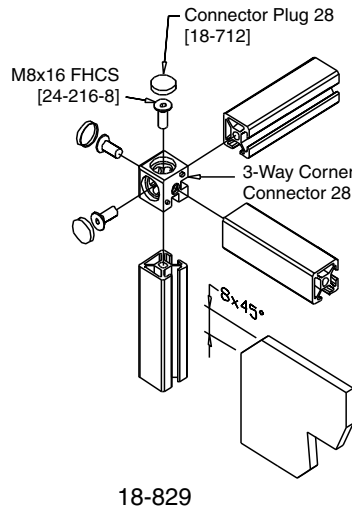
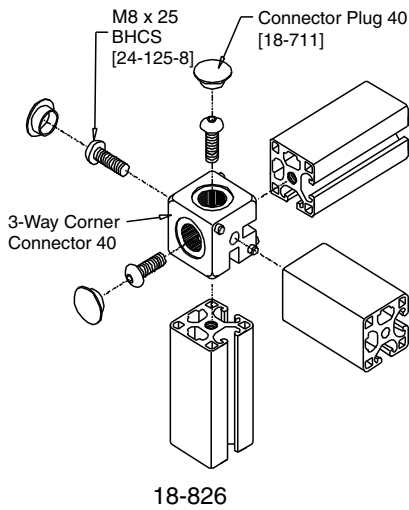
Ordering Information

| Series | Description | A | B | C | Unit | Wt. | Part # |
|--------|----------------------|------|------|-------|------|-------|---------------|
| 40 | Corner Bracket | 36 | 36 | 20 | Set | 120 g | 22-146 |
| | Radius Connector Cap | 40 | 40 | — | Each | 8 g | 18-821 |
| | 3x45° Connector Cap | 40 | 40 | — | Each | 9 g | 18-822 |
| | Square Connector Cap | 40 | 40 | — | Each | 15 g | 18-842 |
| 30 | Corner Bracket | 28 | 28 | 15 | Set | 69 g | 22-150 |
| | Radius Connector Cap | 30 | 30 | — | Each | 4 g | 22-151 |
| | Square Connector Cap | 30 | 30 | — | Each | 7 g | 22-152 |
| 1.5" | Corner Bracket | 1.5" | 1.5" | 0.75" | Set | 120g | 22-153 |
| | Radius Connector Cap | 1.5" | 1.5" | — | Each | 8 g | 22-154 |

* For Machining M8 Tap use part number 19-010 for each profile end



Corner Connector



18-826
 18-852
 18-872
 18-892
 18-902

Application

Corner connectors are ideal for use with closed face profiles. Suitable for clean room environments, they include access plugs to cover hardware.

Order all hardware separately

| Series | 2-Way | 3-Way |
|--------|--------------|--------------|
| 40 | (2) 24-125-8 | (3) 24-125-8 |
| 30 | (2) 24-216-8 | (3) 24-216-8 |
| 28 | — | (3) 24-216-8 |
| 20 | (2) 24-112-5 | (3) 24-112-5 |
| 1.5" | (2) 25-116-5 | (3) 25-116-5 |
| 1" | (2) 25-112-4 | (3) 25-112-4 |

Technical Data

40 Series

Block: Die-cast Aluminum, Silver Paint
 Plug: Nylon

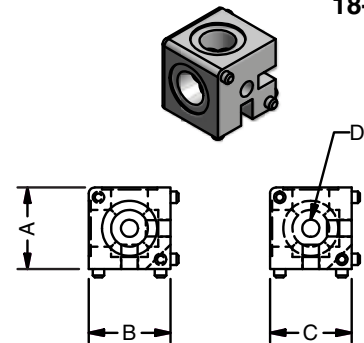
28 Series

Block: Aluminum, Black Anodized
 Plug: Acetal (Delrin)

20, 1" and 1.5" Series

Block: Die-cast aluminum, Silver Paint
 Plug: Nylon

Profile ends must be tapped for screws.
 Hardware not included.



18-827
 18-829
 18-853
 18-873
 18-893
 18-903

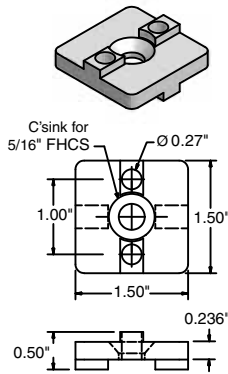
Ordering Information

| Series | Description | A | B | C | D | Unit | Weight | Part # |
|--------|-------------|------|------|------|--------------|------|--------|--------|
| 40 | 2-Way | 40 | 40 | 40 | M8 BHCS | Set | 26 g | 18-826 |
| | 3-Way | 40 | 40 | 40 | M8 BHCS | Set | 26 g | 18-827 |
| 30 | 2-Way | 30 | 30 | 30 | M8 FHCS | Set | 47 g | 18-902 |
| | 3-Way | 30 | 30 | 30 | M8 FHCS | Set | 47 g | 18-903 |
| 28 | 3-Way | 28 | 28 | 28 | M8 FHCS | Set | 25 g | 18-829 |
| | Access Plug | — | — | — | — | Each | 1 g | 18-712 |
| 20 | 2-Way | 20 | 20 | 20 | M5 BHCS | Set | 13 g | 18-852 |
| | 3-Way | 20 | 20 | 20 | M5 BHCS | Set | 10 g | 18-853 |
| 1.5" | 2-Way | 1.5" | 1.5" | 1.5" | 5/16-18 BHCS | Set | 105 g | 18-892 |
| | 3-Way | 1.5" | 1.5" | 1.5" | 5/16-18 BHCS | Set | 91 g | 18-893 |
| 1" | 2-Way | 1" | 1" | 1" | 1/4-20 BHCS | Set | 30 g | 18-872 |
| | 3-Way | 1" | 1" | 1" | 1/4-20 BHCS | Set | 26 g | 18-873 |

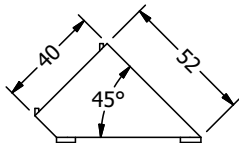
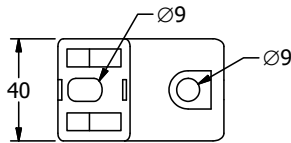
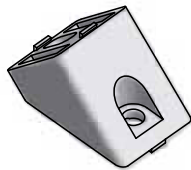
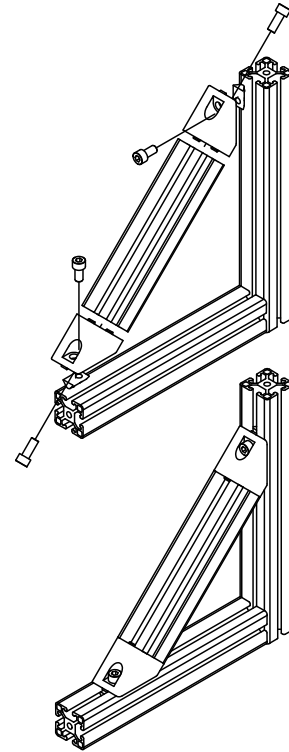
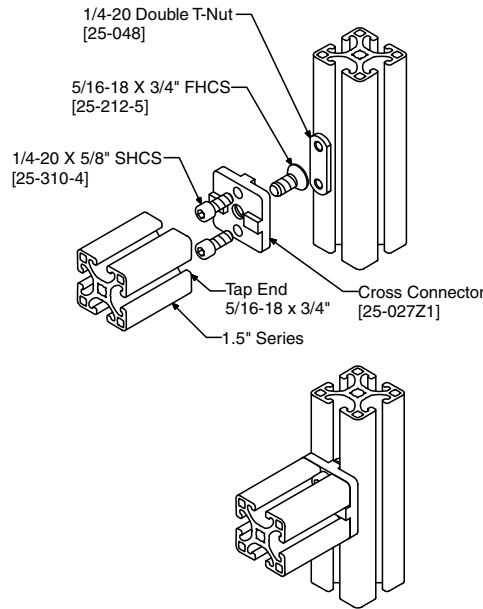
* For Machining Tap use part number 19-010 for each profile end.



Profile Connectors



25-027



27-600

Application

The cross connector and angle connector are bracket style connectors that allow you to connect 40 or 1.5" Series profiles together with minimal servicing. You can cut the profile to length, tap one end of the profile and be able to join two pieces of profile together.

Technical Data

25-027

Zinc Cast, Clear Zinc Plate Finish

All fasteners included. To order plate only, add Z1 at end of part number.

27-600

Zinc Cast, Clear Paint

Order fasteners separately.

Recommended Hardware (Order Separately)

| Part # | Series | Screws | T-Nut |
|--------|--------|------------------------------|------------|
| 27-600 | 40 | (2) 24-320-8 (2) 24-316-8 | (2) 20-058 |
| | 1.5" | (2) 25-312-5 (2) 25-310-5 | (2) 25-002 |

Ordering Information

| Series | Description | Unit | Weight | Part # |
|---------|-----------------------------|------|--------|--------|
| 40/1.5" | Cross Connector, Double Tab | Each | 55 g | 25-027 |
| 40/1.5" | Angle Connector, 45° | Each | 200 g | 27-600 |

* For Machining M8 Tap, use part number 19-010 for each profile end.
 For machining 5/16-18 Tap, use part number 19-009 for each profile end.

Application

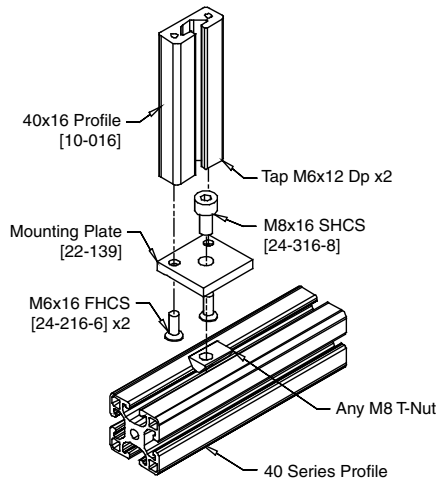
Designed to mount 40x16 profile (10-016) at 90° angle to any 40 or 1.5" Series profile.

Technical Data

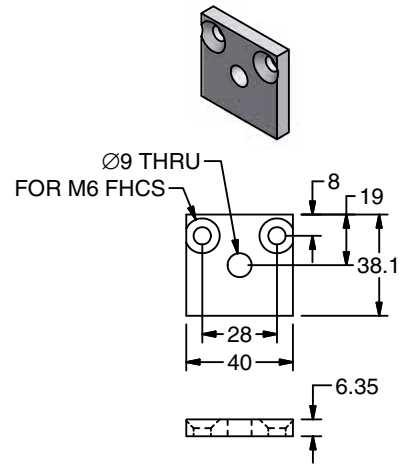
Aluminum, Clear Anodized

Requires the following hardware:

| | |
|--------------|--------------|
| Screw | (1) 24-316-8 |
| T-Nut | (1) 20-058 |
| FHCS | (2) 24-216-6 |



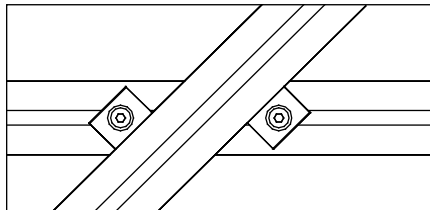
Mounting Plate



22-139

Ordering Information

| Series | Description | Unit | Weight | Part # |
|--------|----------------------------------|------|--------|--------|
| 40 | Mounting Plate for 40x16 profile | Each | 19 g | 22-139 |



Application

Cost effective connection of 40 Series profiles stacked at intersecting angles. Not recommended for linear applications. Use in pairs to accomplish proper clamping.

Technical Data

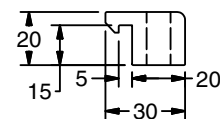
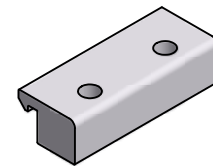
Aluminum, Clear Anodized

Requires the following hardware per hole:

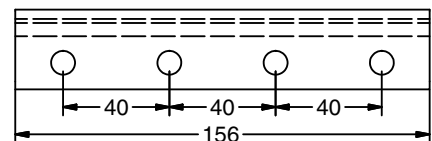
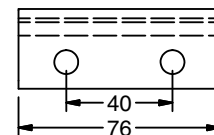
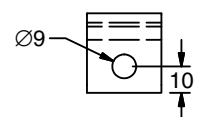
| Screw | T-Nut |
|--------------|------------|
| (1) 24-130-8 | (1) 20-064 |

Ordering Information

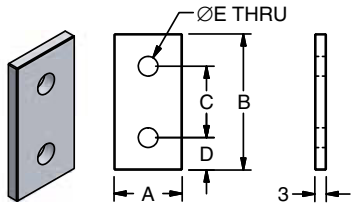
| Series | Description | Unit | Weight | Part # |
|--------|-------------------------|------|---------|----------|
| 40 | Clamp Block 1 (1 hole) | Each | 0.03 kg | 20-018-1 |
| | Clamp Block 2 (2 holes) | Each | 0.90 kg | 20-018-2 |
| | Clamp Block 4 (4 holes) | Each | 0.17 kg | 20-018-4 |



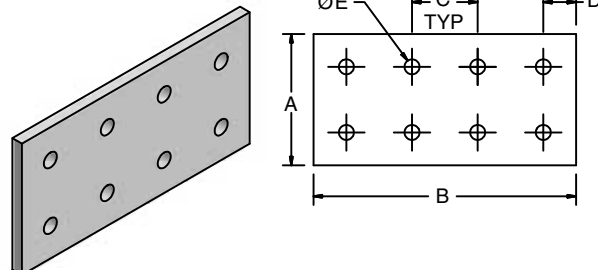
20-018-1
 20-018-2
 20-018-4



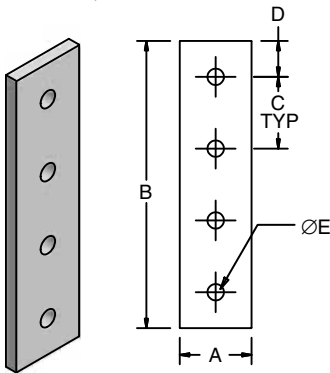
Straight



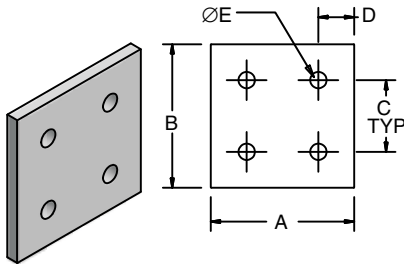
20-117
20-300, 20-310
22-140, 22-145



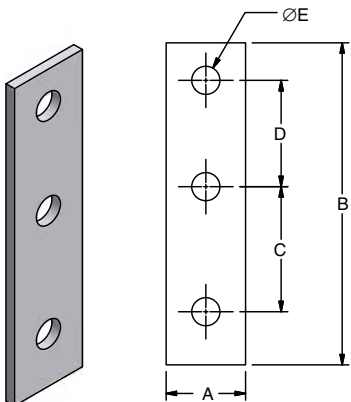
20-112
20-303
20-313



20-108
20-301, 20-310



20-111
20-118
20-302, 20-312



20-104

Application

Exterior joining plates for fastening profiles without servicing. Can also be used for additional strength on joints with fasteners.

Technical Data

Aluminum, Anodized,
40 Series: 6.4mm Thick
30/28 Series: 3.2mm Thick
1.5" and 1" Series: 0.25" Thick

Recommended Fasteners (Order Separately)

| Series | Screws | T-Nuts | Double T-Nut (if applicable) |
|--------|----------|--------------------------|------------------------------|
| 40 | 24-118-8 | 20-058 | 20-050 |
| 30 | 24-112-8 | 20-058 | 20-050 |
| 28 | 21-110-8 | 20-057 | — |
| 20 | 24-108-5 | 20-045 | — |
| 1.5" | 25-110-5 | 25-002, 25-082 or 20-182 | 25-041 or 25-046 |
| 1" | 25-108-4 | 25-031, 25-034 or 25-036 | 25-032 or 25-037 |

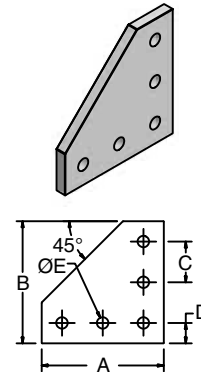
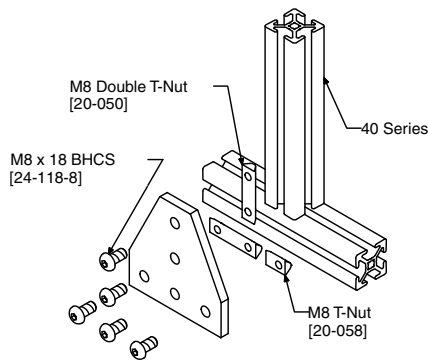
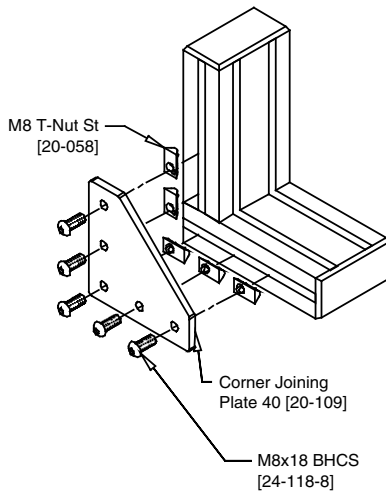
Ordering Information

| Series | A | B | C | D | E | Unit | Weight | Part # |
|--------|----|-----|----|----|-----|------|--------|--------|
| 40 | 38 | 76 | 40 | 18 | 9 | Each | 40 g | 22-140 |
| | 34 | 154 | 40 | 17 | 9 | Each | 86 g | 20-108 |
| | 74 | 74 | 40 | 17 | 9 | Each | 90 g | 20-111 |
| | 74 | 154 | 40 | 17 | 9 | Each | 188 g | 20-112 |
| 30/28 | 25 | 54 | 28 | 13 | 9 | Each | 33 g | 22-145 |
| | 25 | 103 | 40 | 34 | 9 | Each | 20 g | 20-104 |
| 20 | 19 | 38 | 20 | 9 | 5.5 | Each | 7 g | 20-117 |
| | 38 | 38 | 20 | 9 | 5.5 | Each | 11 g | 20-118 |

| Series | A | B | C | D | E | Unit | Weight | Part # |
|--------|-------|-------|-------|-------|-------|------|--------|--------|
| 1.5" | 1.50" | 3.00" | 1.50" | 0.75" | 0.34" | Each | 45 g | 20-300 |
| | 1.50" | 6.00" | 1.50" | 0.75" | 0.34" | Each | 90 g | 20-301 |
| | 3.00" | 3.00" | 1.50" | 0.75" | 0.34" | Each | 95 g | 20-302 |
| | 3.00" | 6.00" | 1.50" | 0.75" | 0.34" | Each | 195 g | 20-303 |
| 1" | 1.00" | 2.00" | 1.00" | 0.50" | 0.28" | Each | 18 g | 20-310 |
| | 1.00" | 4.00" | 1.00" | 0.50" | 0.28" | Each | 36 g | 20-311 |
| | 2.00" | 2.00" | 1.00" | 0.50" | 0.28" | Each | 36 g | 20-312 |
| | 2.00" | 4.00" | 1.00" | 0.50" | 0.28" | Each | 68 g | 20-313 |



Corner & "T"



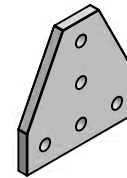
20-105
20-109
20-304
20-314

Application

Exterior joining plates for fastening profiles without servicing. Can also be used for additional strength on joints with fasteners.

Technical Data

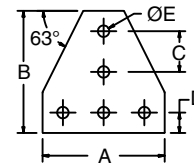
Aluminum, Anodized,
 40 Series: 6.4mm Thick
 30/28 Series: 3.2mm Thick
 1" and 1.5" Series: 0.25" Thick



20-106
20-110
20-305
20-315

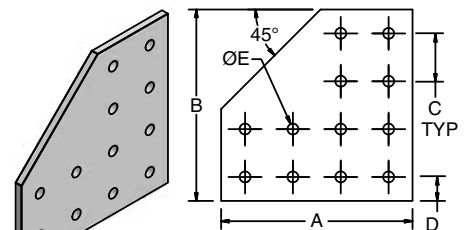
Recommended Fasteners (Order Separately)

| Series | Screws | T-Nuts | Double T-Nut (if applicable) |
|--------|----------|--------------------------|------------------------------|
| 40 | 24-118-8 | 20-058 | 20-050 |
| 30 | 24-112-8 | 20-058 | 20-050 |
| 28 | 21-110-8 | 20-057 | — |
| 1.5" | 25-110-5 | 25-002, 25-082 or 20-182 | 25-041 or 25-046 |
| 1" | 25-108-4 | 25-031, 25-034 or 25-036 | 25-032 or 25-037 |



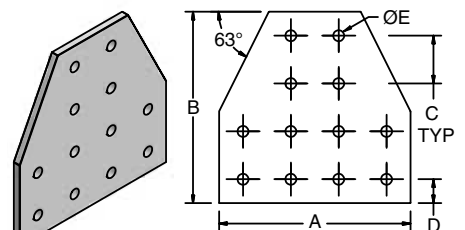
Ordering Information

| Series | A | B | C | D | E | Unit | Weight | Part # |
|--------|-----|-----|----|----|---|------|--------|---------------|
| 40 | 114 | 114 | 40 | 17 | 9 | Each | 163 g | 20-109 |
| | 114 | 114 | 40 | 17 | 9 | Each | 163 g | 20-110 |
| | 154 | 154 | 40 | 17 | 9 | Each | 341 g | 20-113 |
| | 154 | 154 | 40 | 17 | 9 | Each | 341 g | 20-114 |
| 30/28 | 80 | 80 | 28 | 12 | 9 | Each | 39 g | 20-105 |
| | 80 | 80 | 28 | 12 | 9 | Each | 39 g | 20-106 |



20-113
20-307

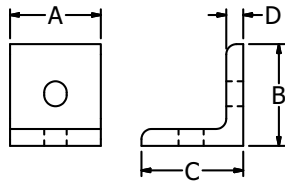
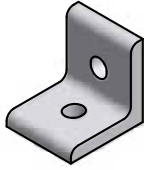
| Series | A | B | C | D | E | Unit | Weight | Part # |
|--------|-------|-------|-------|-------|-------|------|--------|---------------|
| 1.5" | 4.50" | 4.50" | 1.50" | 0.75" | 0.34" | Each | 173 g | 20-304 |
| | 4.50" | 4.50" | 1.50" | 0.75" | 0.34" | Each | 173 g | 20-305 |
| | 6.00" | 6.00" | 1.50" | 0.75" | 0.34" | Each | 359 g | 20-306 |
| | 6.00" | 6.00" | 1.50" | 0.75" | 0.34" | Each | 359 g | 20-307 |
| 1" | 3.00" | 3.00" | 1.00" | 0.50" | 0.28" | Each | 41 g | 20-314 |
| | 3.00" | 3.00" | 1.00" | 0.50" | 0.28" | Each | 41 g | 20-315 |



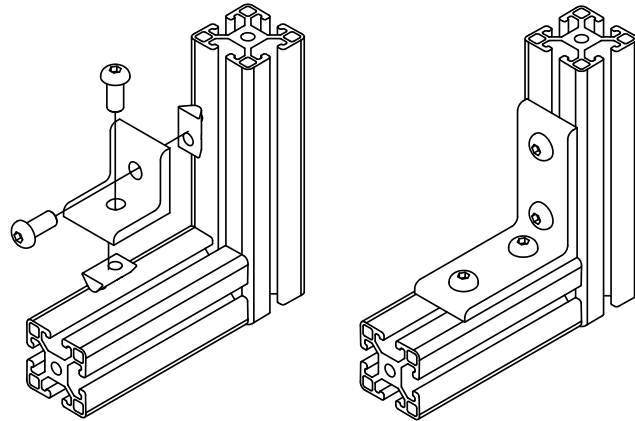
20-114
20-306



Angle Brackets



28-600
 28-601
 28-602

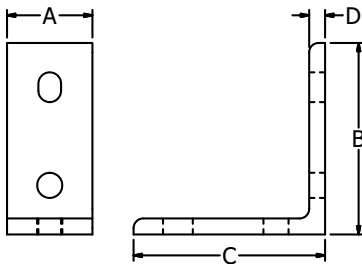
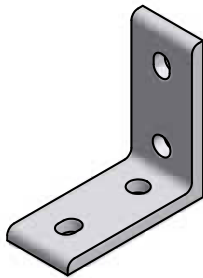


Application

Angle Brackets are used to fasten profiles together without any machining. Although it does not provide as solid a joint as other fastening methods, it allows flexibility for positioning and joining of profiles with no servicing.

Technical Data

Aluminum, Anodized



28-605
 28-606

Recommended Fasteners (Order Separately)

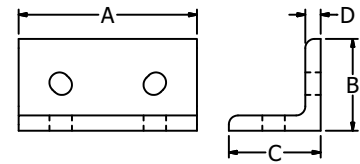
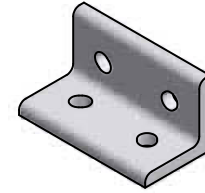
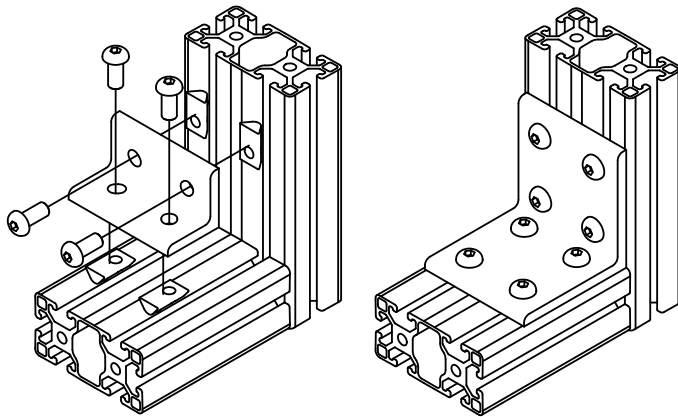
| Series | Screws | T-Nuts | Double T-Nut (if applicable) |
|--------|----------|--------|------------------------------|
| 40 | 24-118-8 | 20-058 | 20-050 |
| 30 | 24-116-8 | 20-056 | — |
| 28 | 24-110-8 | 20-055 | — |
| 20 | 24-108-5 | 20-045 | — |
| 1.5" | 25-110-5 | 25-002 | 25-041 |
| 1" | 25-106-4 | 25-031 | — |

Ordering Information

| Series | A | B | C | D | Hole Ø | Weight | Part # |
|--------|------|------|------|-----|--------|--------|--------|
| 40 | 34 | 38.1 | 38.1 | 6.4 | 9 | 38 | 28-602 |
| | 34 | 76.2 | 76.2 | 6.4 | 9 | 79 | 28-606 |
| 30/28 | 25 | 25.4 | 25.4 | 3.2 | 8.4 | 9 | 28-601 |
| | 25 | 57.2 | 57.2 | 3.2 | 8.4 | 21 | 28-605 |
| 20 | 15.9 | 19.1 | 19.1 | 3.2 | 5.5 | 4 | 28-600 |

| Series | A | B | C | D | Hole Ø | Weight | Part # |
|--------|-------|-------|-------|-------|--------|--------|--------|
| 1.5" | 1.34" | 1.50" | 1.50" | 0.25" | 9mm | 38 | 28-602 |
| | 1.34" | 3.00" | 3.00" | 0.25" | 9mm | 79 | 28-606 |
| 1" | 0.63" | 0.75" | 0.75" | 0.13" | 5.5mm | 4 | 28-600 |

Angle Brackets



Application

Angle Brackets are used to fasten profiles together without any machining. Although it does not provide as solid a joint as other fastening methods, it allows flexibility for positioning and joining of profiles with no servicing.

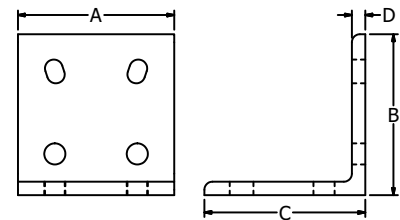
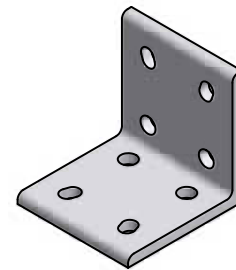
Technical Data

Aluminum, Anodized

20-116
28-603
28-604

Recommended Fasteners (Order Separately)

| Series | Screws | T-Nuts | Double T-Nut (if applicable) |
|--------|----------|--------|------------------------------|
| 40 | 24-118-8 | 20-058 | 20-050 |
| 30 | 24-116-8 | 20-056 | — |
| 28 | 24-110-8 | 20-055 | — |
| 20 | 24-108-5 | 20-045 | — |
| 1.5" | 25-110-5 | 25-002 | 25-041 |
| 1" | 25-106-4 | 25-031 | — |



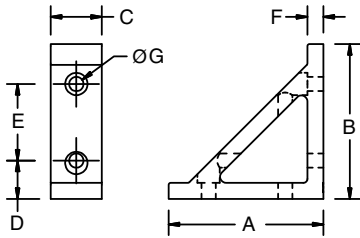
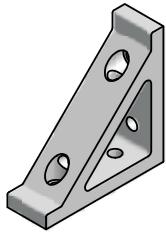
Ordering Information

| Series | A | B | C | D | Hole Ø | Weight | Part # |
|--------|------|------|------|-----|--------|--------|---------------|
| 40 | 74 | 38.1 | 38.1 | 6.4 | 9 | 84 g | 28-604 |
| | 74 | 76.2 | 76.2 | 6.4 | 9 | 174 g | 28-608 |
| 30/28 | 50.8 | 25.4 | 25.4 | 3.2 | 8.4 | 18 g | 28-603 |
| | 53 | 57.2 | 57.2 | 3.2 | 8.4 | 45 g | 28-607 |
| 20 | 36 | 19.1 | 19.1 | 3.2 | 5.5 | 10 g | 20-116 |

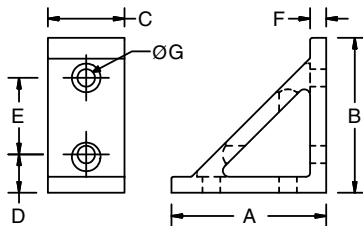
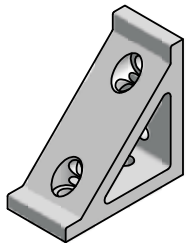
28-607
28-608

| Series | A | B | C | D | Hole Ø | Weight | Part # |
|--------|-------|-------|-------|-------|--------|--------|---------------|
| 1.5" | 2.91" | 1.50" | 1.50" | 0.25" | 9mm | 84 g | 28-604 |
| | 2.91" | 3.00" | 3.00" | 0.25" | 9mm | 174 g | 28-608 |
| 1" | 2.00" | 1.00" | 1.00" | 0.13" | 5.5mm | 18 g | 28-603 |

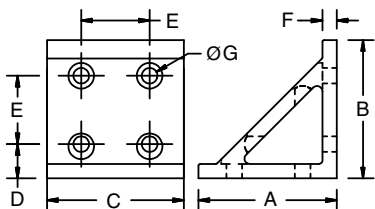
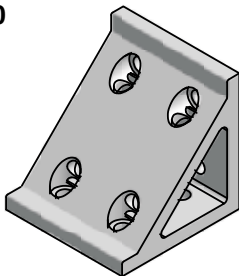
Machined Gussets



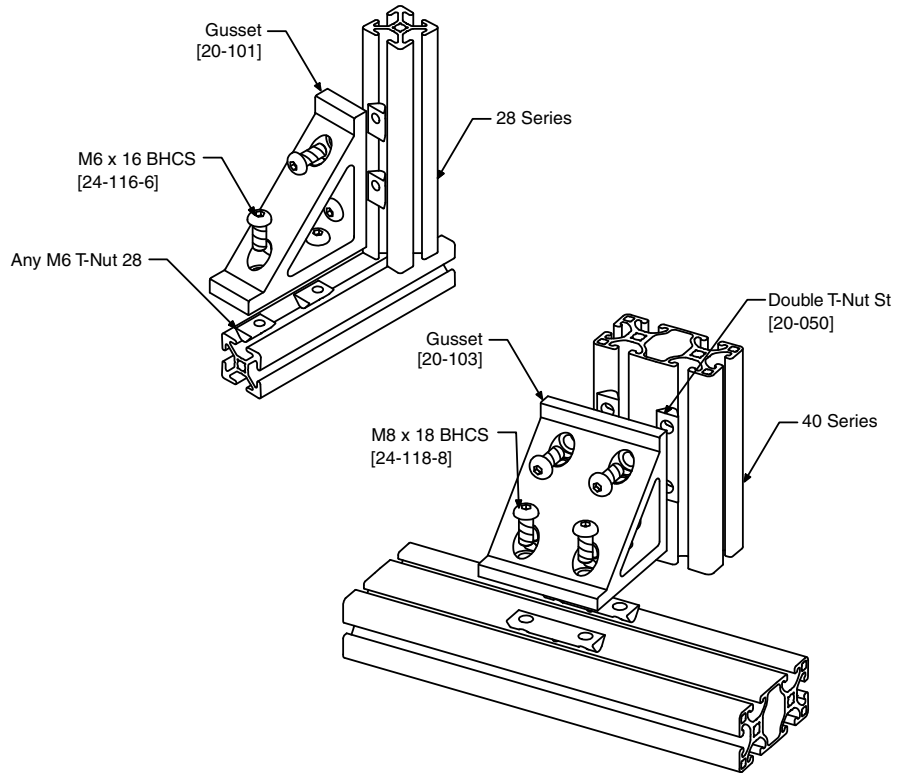
20-101
20-442



20-102
20-440



20-103
20-441



Application

Provide a high strength connection between profiles. Gussets are used to attach profiles at 90° angles without additional fasteners. Can be added to joints with fasteners to increase strength or ensure accurate right angles.

Technical Data

Aluminum, Clear Anodized
Order all hardware separately.

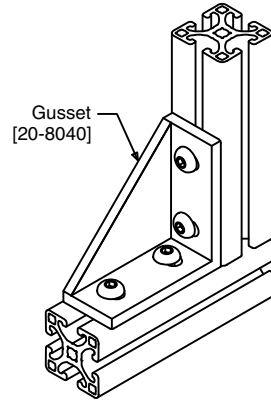
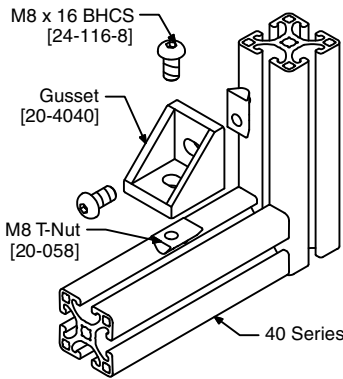
Recommended Fasteners (Order Separately)

| Series | Screws | T-Nuts |
|--------|----------|--------------------------|
| 40 | 24-118-8 | 20-058 or 20-050 |
| 30 | 24-116-6 | 20-056 |
| 28 | 24-116-6 | 20-055 |
| 1.5" | 25-112-5 | 25-002 or 25-041 |
| 1" | 25-110-4 | 25-031, 25-034 or 25-036 |

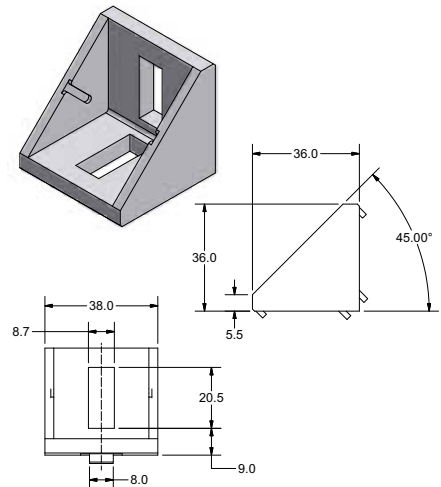
Ordering Information

| Series | A | B | C | D | E | F | G | Weight | Part # |
|--------|-------|-------|--------|-------|-------|-------|-------|---------|--------|
| 40 | 77 | 77 | 34 | 20 | 40 | 8 | 9 | 0.14 kg | 20-102 |
| | 77 | 77 | 74 | 20 | 40 | 8 | 9 | 0.31 kg | 20-103 |
| 30/28 | 77 | 77 | 25.4 | 20 | 40 | 8 | 7 | 0.11 kg | 20-101 |
| 1.5" | 3.03" | 3.03" | 1.25" | 0.75" | 1.50" | 0.32" | 0.34" | 0.14 kg | 20-440 |
| | 3.03" | 3.03" | 2.75" | 0.75" | 1.50" | 0.32" | 0.34" | 0.31 kg | 20-441 |
| 1" | 3.03" | 3.03" | 0.875" | 0.75" | 1.50" | 0.32" | 0.28" | 0.11 kg | 20-442 |

* For Machining Tap use part number 19-010 for each profile end



Cast Gussets



20-4040

Application

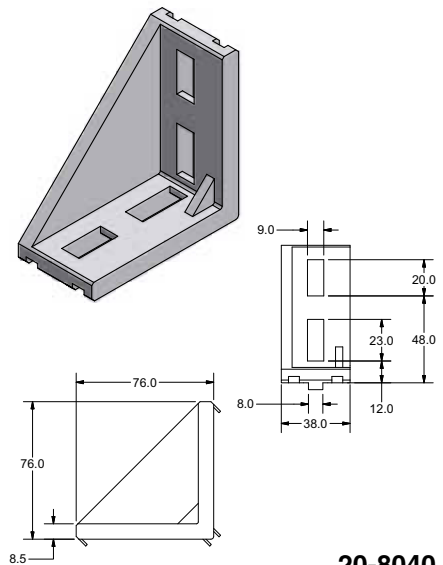
Provide a high strength right angle connection between two profiles. These gussets can only be used for right angle connections in-line with T-slots as shown. Cast tabs help align the gussets in the center of the profile.

Technical Data

Die Cast Aluminum

Recommended Fastening Hardware (Order Separately)

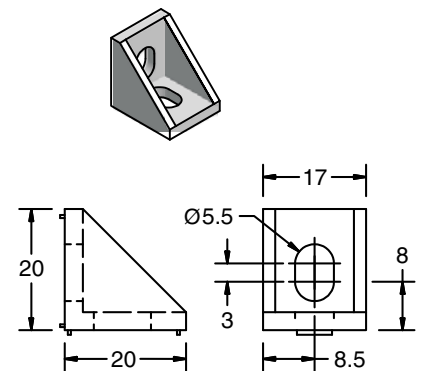
| Series | Screws | T-Nuts |
|--------|----------|--------------------------|
| 40 | 24-116-8 | Any M8 |
| 20 | 25-106-4 | 25-031, 25-034 or 25-036 |
| 1.5" | 25-112-5 | 25-002 or 25-041 |



20-8040

Ordering Information

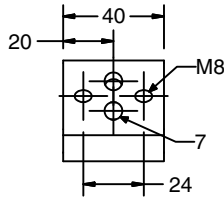
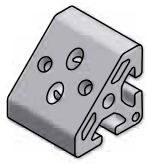
| Description | Unit | Weight | Part # |
|--------------|------|--------|---------|
| Gusset 40 | Each | 59 g | 20-4040 |
| Gusset 80x40 | Each | 136 g | 20-8040 |
| Gusset 20 | Each | 36 g | 20-1010 |



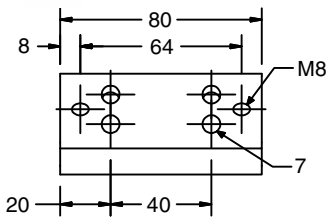
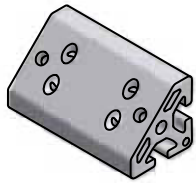
20-1010



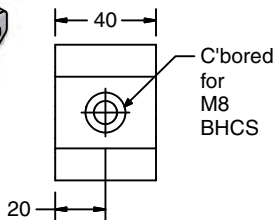
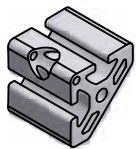
Corner Elements



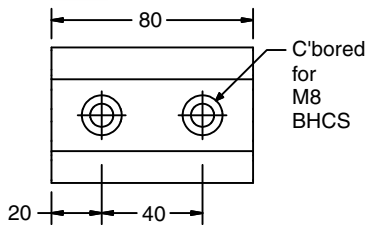
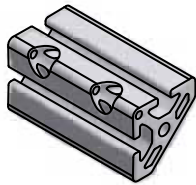
21-035



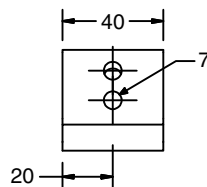
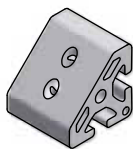
21-036



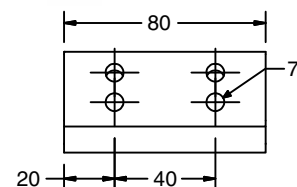
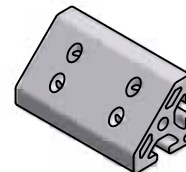
21-037



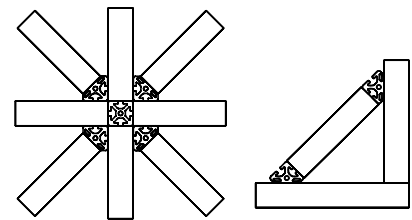
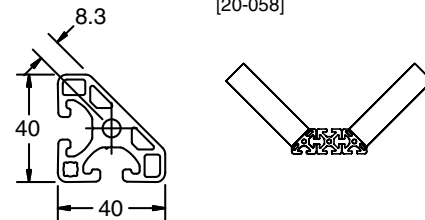
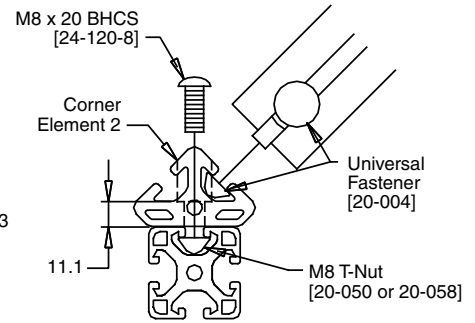
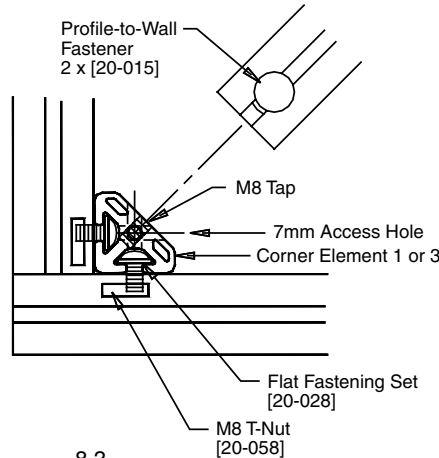
21-038



21-135



21-136



Application

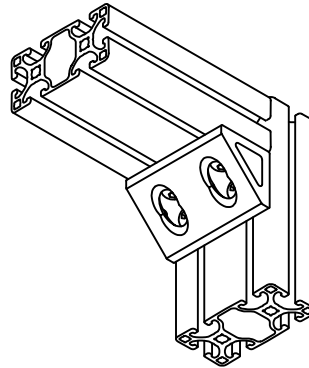
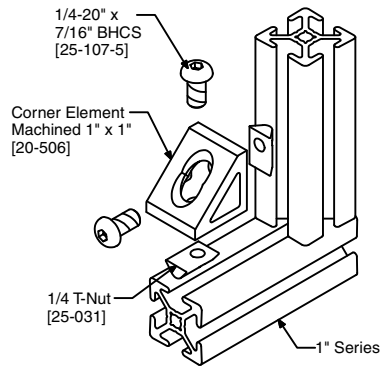
Designed for attaching profiles at 45°. Ideal for trusses, bracing and supports.

Technical Data

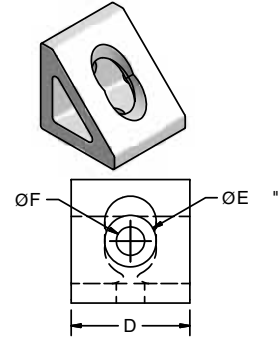
Aluminum, Clear Anodized

Ordering Information

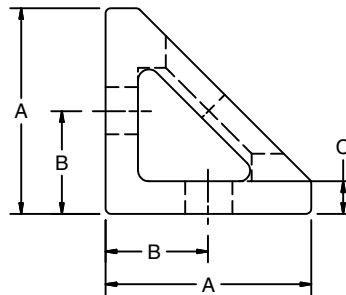
| Series | Description | Unit | Weight | Part # |
|--------|----------------------|------|--------|--------|
| 40 | Corner Element 1, 40 | Each | 71 g | 21-035 |
| | Corner Element 1, 80 | Each | 45 g | 21-036 |
| | Corner Element 2, 40 | Each | 67 g | 21-037 |
| | Corner Element 2, 80 | Each | 133 g | 21-038 |
| | Corner Element 3, 40 | Each | 73 g | 21-135 |
| | Corner Element 3, 80 | Each | 150 g | 21-136 |
| | End Cap 40 x 40-45° | Each | 6 g | 18-820 |



Machined Corner Elements



20-2828M
20-4040M
20-506
20-508



Application

These corner brackets provide a high strength, accurate right angle connection between two profiles, while providing a low profile, aesthetically pleasing look.

Technical Data

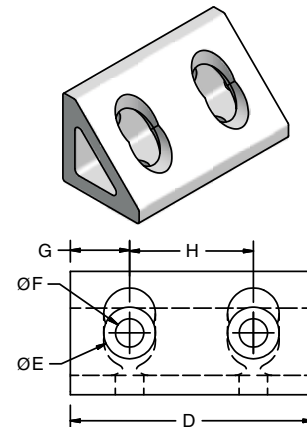
Aluminum, Clear Anodized

Recommended Fastening Hardware (Order Separately)

| Series | Screws | T-Nuts | Double T-Nuts (if applicable) |
|--------|----------|--------------------------|-------------------------------|
| 40 | 24-116-8 | 20-058, 20-081 or 20-181 | 20-050 |
| 28 | 24-112-6 | 20-056, 20-090 or 20-190 | — |
| 1.5" | 25-110-5 | 25-002, 20-082 or 20-182 | 25-041 or 25-046 |
| 1" | 25-107-4 | 25-031, 25-034 or 25-036 | 25-032 or 25-037 |

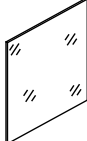



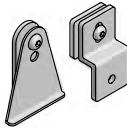


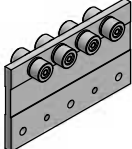
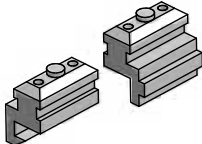

Ordering Information

| Series | A | B | C | D | E | F | G | H | Wt. | Part # |
|--------|--------|-------|--------|-------|-------|-------|-------|-------|-------|-----------------|
| 40 | 38 | 20 | 6 | 35 | 15 | 8.5 | — | — | 64 g | 20-4040M |
| | 38 | 20 | 6 | 75 | 15 | 8.5 | 17.5 | 40 | 136 g | 20-4080M |
| 28 | 27 | 14 | 5 | 25 | 11 | 7 | — | — | 23 g | 20-2828M |
| | 27 | 14 | 5 | 53 | 11 | 7 | 12.5 | 28 | 50 g | 20-2856M |
| 1.5" | 1.496" | 0.75" | 0.177" | 1.25" | 0.63" | 0.34" | — | — | 64 g | 20-508 |
| | 1.496" | 0.75" | 0.177" | 2.75" | 0.63" | 0.34" | 0.72" | 1.50" | 136 g | 20-509 |
| 1" | 1.000" | 0.50" | 0.236" | 0.88" | 0.44" | 0.28" | — | — | 23 g | 20-506 |
| | 1.000" | 0.50" | 0.236" | 1.88" | 0.44" | 0.28" | 0.47" | 1.00" | 50 g | 20-507 |



20-2856M
20-4080M
20-507
20-509

Section 4 Panels & Doors

| | | | | | |
|----------------------------------------|----------------|-------------------------------------------------------------------------------------|-------------------|-----|---------------------------------------------------------------------------------------|
| Panels Wire Mesh | 112-114 113 |  | Door Guide System | 125 |  |
| Panel Mounting Blocks | 115-118 |  | Rollers | 126 |  |
| Mesh Retainers | 119-120 |  | Roller Insert 25 | 127 |  |
| Bifold Door Glide | 121-122 |  | Rail Carts | 128 |  |
| Sliding Door Set Sliding Door Guide | 123 124 |  | Roller Carts | 128 |  |

Panel Selection Guide

| Panel Type | Recommended Use | | | | | Opacity | | Cost | | |
|-----------------|--------------------------|----------------------|----------------------------|-------------------|---------------------------|----------------------------|--------|------|--------|------|
| | Vertical, Non-Structural | Vertical, Structural | Horizontal, Non-Structural | Shelving, No Load | Shelving, Load Supporting | Transparent or See Through | Opaque | Low | Medium | High |
| Lexan® | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | |
| Wire Mesh | ✓ | | ✓ | | | ✓ | | ✓ | | |
| TRESPA® | ✓ ¹ | ✓ | ✓ ¹ | ✓ ¹ | ✓ | | ✓ | | | ✓ |
| Expanded PVC | ✓ | | ✓ | | | | ✓ | ✓ | | |
| Aluminum Veneer | ✓ | ✓ | | ✓ | ✓ | | ✓ | | ✓ | |

¹ Can be used, but not an economical solution.

Panel Materials

Lexan®

High-impact resistant polycarbonate panels provide clarity, safety, security and energy savings. Meets every industry standard for general purpose window glazing. Clear or light grey smoked.

Wire Mesh

Wire mesh provides a high level of security and can be used for safety guarding and enclosures. PVC coating provides a smooth, snag-free surface that is extremely rust and corrosion resistant.

TRESPA®

TRESPA® is a solid grade decorative building panel, suitable for horizontal surfaces and vertical panels. Resistant to scratches, corrosives and solvents. Can be drilled and tapped.

Expanded PVC

Light duty colored panel material, primarily for use vertically. Can also be used as light duty shelving material. Not recommended for temperature over 90°C (194°F).

Aluminum Veneer

These panels have a very high strength to weight ratio. The panels have clear anodized aluminum skins on each side with a high density hardboard core. These panels can be used in both horizontal and vertical applications.

Special Items

Special panel materials including color selection of stock material are available. IPS capabilities include custom machining of steel and aluminum panels for use in fixtures, machine bases and assemblies. Contact your local representative or an IPS Application Engineer to review special requirements.

Special item availability includes:

- Machined Steel and Aluminum Surfaces
- Welding Curtains
- Decorative Panels
- Glass and Clear Plastic Composites
- Perforated Metal Decking
- Sound Insulating Panels
- Wood and Laminate Panels

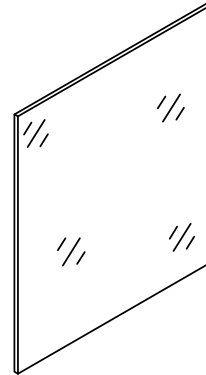
Application

High-impact resistant polycarbonate panels provide clarity, safety, security and energy savings. Meets every industry standard for general purpose window glazing.

Technical Data

Lexan®, clear or light smoked
UL Listed
Maximum Size:
1219.2 x 2438.4mm (4' x 8')

Lexan® Panels



Ordering Information*

| Description | Unit | Weight | Part # |
|---------------------------|----------------|------------------------|-----------|
| 3mm Lexan® – Clear | m ² | 3.60 kg/m ² | 26-790-3P |
| 6mm Lexan® – Clear | m ² | 7.62 kg/m ² | 26-790-6P |
| 6mm Lexan® – Light Smoked | m ² | 7.62 kg/m ² | 26-795-6P |

* Call for other shades and thicknesses.

* For cut-to-size panels, delete the "P" from the end of the part # and specify panel dimensions. A minimum charge of 1/8 of the standard panel size will apply.

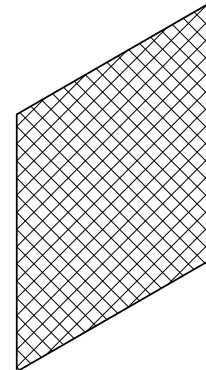
Application

Wire mesh provides a high level of security and can be used for safety guarding and enclosures. Provides a smooth, snag-free surface that is extremely rust and corrosion resistant.

Technical Data

Flat welded steel wire with fuse-bonded PVC coating.
Maximum Size:
1219.2 x 2438.4mm (4' x 8')

Wire Mesh



Ordering Information*

| Description | Wire Gage | Unit | Weight | Part # |
|-------------------|-----------|----------------|------------------------|------------|
| 1/2" x 1/2" Black | 16 | m ² | 2.89 kg/m ² | 26-210-05P |
| 1" x 1" Black | 12 | m ² | 4.17 kg/m ² | 26-210-10P |
| 1" x 1" Yellow | 12 | m ² | 4.17 kg/m ² | 26-250-10P |
| 1½" x 1½" Black | 12 | m ² | 2.98 kg/m ² | 26-210-15P |
| 2" x 2" Black | 12 | m ² | 1.92 kg/m ² | 26-210-20P |

* For cut-to-size panels, delete the "P" from the end of the part # and specify panel dimensions. A minimum charge of 1/8 of the standard panel size will apply.

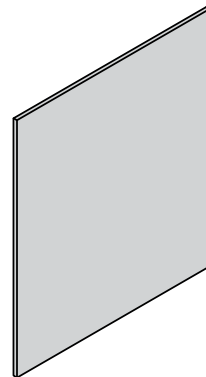
Application

TRESPA® is a solid grade decorative building panel, suitable for horizontal surfaces and vertical panels. Resistant to scratches, corrosives and solvents. Can be cut, drilled and milled. Suitable for doors, shelves and enclosures.

Technical Data

Thermosetting resins, homogeneously reinforced with cellulose fibers.
Non-toxic, asbestos free, has good fire retarding characteristics. Finished on both sides.
Maximum Size:
1828.8 x 2438.4mm (6' x 8')

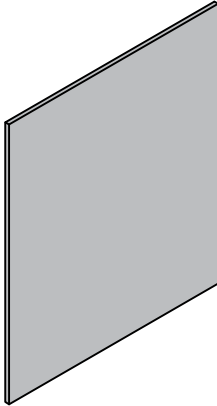
TRESPA® Panels



| Thickness | Unit | Weight (kg/m ²) | Part #* | | | |
|-----------|----------------|-----------------------------|-----------|-----------|------------|-----------|
| | | | Black | Grey | Blue | White |
| 6mm | m ² | 8.57 | 26-410-6P | 26-420-6P | 26-430-6P | 26-480-6P |
| 8mm | m ² | 11.4 | 26-410-8P | – | – | – |
| 10mm | m ² | 14.3 | – | – | 26-430-10P | – |

* For cut-to-size panels, delete the "P" from the end of the part # and specify panel dimensions. A minimum charge of 1/8 of the standard panel size will apply.

Expanded PVC



Application

Light duty colored panel material, primarily for use vertically. Can also be used as light duty shelving material.

Technical Data

Rigid expanded foam polyvinyl chloride (PVC)

UL Recognized

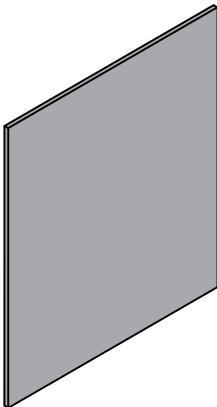
Maximum Size:
1219.2 x 2438.4 mm (4' x 8')

Ordering Information*

| Description | Unit | Weight | Part # |
|--------------------------|----------------|------------------------|-----------|
| 6mm Expanded PVC – Black | m ² | 4.19 kg/m ² | 26-510-6P |
| 6mm Expanded PVC – Blue | m ² | 4.19 kg/m ² | 26-530-6P |
| 6mm Expanded PVC - White | m ² | 4.19 kg/m ² | 26-580-6P |

* For cut-to-size panels, delete the "P" from the end of the part # and specify panel dimensions. A minimum charge of 1/8 of the standard panel size will apply.

Aluminum Veneer



Application

These panels have a very high strength to weight ratio. The panels have clear anodized aluminum skins on each side with a high density hardboard core. These panels can be used in both horizontal and vertical applications.

Technical Data

Veneer - Anodized Aluminum

Core - High Density Hardboard**

Maximum Size:
1219.2 x 2438.4 mm (4' x 8')

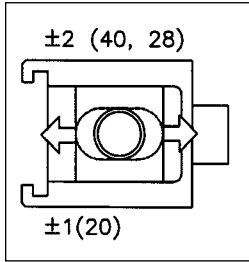
Ordering Information*

| Description | Unit | Weight | Part # |
|-------------------------------|----------------|------------------------|-----------|
| 6mm Aluminum Veneer - Black** | m ² | 5.32 kg/m ² | 26-110-6P |
| 6mm Aluminum Veneer - Clear | m ² | 5.32 kg/m ² | 26-170-6P |
| 6mm Aluminum veneer - White** | m ² | 5.32 kg/m ² | 26-180-6P |

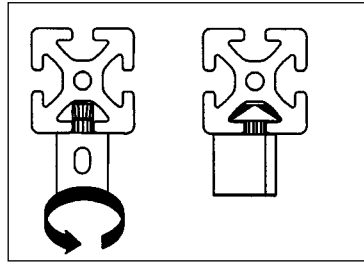
* For cut-to-size panels, delete the "P" from the end of the part # and specify panel dimensions. A minimum charge of 1/8 of the standard panel size will apply.

** PVC core

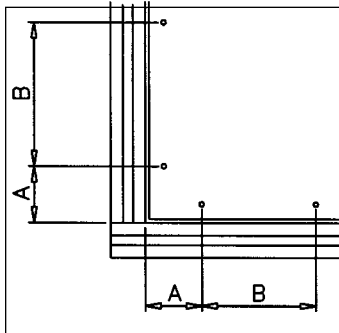
Multiblock PA and Uniblock PA



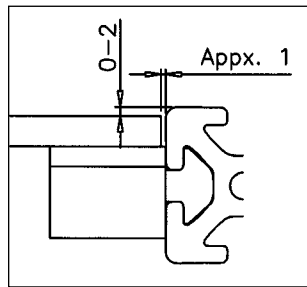
1



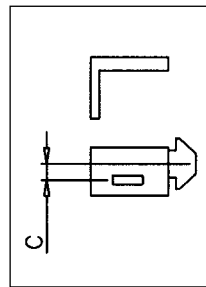
2



3



4



5

- 1 Floating square nut secured within the multiblock by flat spring provides for alignment flexibility
- 2 Insertion of Multiblock PA in the T-slot
- 3-4 Recommended gaps for assembling Multiblocks PA
- 5 Distance between Multiblock center and floating nut

Application

Versatile block for mounting panels and screens. The block locks into the T-slot at a 90° position with an offset design to suit various panel thicknesses. Movable captive nut provides larger alignment range for locating through holes in panels.

Technical Data

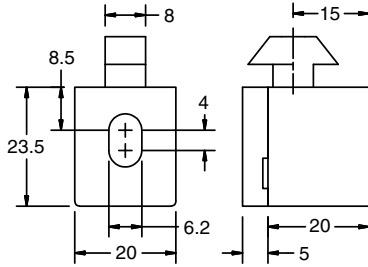
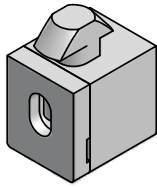
Glass Filled Nylon, Black
 Square Steel Nut, M6 or M4

Spacing Table

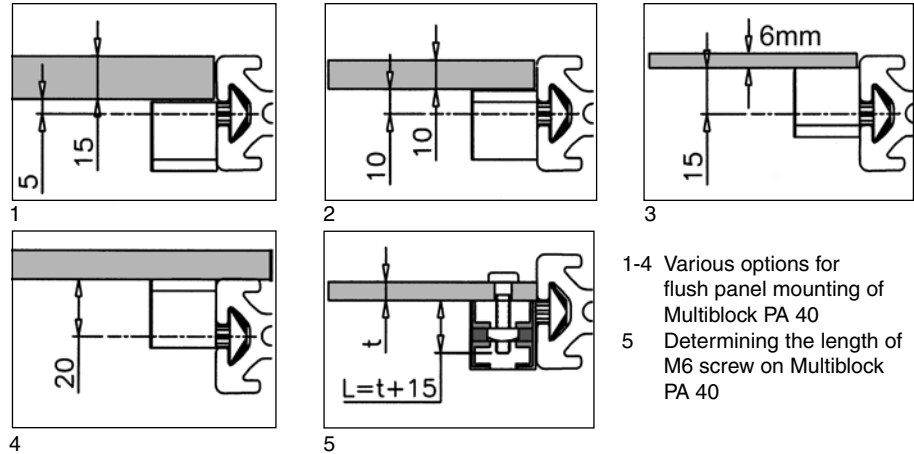
| Profile Series | Max Load N (lbs) | Dimensions | | |
|----------------|------------------|------------|-----------|-------|
| | | A | B | C |
| 40 | 250 (56) | 80 | 400-600 | 5 |
| 30, 28 | 210 (47) | 70 | 400-500 | 2.8 |
| 20 | 100 (22) | 60 | 300-400 | 2 |
| 1.5" | 250 (56) | 5.0" | 20" - 40" | 0.20" |
| 1" | 100 (22) | 2.5" | 10" - 15" | 0.08" |



Multiblock PA 40



22-100

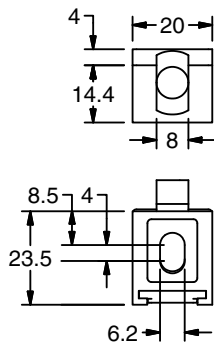
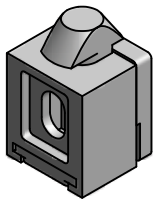


- 1-4 Various options for flush panel mounting of Multiblock PA 40
- 5 Determining the length of M6 screw on Multiblock PA 40

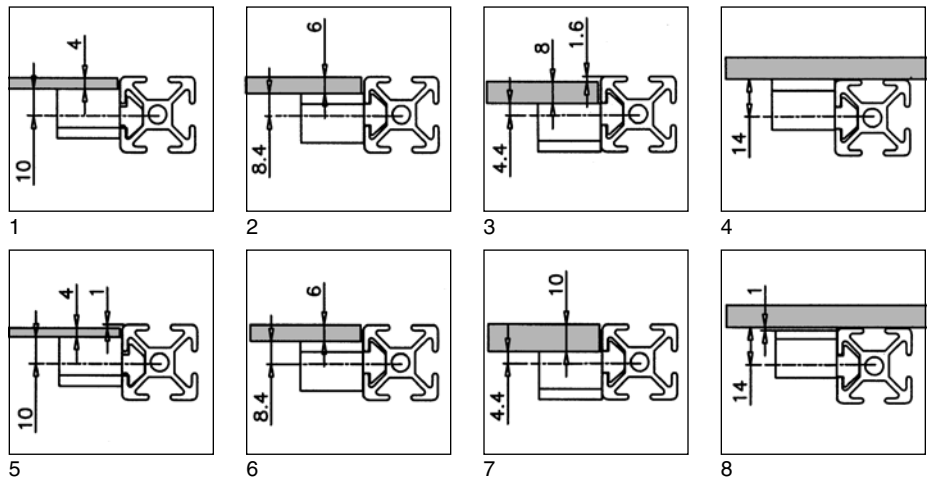
Ordering Information

| Series | Description | Unit | Weight | Part # |
|---------|----------------------------------|------|--------|--------|
| 40 | Multiblock PA 40 with M6 Nut | Each | 13 g | 22-100 |
| 40/1.5" | Multiblock PA 40 with 1/4-20 Nut | Each | 13 g | 22-115 |

Multiblock PA 30/28



22-103

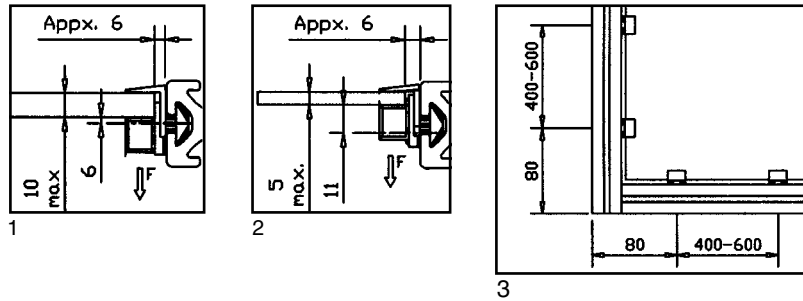


- 1-4 Mounting options for Multiblock PA 30/28 on 28 series profiles
- 5-6 Mounting options for Multiblock PA 30/28 on 30 series profiles

Ordering Information

| Series | Description | Unit | Weight | Part # |
|--------|---------------------------------|------|--------|--------|
| 28/30 | Multiblock PA 30/28 with M6 Nut | Each | 10 g | 22-103 |

Clamp Multiblock



- 1 Mounting position for panels up to 10mm thick to clamp Multiblock 40.
- 2 Mounting position for panels up to 5mm thick Multiblock rotated 180°
- 3 Edge distance between panel element and profile

Application

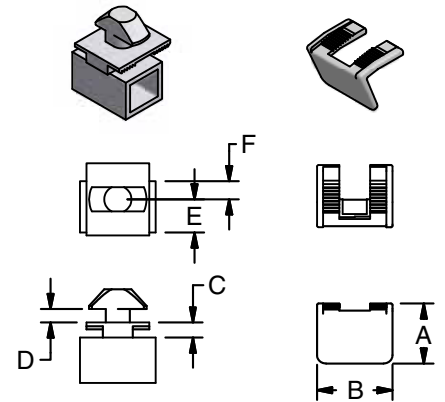
Mounting element for attaching panels to 40, 30 and 28 Series profiles without using additional fasteners or machining the panel. Insert multiblock into T-Slot at any location and lock in position by turning 90° clockwise. Slide locking clip to secure the panel. To remove panel, loosen locking clip with a flat screwdriver.

Technical Data

Glass Filled Nylon (Black)

For 22-112: Max load in direction F per drawings above is 250N (56lbs); in opposite direction: 50N (11lbs)

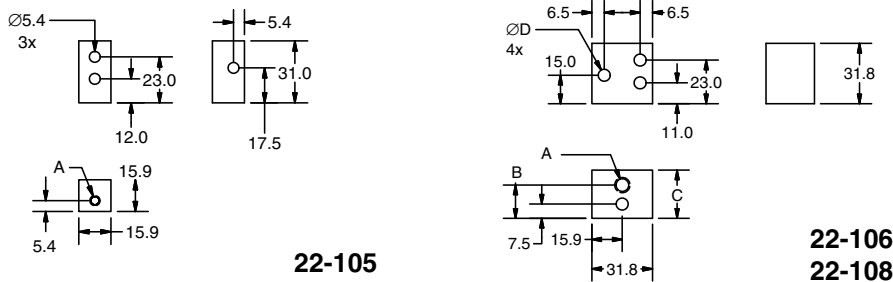
Max Panel Thicknesses
 22-112: 10mm (3/8")
 22-113: 8mm (5/16")



22-112
 22-113

Ordering Information

| Series | Dimensions (mm) | | | | | | Weight (g) | Part # |
|---------|-----------------|----|---|---|----|---|------------|--------|
| | A | B | C | D | E | F | | |
| 40/1.5" | 20 | 25 | 5 | 5 | 11 | 6 | 10 | 22-112 |
| 30/28 | 20 | 22 | 5 | 2 | 7 | - | 7 | 22-113 |



Multiblock AI

Application

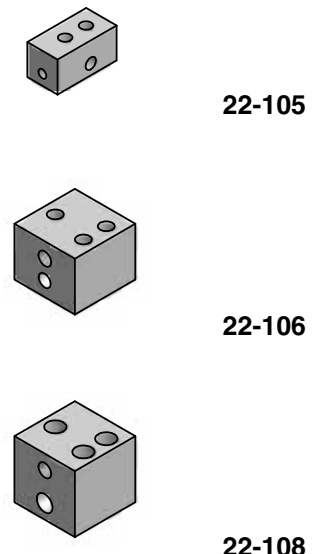
Mounting element for panels and accessories. Various mounting dimensions are obtained by rotating the block.

Order hardware separately.

Technical Data

Al, clear anodized

Max. load at 90° angle to T-slot:
 22-105: 500 N (112 lbs)
 22-106: 750 N (169 lbs)
 22-108: 1000 N (225 lbs)

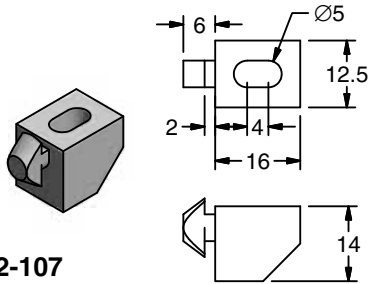


Ordering Information

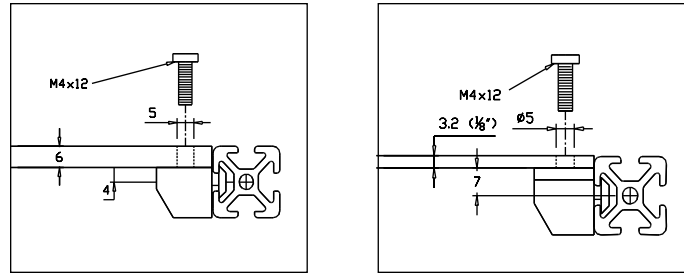
| Series | Dimensions (mm) | | | | Weight | Part # |
|------------|-----------------|------|------|-----|--------|--------|
| | A | B | C | ∅D | | |
| 40, 30, 28 | M5 | — | — | — | 18 g | 22-105 |
| | M6 | 17.5 | 25.4 | 6.3 | 58 g | 22-106 |
| | M8 | 22.5 | 30 | 8.3 | 60 g | 22-108 |



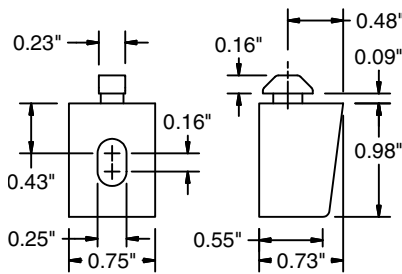
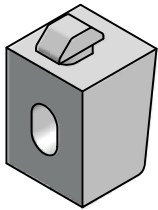
Uniblock PA 20



22-107



Mounting options for Uniblock PA 20

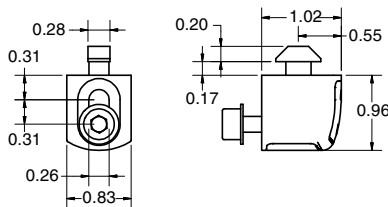
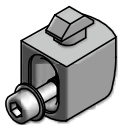


22-116

Ordering Information

| Profile Series | Description | Unit | Weight | Part # |
|----------------|------------------------------|------|--------|--------|
| 20 | Uniblock PA 20 with M4 Nut | Each | 3 g | 22-107 |
| | Multiblock PA 20 with M4 Nut | Each | 3 g | 22-104 |
| 1" | Multiblock PA 1", 1/4-20 | Each | 3g | 22-116 |

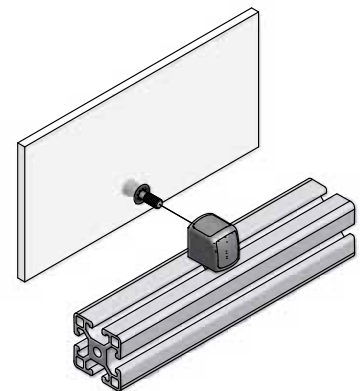
Uniblock 25 CS



22-117

Application

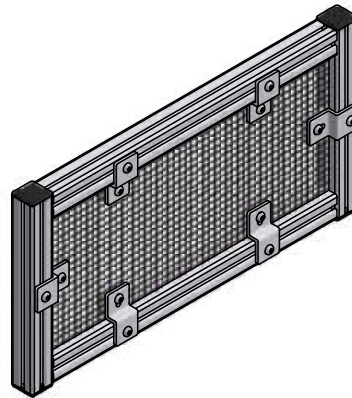
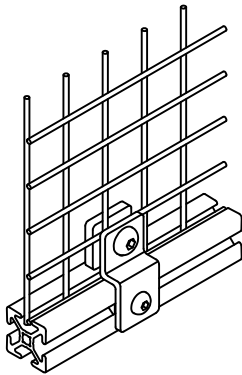
The Uniblock 25 CS includes a captive screw to prevent the loss of hardware when working behind a removable panel. The block locks at a 90° position with an offset for 6-8mm panel thicknesses on 40 and 1.5" Series extrusions.



Ordering Information

| Description | Unit | Weight | Part # |
|----------------|------|--------|--------|
| Uniblock 25 CS | Each | 39 g | 22-117 |

Deluxe

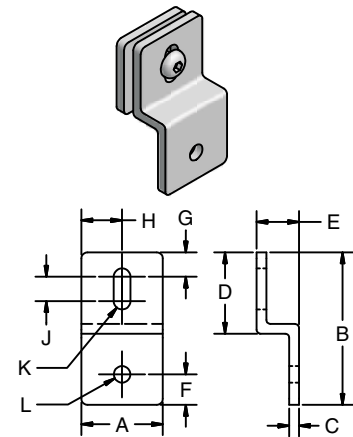


Application

Deluxe retainers are used to securely fasten wire mesh within the T-slot of profiles. This accessory requires screws and T-nuts to mount to profile; order these items separately.

Technical Data

Aluminum
 5/16-18 BHCS included to secure back plate to retainer.

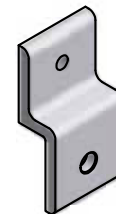


Back Plate included but not shown on dimension drawings.

**20-200
 20-202**

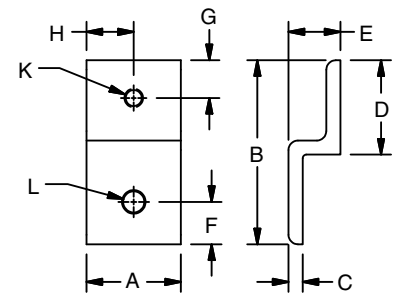
Recommended Fastening Hardware (Order Separately)

| Series | Screws | T-Nuts |
|--------|----------|--------------------------|
| 40 | 24-116-8 | 20-058 |
| 20 | 24-108-5 | 20-045 |
| 1.5" | 25-110-5 | 25-002, 20-082 or 20-182 |



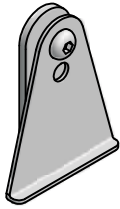
Ordering Information

| Style | A | B | C | D | E | F | G | H | J | K | L | Wt. | Part # |
|-------|----|----|-----|----|------|----|----|----|----|-----|-----|------|----------------|
| Mesh | 40 | 75 | 4.8 | 39 | 20.8 | 15 | 12 | 20 | 12 | 8.1 | 9 | 80 g | 20-202 |
| | 20 | 39 | 2 | 20 | 9 | 9 | 4 | 10 | 6 | 5.5 | 5.5 | 14 g | 20-200 |
| Panel | 40 | 75 | 4.8 | 39 | 20.8 | 15 | 15 | 20 | — | M8 | 9 | 60 g | 20-202P |
| | 20 | 39 | 2 | 20 | 9 | 9 | 7 | 10 | — | M6 | 5.5 | 10 g | 20-200P |

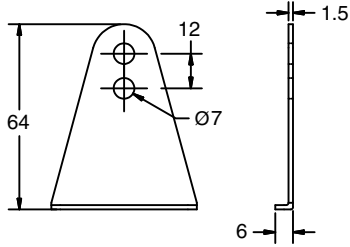


**20-200P
 20-202P**

Economy



Back Plate included but not shown on dimension drawings.



22-110
22-111

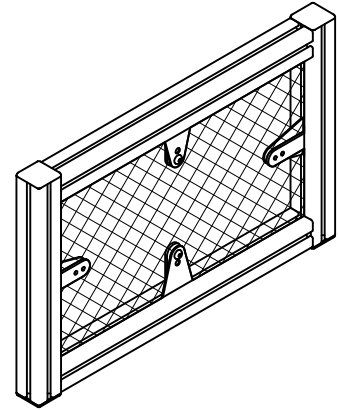
Application

Economical solution for securely fastening wire mesh to 40 and 1.5" Series profiles.

Technical Data

Steel, Zinc Plated

BHCS included to secure back plate to retainer.



Ordering Information

Unit

Economy Wire Mesh Retainer – M6
 Economy Wire Mesh Retainer – 1/4-20

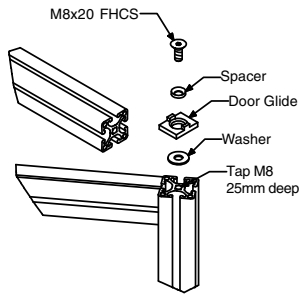
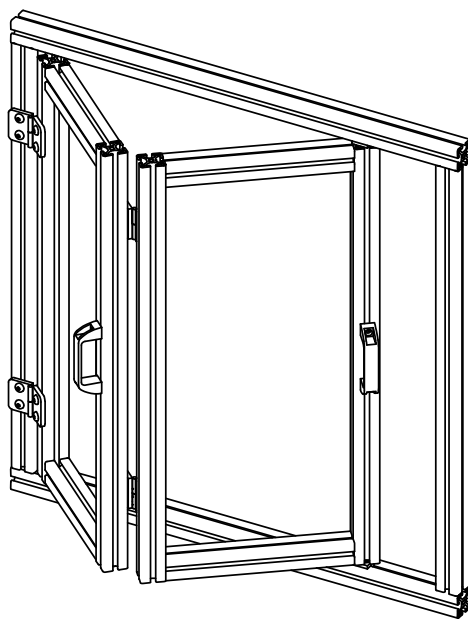
Weight

Each
 Each

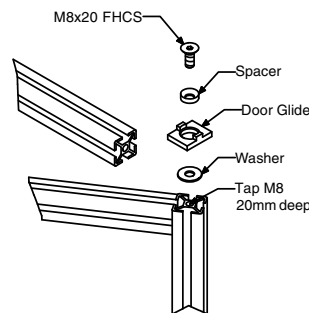
Part

59 g 22-110
 59 g 22-111

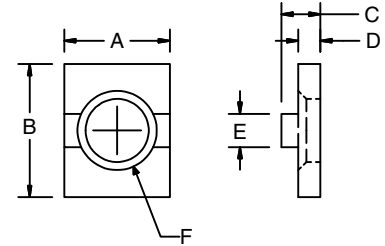
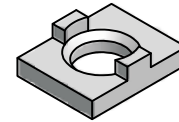
Bifold Door Glides



40 Series



30/28 Series



- 21-080**
- 21-081**
- 25-080**
- 25-082**

Application

Bifold doors are used in very confined areas. Door glides allow rotational and sliding motion at the top and bottom of a vertical member within a permitted bifold door frame. Two glides (one top and one bottom) are required per door.

Technical Data

Door Glide – UHMW
 Spacer – Steel, Zinc Plated
 Washer – Steel, Zinc Plated
 Note: Hardware and tap are SAE Standard

Use the following chart to help select the correct part for your application.

| Frame Series | Door Series | Glide Part # |
|----------------|-------------|--------------|
| 40 & 80 Series | 40 Series | 21-081 |
| 28 Series | 28 Series | 21-080 |
| 1.5" | 1.5" | 25-080 |
| 1" | 1" | 25-082 |

Ordering Information

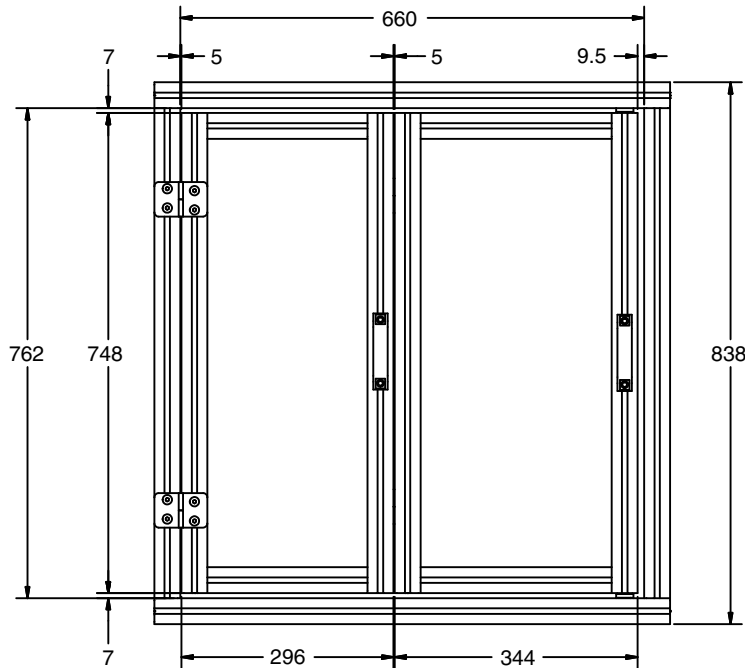
Ships complete with 2 glides, 2 screws, 2 spacers and 2 washers.

| Part # | Dimensions (mm or inch) | | | | | |
|---------------|-------------------------|-------|--------|--------|--------|----------------------------------|
| | A | B | C | D | E | F |
| 21-081 | 36.6 | 32 | 9.4 | 5.3 | 8 | Ø15.2 thru c'sink Ø19 x 90° |
| 21-080 | 25.4 | 32 | 9.4 | 5.3 | 8 | Ø11.1 thru c'sink Ø14 x 90° |
| 25-080 | 1.44" | 1.26" | 0.370" | 0.210" | 0.315" | Ø0.598" thru c'sink Ø0.750 x 90° |
| 25-082 | 1.00" | 1.00" | 0.370" | 0.210" | 0.250" | Ø0.438" thru c'sink Ø0.563 x 82° |



Bifold Door Glides

Design Example for 40 Series Bifold Door



Design Examples

Examples consider the hinges to be medium duty plastic hinges (page 137). Other hinges can be used and dimensions would only be slightly affected.

To determine the width of the narrow door, subtract the sum of the door gaps and 48mm from the frame's inside width dimension, then divide by 2.

Example:

$$660 - (5 + 5 + 9.5 + 48)$$

$$660 - 67.5 = 592.5$$

$$\frac{592.5}{2} = 296$$

To determine the width of the wide door, add 48mm to the width of the narrow door.

Example:

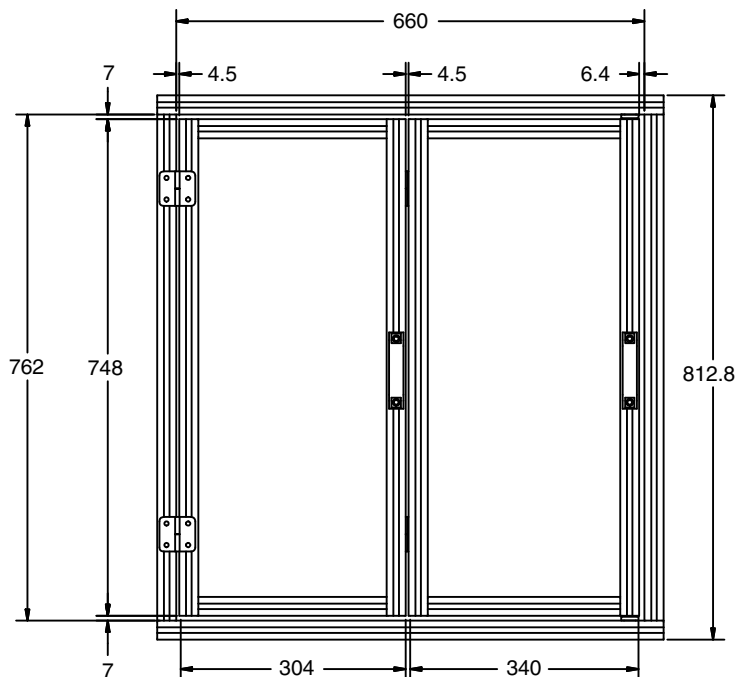
$$296 + 48 = 344$$

To determine vertical door dimension, subtract clearance required for guides and washers (14mm) from the vertical opening dimension.

Example:

$$762 - 14 = 748$$

Design Example for 28 Series Bifold Door



To determine the width of the narrow door, subtract the sum of the door gaps and 36mm from the frame's inside width dimension, then divide by 2.

Example:

$$660 - (4.5 + 4.5 + 6.4 + 36)$$

$$660 - 52 = 608$$

$$\frac{608}{2} = 304$$

To determine the width of the wide door, add 36mm to the width of the narrow door.

Example:

$$304 + 36 = 340$$

To determine vertical door dimension, subtract clearance required for guides and washers (14mm) from the vertical opening dimension.

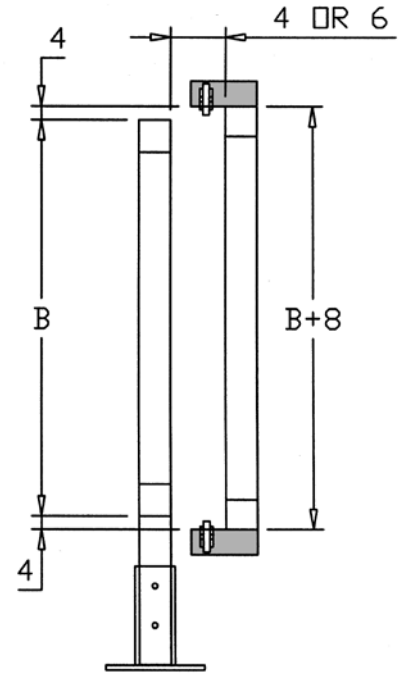
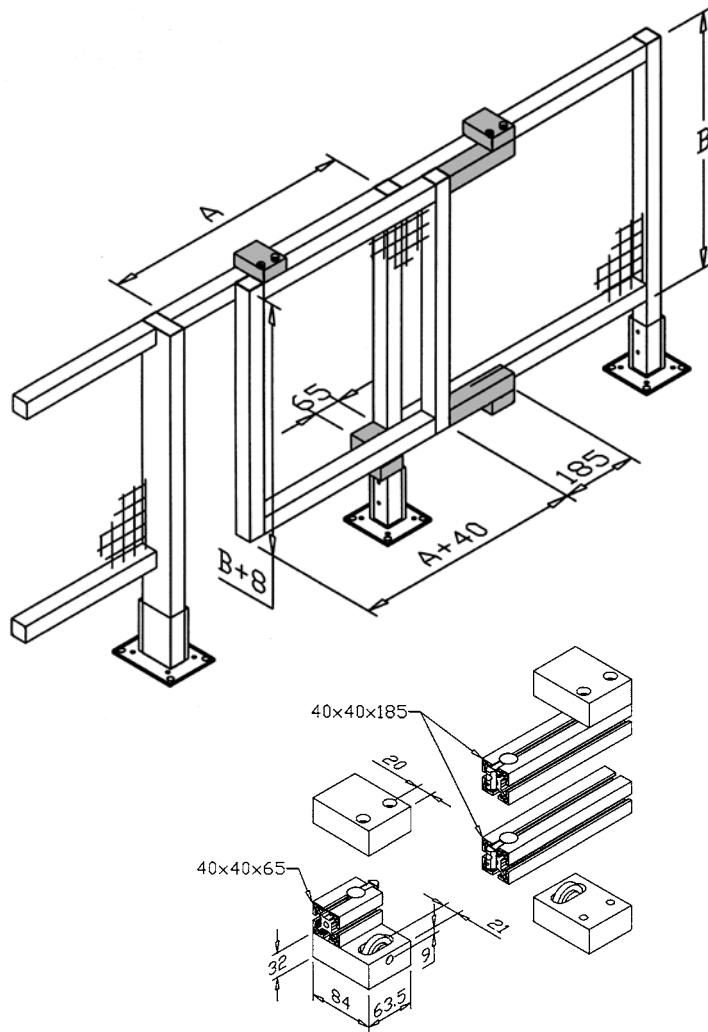
Example:

$$762 - 14 = 748$$

*** When using 28 Series for the doors and 40 Series for the frame, use the design example for 28 Series.**



Sliding Door Set



23-065

Application

Packaged system for creating a sliding door with 40 and 1.5" Series profiles. The set consists of the necessary supports, rollers and roller housing to mount the movable sliding panel to an assembly.

Hardware will vary based on design and must be ordered separately.

Technical Data

Supports: Aluminum, Clear Anodized, Fully machined for assembly

Rollers: Roller PA 40 (21-069)

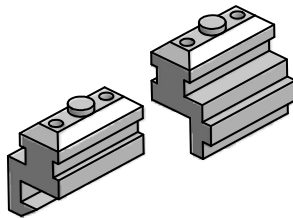
Roller Holders: 10-040

Ordering Information

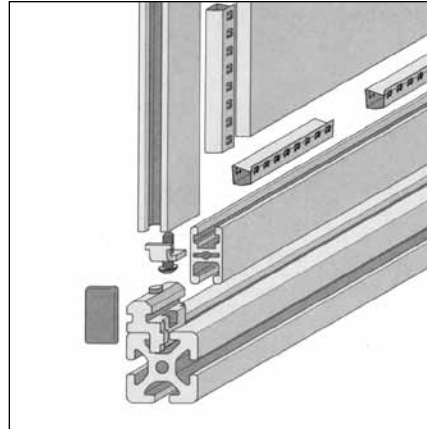
| Description | Unit | Weight | Part # |
|------------------|------|--------|--------|
| Sliding-Door Set | Set | 36 g | 23-065 |



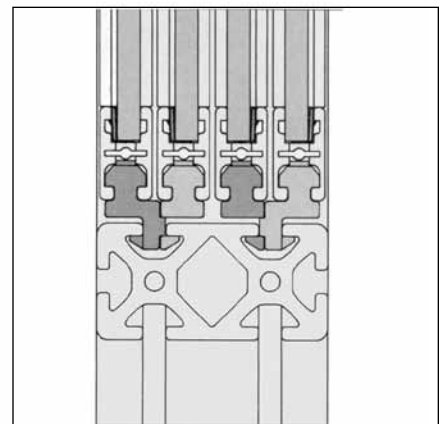
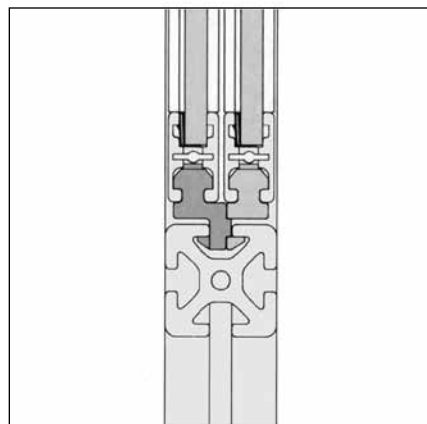
Sliding Door Guide



23-054

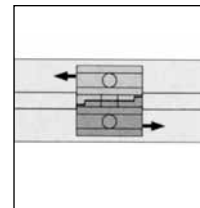
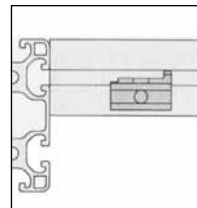
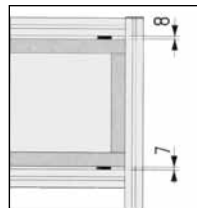


See page 46 for application details



1

2



3

4

5

- 1 Two sliding doors in T-slot of a 40 series profile
- 2 Four sliding doors in T-slots of an 80x40 profile

- 3 Mounting dimensions within a frame
- 4 Slide piece positioning in the T-slot
- 5 Guide pieces function as stops when two doors slide in the same T-slot

Application

Allows a door constructed of 32x18 Bi-Slot profile to slide in the T-Slot of a 40 Series profile. This guide attaches to the door frame through a 7mm mounting hole. Two Guides with opposite offsets are available, allowing 2 panels to be mounted in a single T-Slot.

Technical Data

Polyoxymethylene, Black
Spring/Spring Bolt are Steel
Set includes four guides – two of each offset.
Door Sizing – size door 15mm smaller than frame opening. Door gap will be 7mm at bottom and 8mm at top.

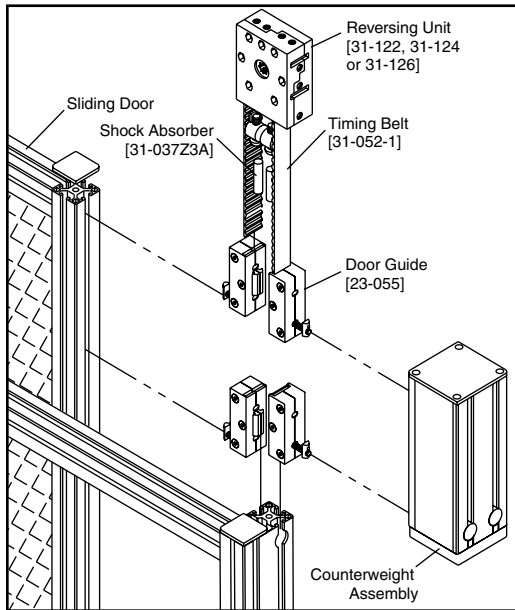
Ordering Information

Description
Sliding-Door Guides for 32x18 Bi-Slot

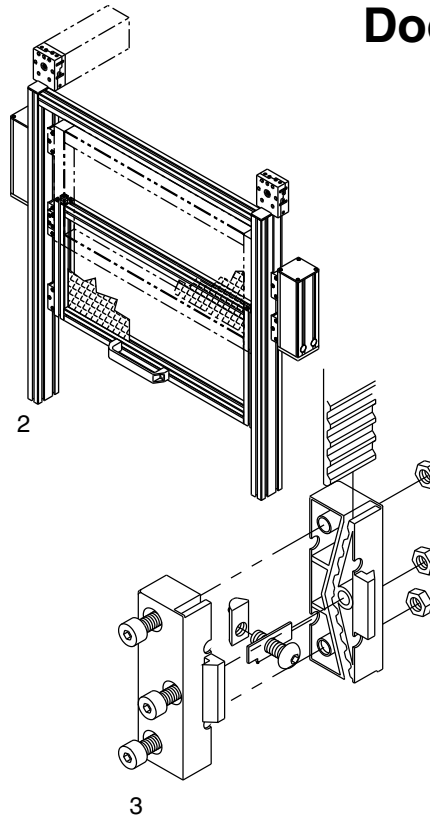
| | | |
|-------------|---------------|---------------|
| Unit | Weight | Part # |
| Set | 36 g | 23-054 |



Door Guide System



1 Assembly of the Door Guide System
2 Sliding Door with two counterweights
3 Assembly of the Door Guide
4-5 Counterweight Assemblies 80x80 and 160x80



Application

Door guides are used to build doors that operate between two vertical 40 series profiles. The weight of the door may be counter-balanced by one or two counterweights that are connected to the door space with door guides, timing belt 25T10 and reversing unit 40.

The size of the counterweight is determined by the weight of the door. The operation of the door may be motorized by attachment of a suitable drive to one of the reversing units.

Door Guides

Four guides are usually attached to the door, and slide in the inside slots of the vertical 40 series profiles. Two guides are attached to each of the counterweights, and slide in the outer slots of the vertical frame profiles.

Ordering Information

| Description | Unit | Weight | Part # |
|----------------------|-------|---------|--------|
| Door Guide | 1 set | 0.12 kg | 23-055 |
| Closure Plate 80x80 | 1 set | 0.48 kg | 21-155 |
| Closure Plate 160x80 | 1 set | 0.96 kg | 21-156 |

Counterweights

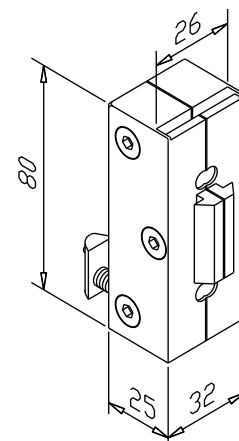
Duct wall support and wall profiles are used to build the counterweight. A closure plate attached with four M6 Profile-to-Wall Fasteners forms the bottom of the counterweight. Heavy metal scrap may be used as filler material. Suitable conduit cap is used to close the top of the counterweight.

Closure Plate

St, black epoxy finish
Complete with fastening set

Technical Data

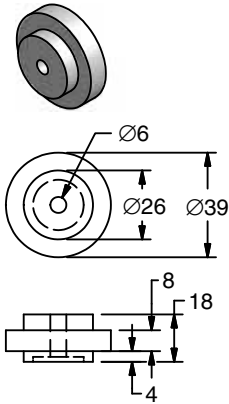
Door Guide: Polyoxymethylen, black
Complete with the following:
Steel plate insert, M6x25 BHCS,
M6 T-slot nut St, three M6x25 SHCS,
and three M6 hex nuts



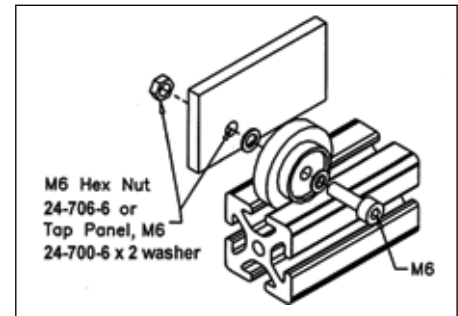
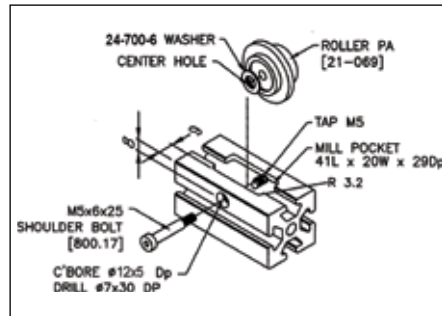
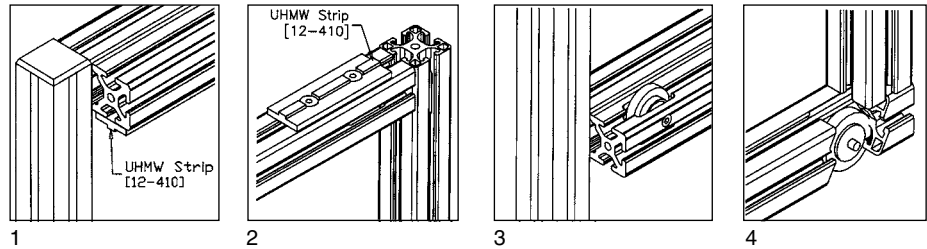
23-055



Roller 40



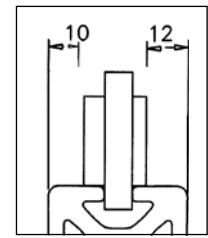
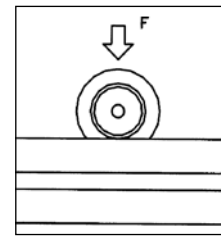
21-069



5

6

- 1-4 Application and details for sliding door with Roller PA 40
- 5 Servicing for Roller PA mounted in 40x40 Heavy profile
- 6 Mounting the Roller PA 40 for a sliding panel application
- 7 Max. load $F = 150\text{ N}$
- 8 Dimensions of offset on 40 series profile



7

8

Application

Versatile ball bearing roller which can be mounted in the T-slot. Roller has asymmetric design for various clearance dimensions such as on sliding doors and panels.

Technical Data

Glass-filled nylon, black complete with two deep groove ball bearings with dust covers.

Max. load 150 N (34 lbs)

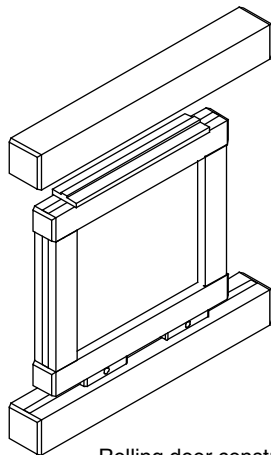
Leave 5mm offset between profiles.

Hardware ordered separately.

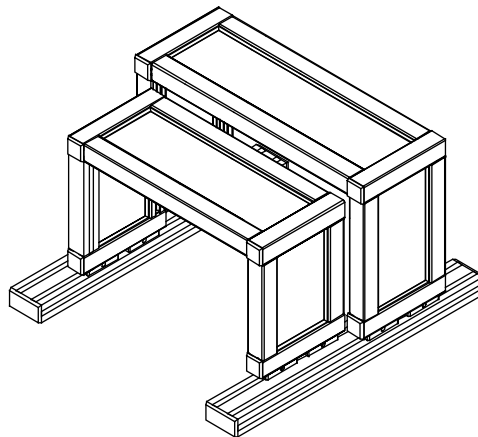
Ordering Information

| Description | Unit | Weight | Part # |
|-----------------------|------|--------|--------|
| Roller PA 40 | 1 pc | 32 g | 21-069 |
| Shoulder Bolt M5x6x25 | 1 pc | | 800.17 |

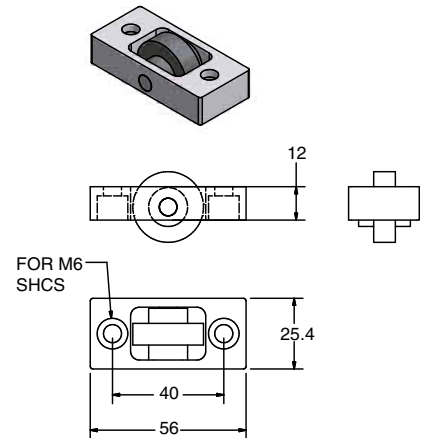
Roller Insert 25



Rolling door constructed with 28 series profiles guided on top with UHMW strip 12-410



Two bypassing covers constructed with 28 series profiles rolling on a pair 30x60 profiles.



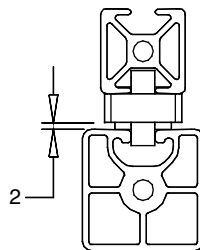
21-065

Application

Versatile roller mounted in a housing. Step roller is available without housing for sliding panel applications.

Technical Data

Roller: Delrin, Black
 Housing: Aluminum, Clear Anodized
 Pin: Stainless, Steel
 Hardware not included



Clearance dimensions

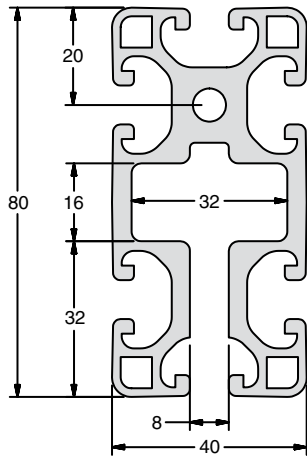
Recommended Hardware

| Series | Screws (Order 2) | T-Nut (Order 2) |
|--------|------------------|-----------------|
| 40 | 24-314-6 | 20-190 |
| 30 | 24-312-6 | 20-190 |
| 20 | 24-310-6 | 20-190 |
| 1.5" | 25-108-4 | 20-193 |

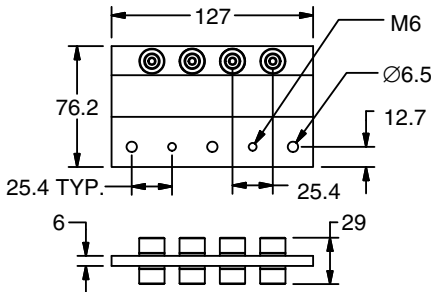
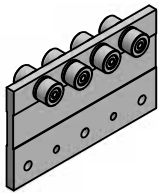
Ordering Information

| Description | Unit | Weight | Part # |
|------------------|------|--------|--------|
| Roller Insert 25 | Each | 32 g | 21-065 |

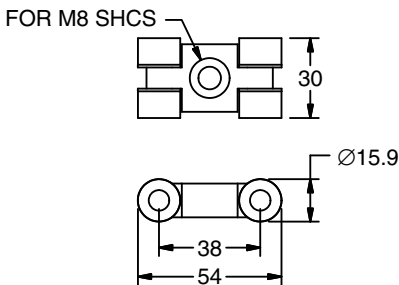
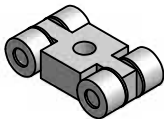
Rail Carts



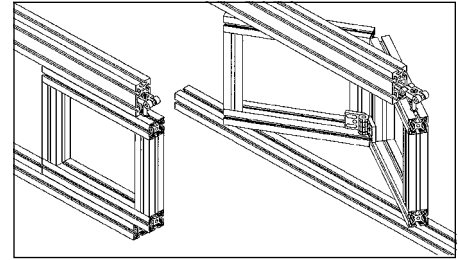
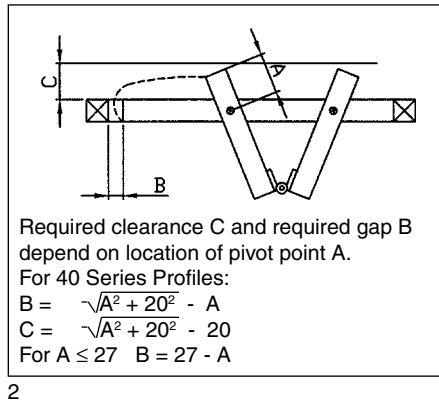
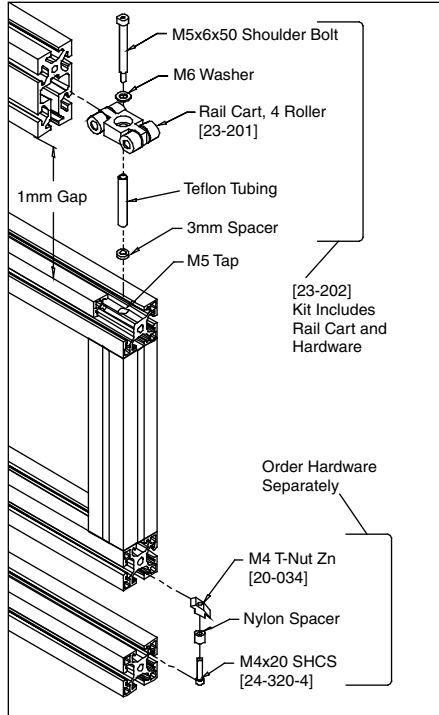
14-248



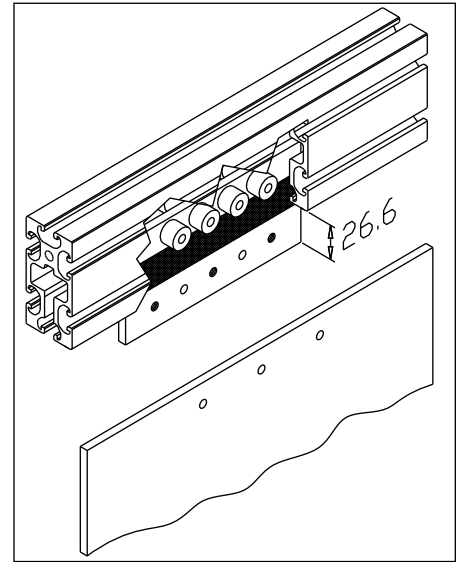
23-200



23-202



3



4

- 1 Assembling the 4-Roller Rail Cart to a door frame. Apply Loctite™ to M6 screw to prevent loosening. Guide along lower section for sliding door using nylon spacer (8mm long, O.D. 8mm)
- 2 Calculations for Bi-fold sliding doors
- 3 Sliding Door and Bi-fold sliding door assemblies
- 4 8-Roller Rail Cart assembly in 80x40 Rail profile

Application

Designed for use in 80x40 Rail Profile part #14-248 (See Linear Section). Rail carts used for hanging and sliding doors and other hanging components such as moving material on workstations.

Ordering Information

| Description | Unit | Weight | Max LoadN (lbs) | Part # |
|----------------------------------|------|---------|-----------------|--------|
| 8-Roller Cart | Set | 0.20 kg | 440 (100) | 23-200 |
| 4-Roller Cart | Each | 45 g | 220 (50) | 23-201 |
| 4-Roller Cart with Fastening Set | Set | 64 g | 220 (50) | 23-202 |

| Profile | Unit | Weight | Part # |
|------------------------------|-----------------------------------|-----------|--------|
| Profile 80x40 Rail Transport | Cut off 6m max. | 4.19 kg/m | 14-248 |
| | *saw cut needed for cut to length | | 19-002 |

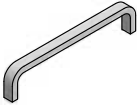
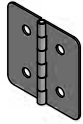
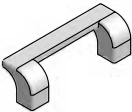
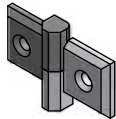
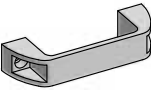
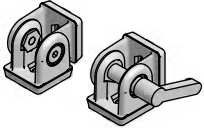


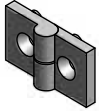
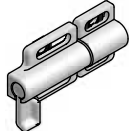
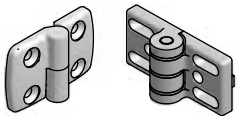




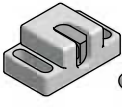

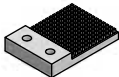
Technical Data

Housing: Aluminum, Clear Anodized
Wheel: Delrin, needle roller bearings
Washer: Nylon

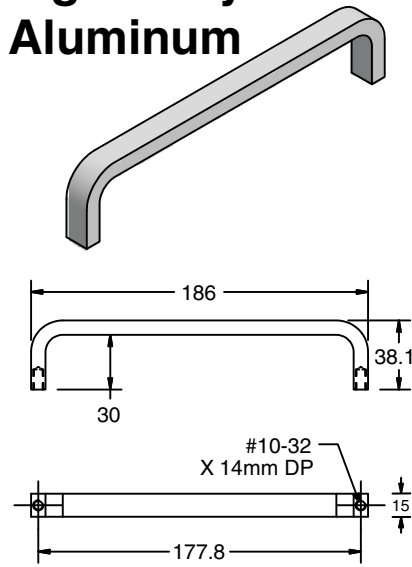
Hardware included with 23-202: Bolt, washer, Teflon® tubing and 3mm spacer.



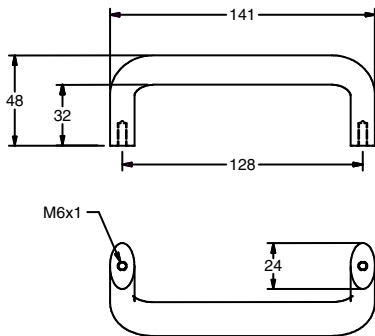
Section 5 Handles & Hinges

| | | | | | |
|-----------------------------|---------|-------------------------------------------------------------------------------------|----------------------|---------|---------------------------------------------------------------------------------------|
| Light Duty Metal Handles | 130 |  | Butt Hinges | 144 |  |
| Light Duty Plastic Handles | 131 |  | Lift-Off Hinges | 144 |  |
| Plastic Handles | 132 |  | Pivot Joints | 145 |  |
| Tube Handles | 133 |  | Quarter Turn Latches | 146-147 |  |
| | | | Inside Handle | 147 | |
| | | | Latch Accessories | 148 | |
| Light Duty Hinges | 134-136 |  | Dead Bolt | 149 |  |
| Medium Duty Lift-Off Hinges | 137-138 |  | Slam Latch | 149 |  |
| Medium Duty Metal Hinges | 139-140 | | | | |
| Adjustable Hinges | 141 |  | Magnetic Catches | 150 |  |
| Positioning Hinges | 142 |  | Ball Catch | 151 |  |
| Concealed Hinges | 142 | | Ball Plunger | 152 | |
| | | | 3-Way Ball Catch | 152 | |
| Multi-Series Hinges | 143 |  | Door Stops | 153 |  |

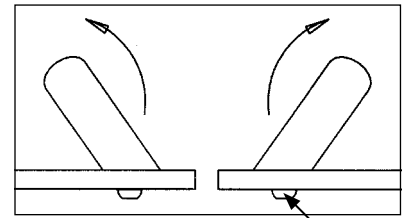
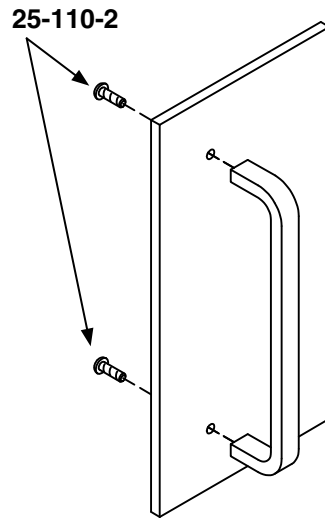
Light Duty Aluminum



23-030

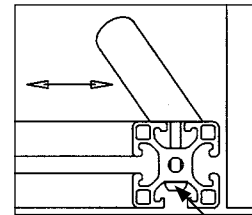


23-034



1 Swinging Doors

24-116-6 x 2



2 Sliding Door

24-140-6 x 2

Application

Handle for light duty doors

Technical Data

23-030: Aluminum, Clear Anodized
23-034: Aluminum, Black Powdercoat

Recommended Fastening Hardware (Order Separately)

| Part # | Screws | Application |
|--------|--------------|----------------------------|
| 23-030 | (2) 25-110-2 | Panel Mount |
| 23-034 | (2) 24-116-6 | Panel Mount (picture #1) |
| | (2) 24-140-6 | Profile Mount (picture #2) |

Ordering Information

| Description | Unit | Weight | Part # |
|-----------------------------------|------|--------|--------|
| Light Duty Aluminum Handle | Each | 85 g | 23-030 |
| Light Duty Aluminum Angled Handle | Each | 11 g | 23-034 |

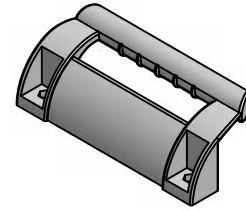
Light Duty Plastic

Application

Handle for double doors to keep operators hands from hitting when opening.

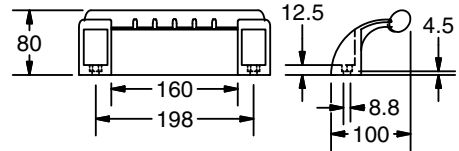
Technical Data

Glass-Fiber Reinforced Plastic
 Black Matte Finish



Recommended Fastening Hardware (Order Separately)

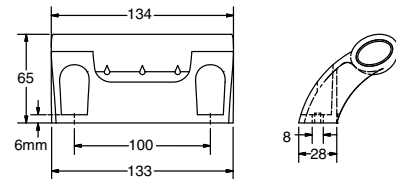
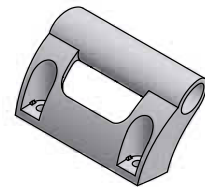
| Series | Screws | T-Nuts |
|---------|--------------|------------|
| 40/1.5" | (2) 24-316-8 | (2) 20-058 |
| 30 | (2) 24-312-8 | (2) 20-058 |
| 28 | (2) 24-312-8 | (2) 20-057 |



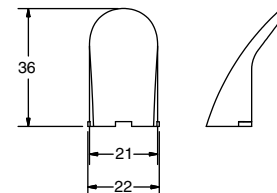
23-074

Ordering Information

| Description | Unit | Weight | Part # |
|---------------------|------|--------|--------|
| Large Angled Handle | Each | 356 g | 23-074 |
| Open Angled Handle | Each | 114g | 23-075 |
| Caps for 23-075 | Each | 3g | 23-076 |

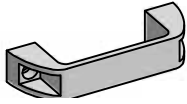


23-075

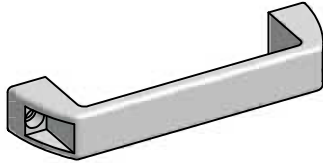


23-076

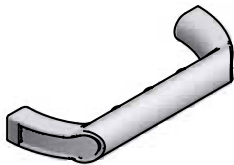
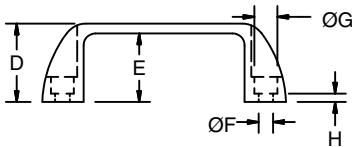
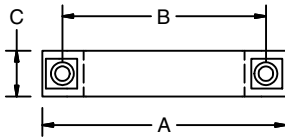
Plastic Handles



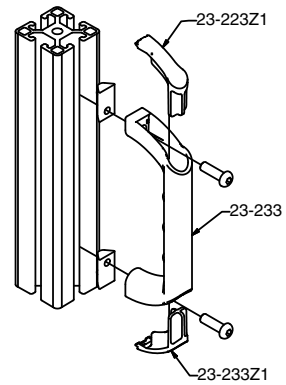
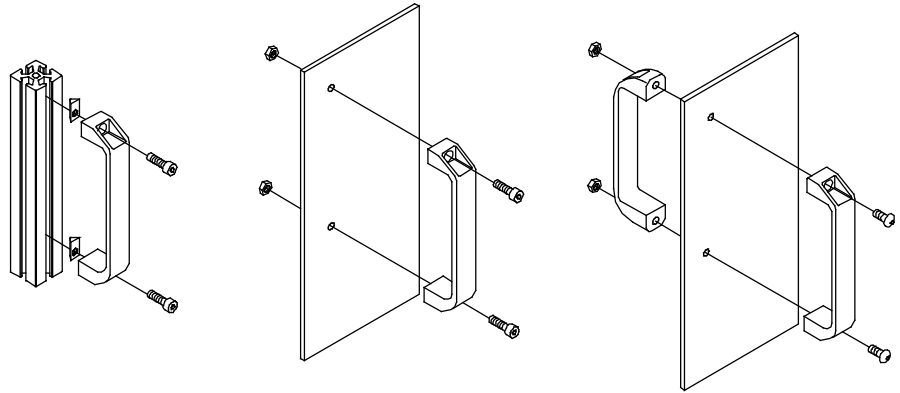
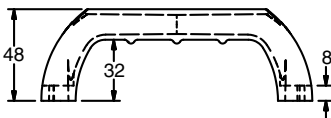
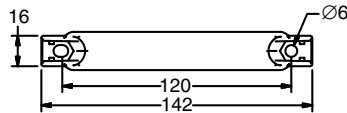
23-033



23-028



23-233



Application

Multipurpose handle for mounting onto panels or profiles. Hardware length is determined by applications.

Technical Data

Glass Filled Nylon, Black

Order Hardware Separately.

Use M6 for 23-033 and 23-028

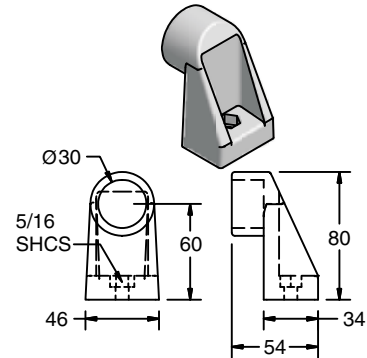
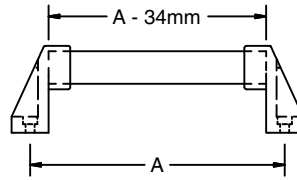
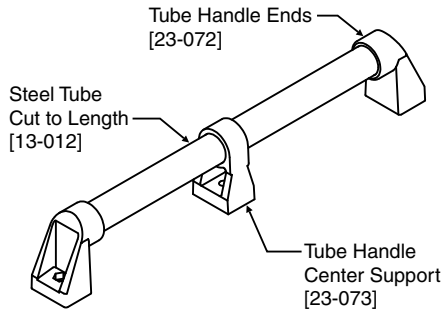
Recommended Fastening Hardware (Order Separately)

| Part # | Series | Screws | T-Nuts |
|--------|--------|--------------|----------------------|
| 23-033 | 40 | (2) 24-318-6 | (2) 20-056 |
| | 30 | (2) 24-316-6 | (2) 20-056 |
| | 28 | (2) 24-316-6 | (2) 20-055 |
| | 1.5" | (2) 25-311-4 | (2) 25-001 or 20-083 |
| | 1" | (2) 25-308-4 | (2) 25-031 or 25-034 |
| 23-028 | 40/30 | (2) 24-318-6 | (2) 20-056 |
| | 28 | (2) 24-316-6 | (2) 20-055 |
| 23-233 | 20 | (2) 24-114-5 | (2) 20-054 |

Ordering Information

| Dimensions | | | | | | | | Weight | Part # |
|-------------------------|------|----|----|----|-----|------|-----|--------|----------|
| A | B | C | D | E | F | G | H | | |
| 112 | 93.5 | 21 | 36 | 30 | 6.5 | 10.5 | 6 | 33 g | 23-033 |
| 170 | 152 | 28 | 52 | 45 | 6.5 | 10.5 | 8.5 | 70 g | 23-028 |
| See Drawing | | | | | | | | 26.2 g | 23-233 |
| Caps for 23-233 (2 per) | | | | | | | | 4 g | 23-233z1 |

Tube Handles



Application

Handle allows variable lengths. Order tube cut to length for a custom fit solution.

Technical Data

Polyamide, Black
 Tube: Coated Steel
 Order Hardware Separately

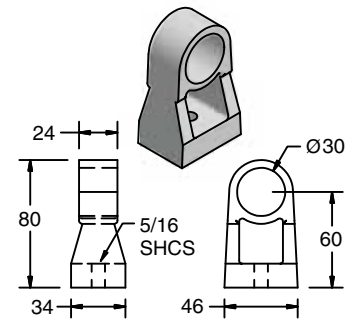
23-072

Recommended Fastening Hardware (Order Separately)

| Part # | Screws | T-Nuts |
|--------|----------|--------|
| 23-072 | 25-312-5 | 20-082 |
| 23-073 | 25-316-5 | 20-082 |

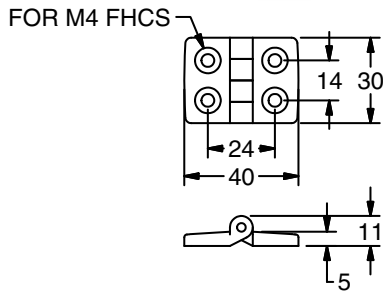
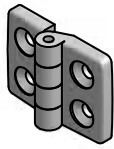
Ordering Information

| Description | Unit | Weight | Part # |
|-------------------------------------|-----------------|-----------|--------|
| Tube Handle Ends | Each | 12.7 g | 23-072 |
| Center Support for handles over 36" | Each | 7.6 g | 23-073 |
| Coated Steel Tube | Cut off max. 2m | 1.52 kg/m | 13-012 |
| * Saw cut needed for Cut to Length | | | 19-007 |

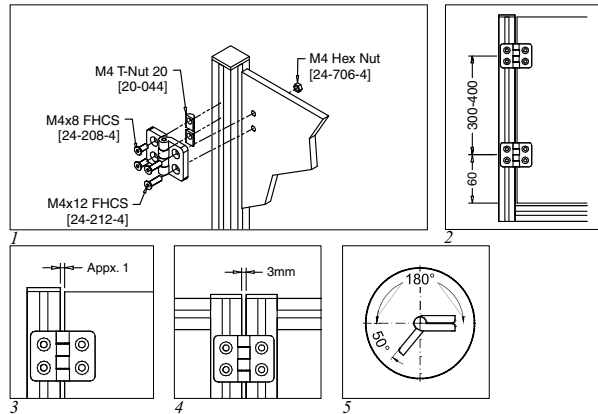


23-073

Light Duty PA 20



23-020



- 1 Assembly of Hinge PA 20 on panel
- 2 Hinge positions
- 3-4 Clearance dimensions
- 5 Range of swing

Application

For light doors and lids constructed of 20 Series profiles

Technical Data

Glass-filled Nylon, Black
Max Load: 40Nm (30 ft-lbs)

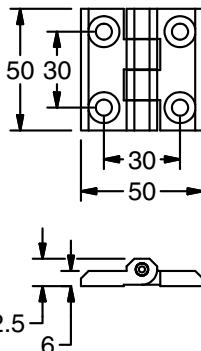
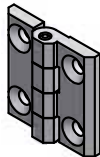
Recommended Fastening Hardware (Order Separately)

| Screws | T-Nuts |
|-----------------------|---------------------|
| 24-208-4 (1 per hole) | 24-044 (1 per hole) |

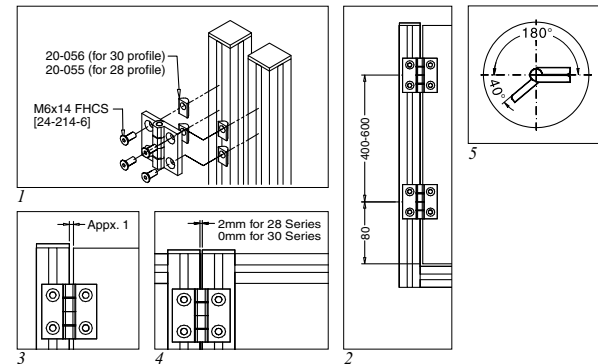
Ordering Information

| Description | Unit | Weight | Part # |
|--------------------|------|--------|--------|
| Hinge PA 20 Series | Each | 7 g | 23-020 |

Medium Hinge 30/28



23-242



- 1 Assembly of Medium Hinge 30/28 on profiles
- 2 Hinge positions
- 3-4 Clearance dimensions
- 5 Range of swing

Application

Suitable for medium loads such as machine and guard doors. Can be used with 30 or 28 Series profiles.

Technical Data

Zinc Cast, Black Powdercoat
Pin is Stainless Steel
Max. Load: 400Nm (295 ft-lbs)

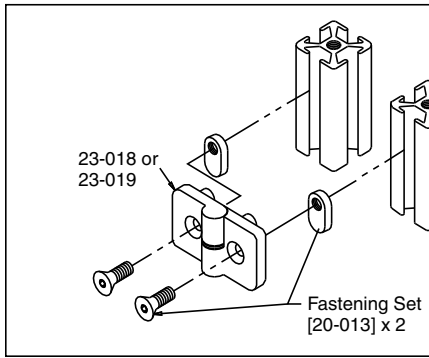
Recommended Fasteners (Order Separately)

| Series | Screws | T-Nut |
|--------|----------|--------|
| 30 | 24-214-6 | 20-056 |
| 28 | 24-214-6 | 20-055 |

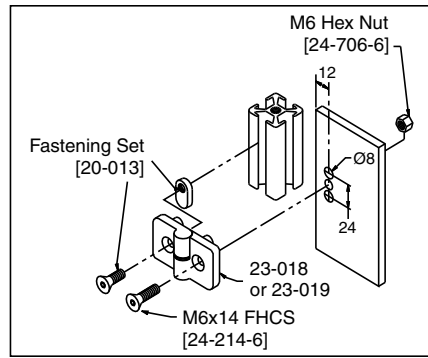
Ordering Information

| Description | Unit | Weight | Part # |
|--------------------|------|--------|--------|
| Medium Hinge 30/28 | Each | 86 g | 23-242 |

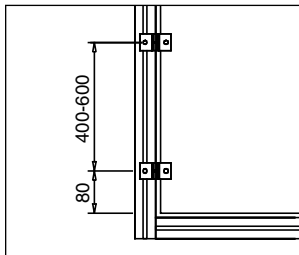
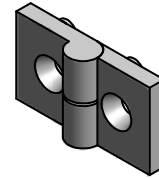
Light Duty PA 28



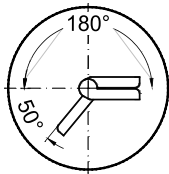
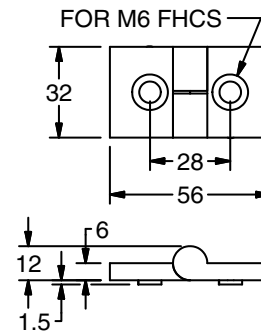
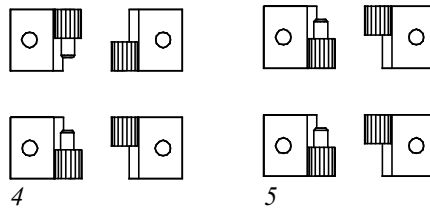
1



2



3



- 1-2 Attaching Light Duty Hinges 28 to 28 Series profiles and panels
- 3 Placement of hinges on panels
- 4 Non lift-off doors require one right hand and one left hand Hinge
- 5 Lift-off doors require either right or left hand Hinges

23-018 & 23-019

Application

For light doors and lids constructed of 28 Series profiles or light panel material.

Technical Data

Glass-filled Nylon, Black
Max Load: 100Nm (22 ft-lbs)

Recommended Fastening Hardware

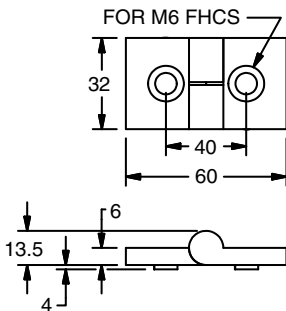
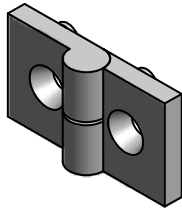
| Screws | T-Nut | Hex Nut |
|----------|--------|----------|
| 24-214-6 | 20-090 | 24-706-6 |

Ordering Information

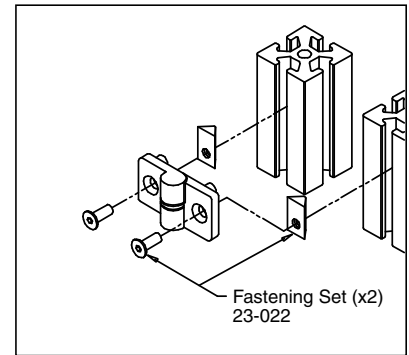
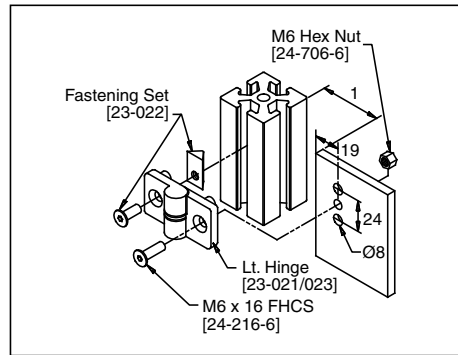
| Description | Unit | Weight | Part # |
|----------------------------|------|--------|--------|
| Light Duty Hinge 28, Right | Each | 17 g | 23-018 |
| Light Duty Hinge 28, Left | Each | 17 g | 23-019 |



Light Duty 40

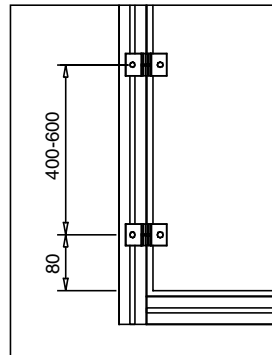


23-021 & 23-023

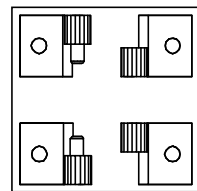


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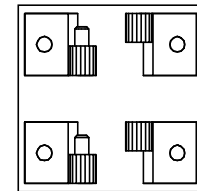
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3



4



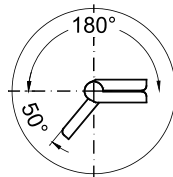
5

1,2 Attaching Light Duty Hinges 40 to 40 Series profiles and panels

3 Placement of hinges on panels

4 Non lift-off doors require one right hand and one left hand Hinge

5 Lift-off doors require either right or left hand Hinges



Application

For light doors and lids constructed of 40 Series profiles or light panel material

Technical Data

Glass-filled Nylon, Black
Max Load: 100Nm (22 ft-lbs)

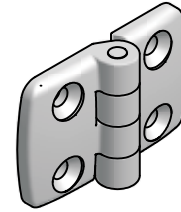
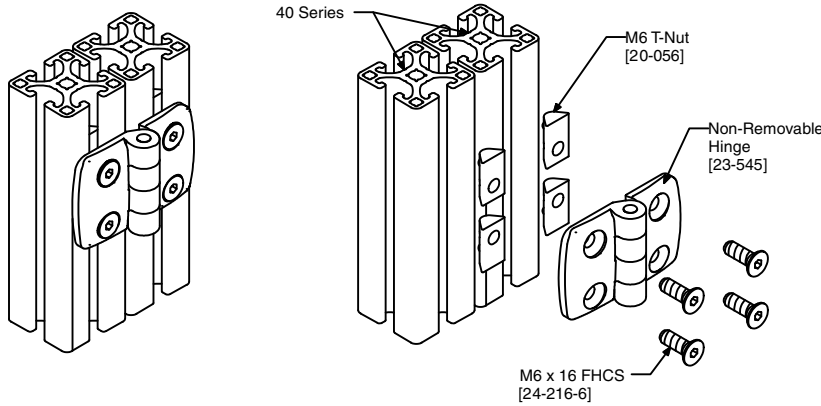
Recommended Hardware

| Series | Screw | T-Nut | Hex Nut |
|--------|----------|--------|----------|
| 40 | 24-216-6 | 20-080 | 24-706-6 |

Ordering Information

| Description | Unit | Weight | Part # |
|----------------------------|------|--------|--------|
| Light Duty Hinge 40, Right | Each | 21 g | 23-021 |
| Light Duty Hinge 40, Left | Each | 21 g | 23-023 |

Medium Duty Plastic (Metric)



NON-REMOVABLE

Application

High quality plastic hinges for constructing medium duty guard/ enclosure doors. Hinges are offered in two types: lift off (for left and right hand doors) and non-removable.

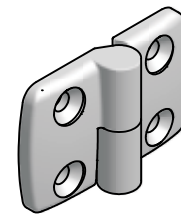
Technical Data

Glass-filled Nylon, Black
Stainless Steel Pin
Max Torque: 100Nm (74 ft-lbs)

Ordering Information

Dimensions (mm)

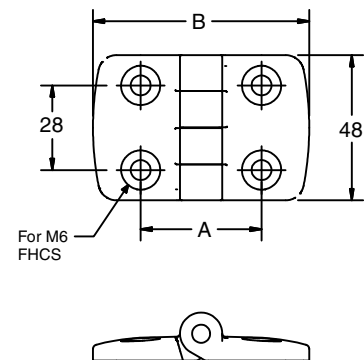
| A | B | Hinge Type | Weight (g) | Part # |
|----|----|------------------|------------|----------------|
| 45 | 77 | Non Removable | 43 | 23-545 |
| | | Left Side Mount | 43 | 23-545L |
| | | Right Side Mount | 41 | 23-545R |
| 35 | 59 | Non Removable | 35 | 23-535 |
| | | Left Side Mount | 35 | 23-535L |
| | | Right Side Mount | 33 | 23-535R |
| 30 | 49 | Non Removable | 28 | 23-550 |
| | | Left Side Mount | 28 | 23-550L |
| | | Right Side Mount | 28 | 23-550R |



LIFT OFF

Application Chart

| Mounting Surface 1 | Mounting Surface 2 | Gap (mm) | Non-Rem Hinge | Left Hinge | Right Hinge |
|--------------------|--------------------|----------|---------------|------------|-------------|
| 40 Series | 40 Series | 5 | 23-545 | 23-545L | 23-545R |
| 40 Series | Panel | — | | | |
| 28 Series | 40 Series | 1 | 23-535 | 23-535L | 23-535R |
| 30 Series | 40 Series | 0 | | | |
| 28, 40 Series | Panel | — | 23-550 | 23-550L | 23-550R |
| 30 Series | 30 Series | 0 | | | |
| 30, 28 Series | Panel | — | | | |
| 30 Series | 30 Series | 5 | | | |
| 28 Series | 28 Series | 7 | | | |

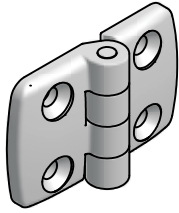


Recommended Hardware

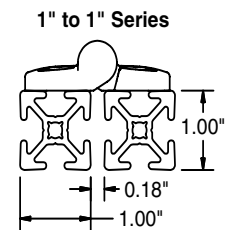
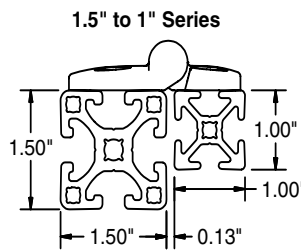
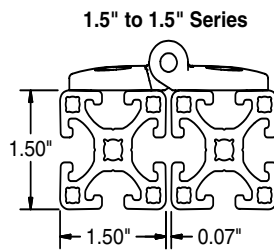
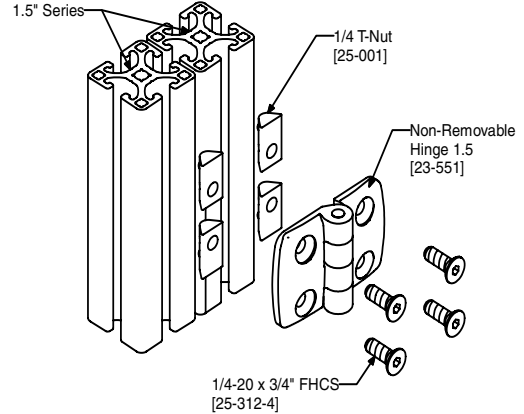
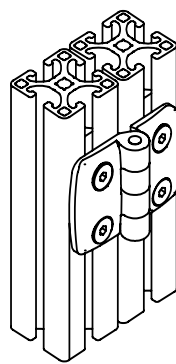
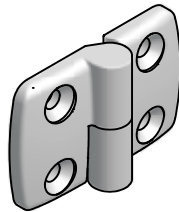
| Series | Screw | T-Nut | Panel | Screw | T-Nut |
|--------|----------|--------|-----------|----------|----------|
| 28 | 24-214-6 | 20-055 | — | — | — |
| 30 | 24-214-6 | 20-056 | 6mm Panel | 24-220-6 | 24-716-6 |
| 40 | 24-216-6 | 20-056 | 8mm Panel | 24-220-6 | 24-716-6 |



Medium Duty Plastic (Inch)



NON-REMOVABLE

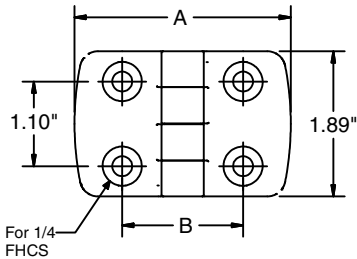


Application

High quality plastic hinges for constructing medium duty guard/ enclosure doors. Hinges are offered in two types: lift off (for left and right hand doors) and non-removable.

Technical Data

Glass-filled Nylon, Black
Stainless Steel Pin
Max Torque: 100Nm (74 ft-lbs)



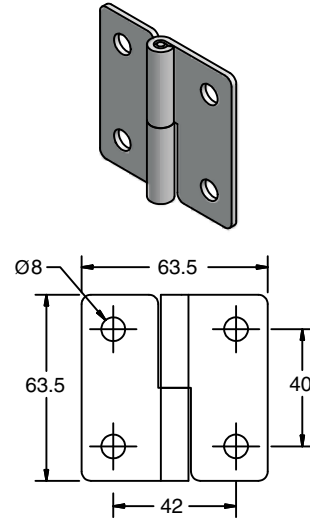
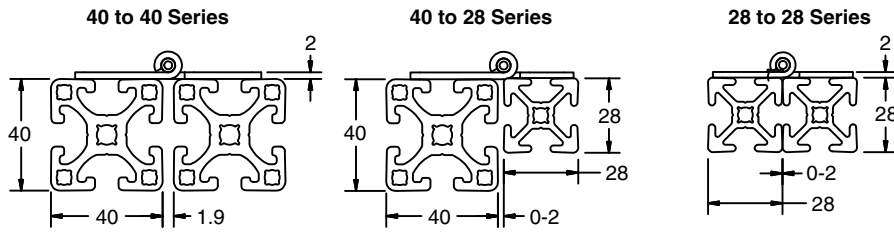
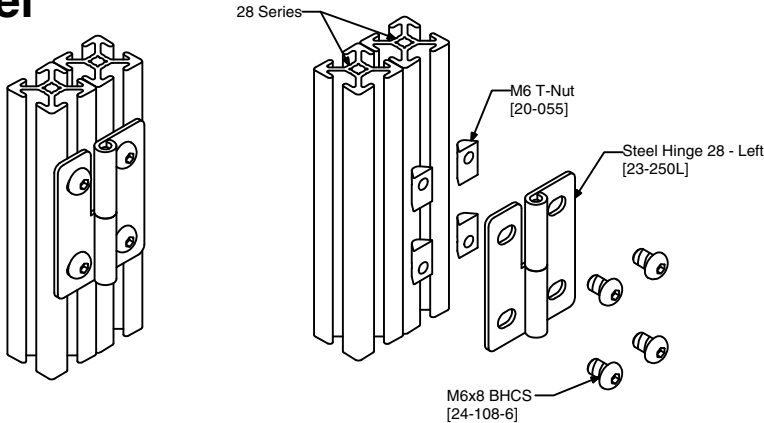
Recommended Fastening Hardware (Order Separately)

| Series | Screws | T-Nuts |
|--------|----------|--------------------------|
| 1.5" | 25-212-4 | 25-001, 20-083 or 20-193 |
| 1" | 25-208-4 | 25-031, 25-034 or 25-036 |

Ordering Information

| A | B | Hinge Type | Weight (g) | Part # |
|-------|-------|--------------------------------|------------|----------------|
| 2.74" | 1.57" | Non Removable, 1.5" to 1.5" | 43 | 23-551 |
| | | Left Side Mount, 1.5" to 1.5" | 43 | 23-551L |
| | | Right Side Mount, 1.5" to 1.5" | 41 | 23-551R |
| 2.28" | 1.38" | Non Removable, 1.5" to 1" | 35 | 23-552 |
| 1.93" | 1.18" | Non Removable, 1" to 1" | 28 | 23-550 |
| | | Left Side Mount, 1" to 1" | 28 | 23-550L |
| | | Right Side Mount, 1" to 1" | 28 | 23-550R |

Steel



23-252

Application

Steel hinges for constructing guard/ enclosure doors. Lift off option allows access into enclosure. Specify a left hand or right hand lift-off hinge set depending on required direction of door opening.

Technical Data

Steel, Black Zinc Plated

Recommended Fastening Hardware (Order Separately)

| Series | Screws | T-Nuts |
|--------|----------|--------------------------|
| 40 | 24-112-8 | Any 40 Series M8 |
| 28 | 24-108-6 | Any 28 Series M6 |
| 1.5" | 25-108-4 | 25-001, 20-083 or 20-193 |
| 1" | 25-106-4 | 25-031, 25-034 or 25-036 |

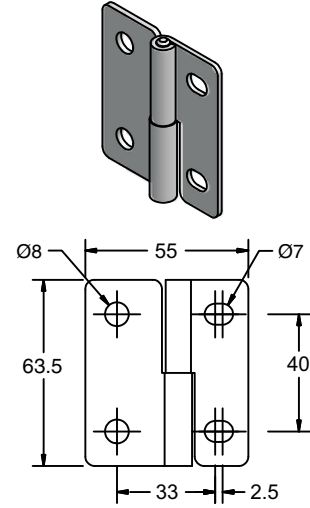
Ordering Information

| Description | Unit* | Weight | Part # |
|--------------------------------------|-------|--------|-----------|
| Steel Hinge 40/1.5" - Left | Each | 18g | 23-252L |
| Steel Hinge 40/1.5" - Fixed | Each | 18g | 23-252*** |
| Steel Hinge 40/1.5" - Right | Each | 18g | 23-252R |
| Steel Hinge 40/1.5" to 28/1" - Left | Each | 14g | 23-251L |
| Steel Hinge 40/1.5" to 28/1" - Fixed | Each | 14g | 23-251** |
| Steel Hinge 40/1.5" to 28/1" - Right | Each | 14g | 23-251R |
| Steel Hinge 28/1" - Left | Each | 13g | 23-250L |
| Steel Hinge 28/1" - Fixed | Each | 13g | 23-250* |
| Steel Hinge 28/1" - Right | Each | 13g | 23-250R |

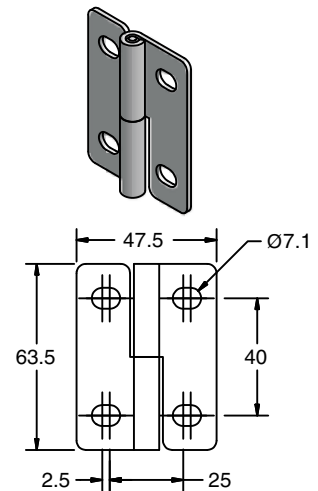
*Order 23-250L & 23-250R

**Order 23-251L & 23-251R

***Order 23-252L & 23-252R



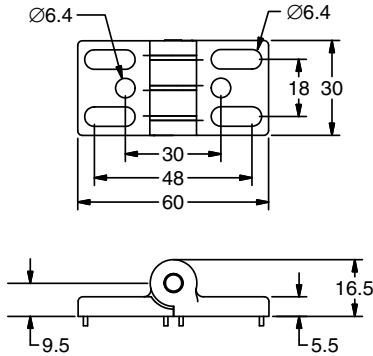
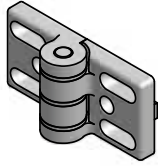
23-251



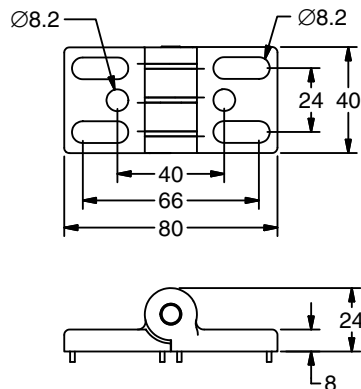
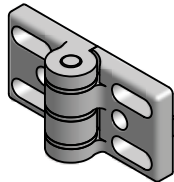
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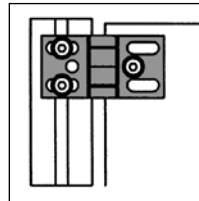
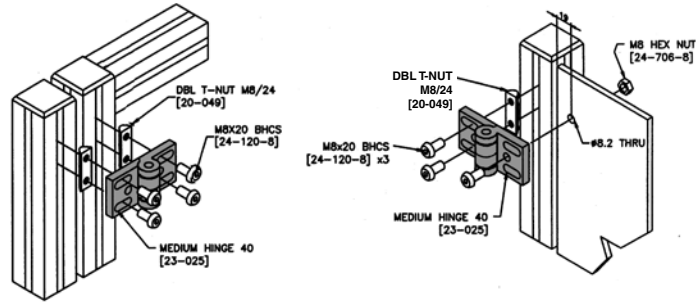
Medium 40



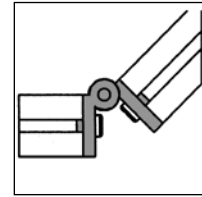
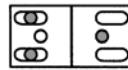
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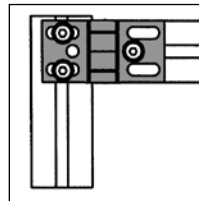
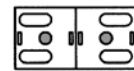
23-025



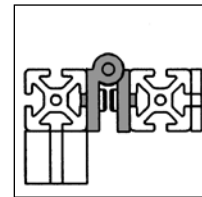
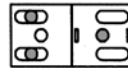
1 Fastening to vertical profile and panel element (all anti-torsion pins removed).



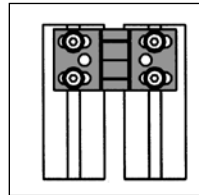
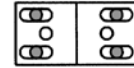
4 End face fastening of two profiles (with torsion pins).



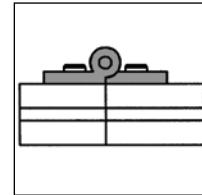
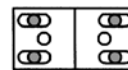
2 Fastening to vertical and horizontal profiles (2 anti-torsion pins removed).



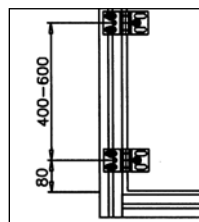
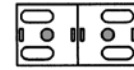
5 Connection of two horizontal profiles (all anti-torsion pins removed).



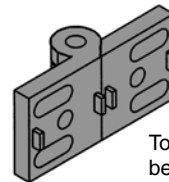
3 Fastening to vertical profiles (all anti-torsion pins removed).



6 Connection of two horizontal profiles (with anti-torsion pins)



Positioning of hinges on a panel



Torsion pins can be removed with a screwdriver

Application

Suitable for medium loads such as machine and guard/enclosure doors, and as an angle connecting element for profiles. Fastens to T-Slot or profile face with integral torsion pins for precise squaring.

Technical Data

Zinc Cast, Galvanized, Black
Max Load: 500N (112lbs)

Order Hardware Separately Per Hole

| Series | Screw | T-Nut |
|--------|----------|--------|
| 40 | 24-120-8 | 20-058 |
| 30 | 24-116-6 | 20-056 |

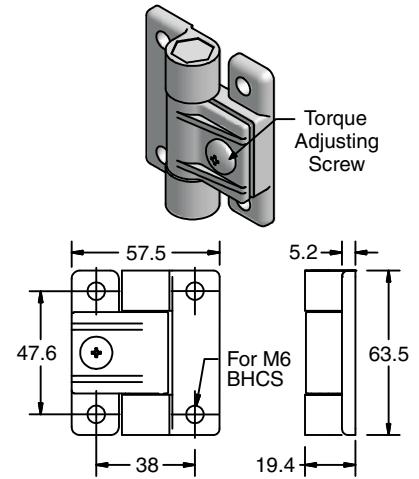
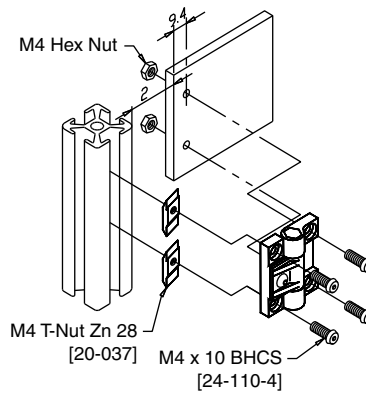
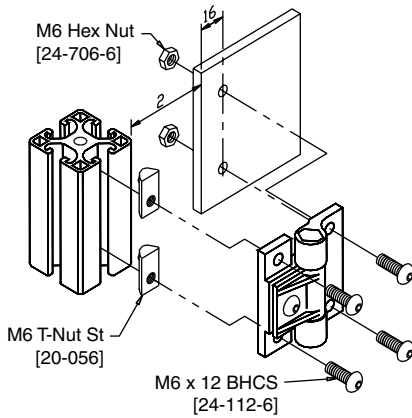
Ordering Information

Description

- Medium Hinge 30
- Medium Hinge 40
- Medium Hinge 40 (Locking)

| Unit | Weight | Part # |
|------|---------|---------|
| Each | 0.18 kg | 23-024 |
| Each | 0.18 kg | 23-025 |
| Each | 0.20 kg | 23-025L |

Adjustable



23-222

Application

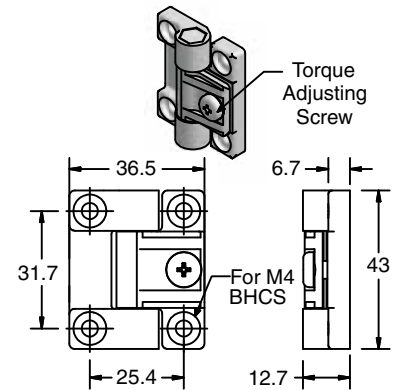
Adjustable tension hinge for swinging doors to hold door open, partially open or closed. Can also adjust speed of opening or closing.

Technical Data

Acetal, Black
Polycarbonate hinge pin
Maximum Torque: 23-220 80 Ncm
23-200 400 Ncm

Recommended Fastening Hardware (Order Separately)

| Part # | Series | Screws | T-Nut | Hex Nut |
|--------|--------|----------------------------------------|-----------------------------|--------------|
| 23-222 | 40 | (2) 24-112-6 (2) M6 sized for panel | (2) 20-056 | (2) 24-706-6 |
| | 1.5" | 25-110-4 | 25-001, 20-083 or 25-193 | (2) 25-706-4 |
| 23-220 | 28 | (2) 25-110-4 (2) M4 sized for panel | (2) 20-037 | (2) 24-706-4 |
| | 1" | 25-106-1 | 25-045 | — |

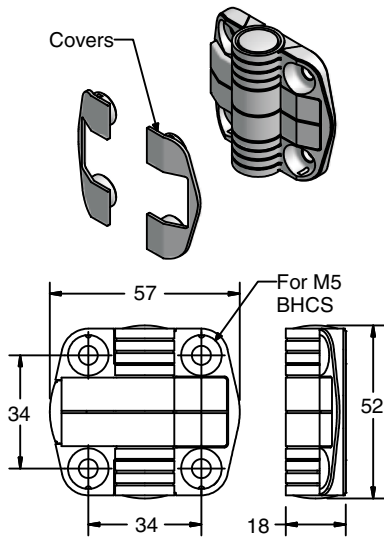


23-220

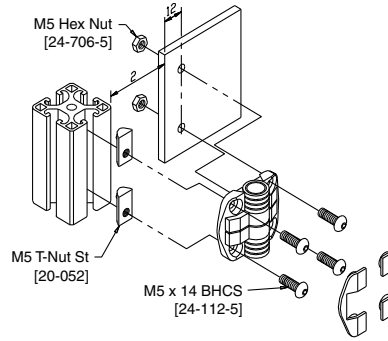
Ordering Information

| Description | Unit | Weight | Part # |
|--------------------------|------|--------|--------|
| Adjustable Hinge 40/1.5" | Each | 42 g | 23-222 |
| Adjustable Hinge 28/1" | Each | 38 g | 23-220 |

Positioning



23-226



Application

Multiple position hinge for swinging doors. Models with preset angles also open to 180°.

Technical Data

Acetal, Black
Positioning Torque: 1.1 Nm
Maximum Load: 450N

Recommended Fastening Hardware (Order Separately)

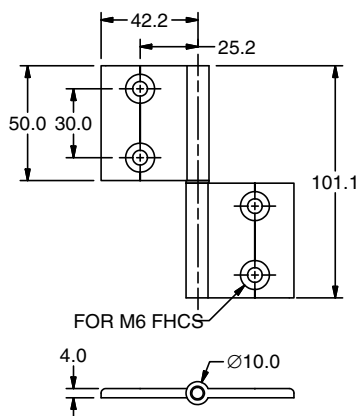
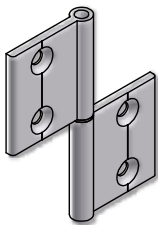
Profile to Panel

| Screws | T-Nut | Hex Nut |
|--------------|------------|--------------|
| (4) 24-112-5 | (2) 20-052 | (2) 24-706-5 |

Ordering Information

| Description | Unit | Weight | Part # |
|------------------------|------|--------|--------|
| Positioning Hinge 120° | Each | 37 g | 23-226 |

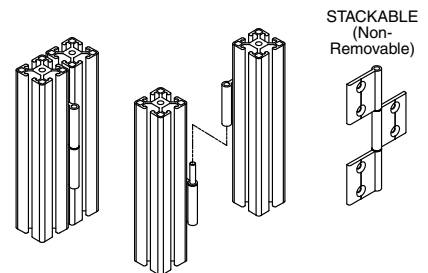
Concealed



23-225

Application

For inside or concealed door or lids. Used with 40 Series profiles using M6 T-nuts. Concealed hinges are stackable to create non-removable hinges. To create a stackable hinge, order an additional hinge half and an additional hinge pin.



Technical Data

Wings: Aluminum
Bolt: Stainless Steel

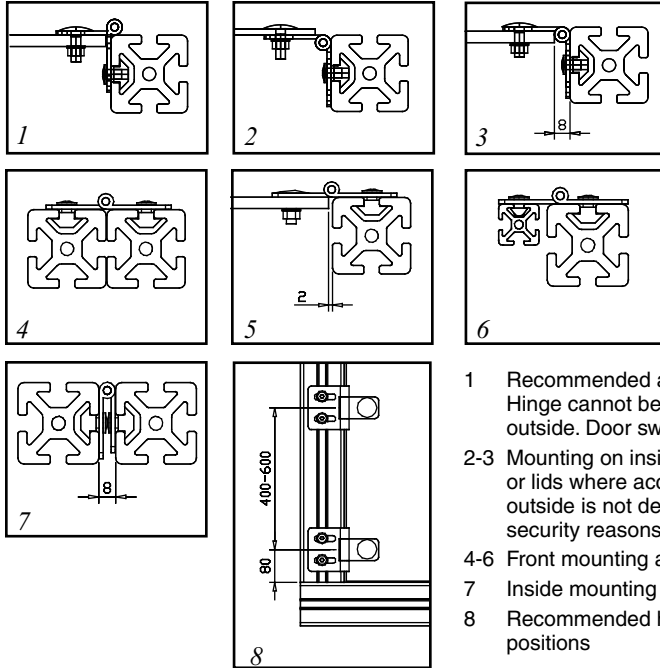
Recommended Fastening Hardware (Order Separately)

| Screws | T-Nuts |
|--------------|------------|
| (4) 24-216-8 | (4) 20-056 |

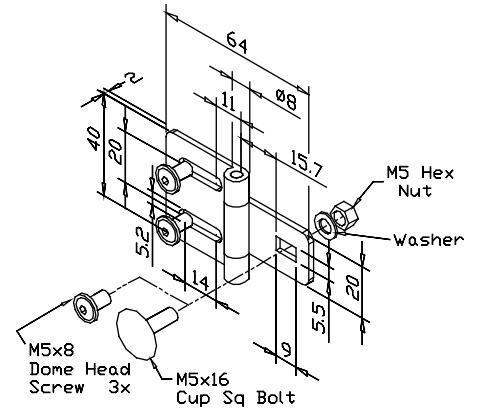
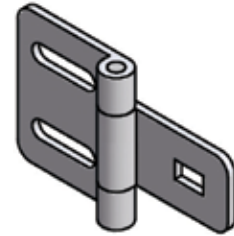
Ordering Information

| Description | Unit | Weight | Part # |
|-------------|-------|--------|----------|
| Full Hinge | 1 Set | 39.8 g | 23-225 |
| Half Hinge | Each | 24 g | 23-225z1 |
| Hinge Pin | Each | 11.8 g | 23-225z2 |

Multi-Series



- 1 Recommended attachment. Hinge cannot be loosened from outside. Door swings 180°
- 2-3 Mounting on inside of doors or lids where access from outside is not desired for security reasons.
- 4-6 Front mounting applications
- 7 Inside mounting clearance
- 8 Recommended hinge positions



Application

For outside or inside of doors and lids.
Used with 40, 30, 28, 20, 1.5" and 1" Series profiles using M5 T-nuts St or Zn.

Ordering Information

Description

Multi-Series Hinge

Technical Data

St, black

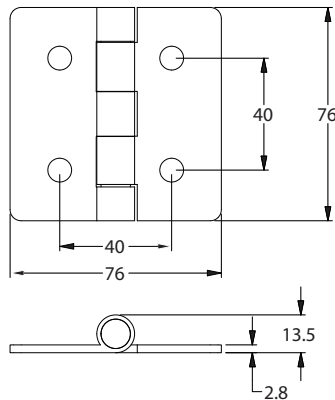
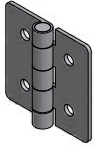
Includes: M5x16 cup square bolt, M5 hex nut, M5 washer, three M5x8 dome head screws. Order M5 T-nuts separately.

Max. load 250 N (56 lbs)

23-016

| Unit | Weight | Part # |
|-------|--------|--------|
| 1 set | 51 g | 23-016 |

Butt Hinge 40



23-011
23-011B

Application

Steel hinge for constructing profile framed doors or panel doors. Available in medium and heavy duty version.

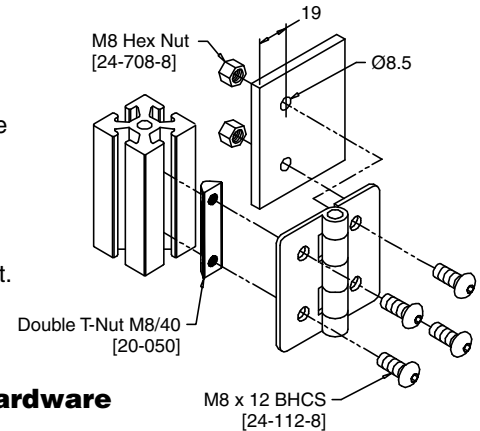
Technical Data

Steel, Zinc Plated or Black Powdercoat.

Recommended Fastening Hardware (Order Separately)

Attachment to T-Slot

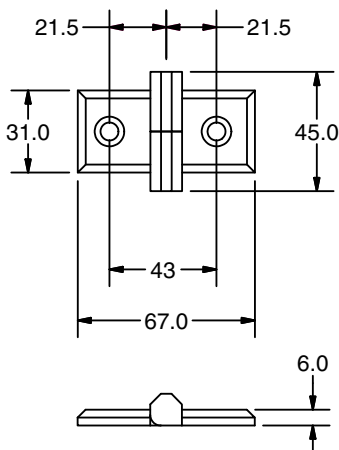
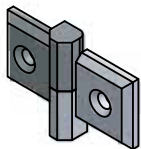
| Mounting | Screws | T-Nuts | Hex Nuts |
|-------------------------------|--------------|------------|--------------|
| To 40 Series (Per Hinge Side) | (2) 24-112-8 | (1) 20-050 | — |
| To Panel (Per Hinge Side) | (2) 24-112-8 | — | (2) 24-708-8 |



Ordering Information

| Description | Unit | Weight | Part # (Clear) | Part # (Black) |
|----------------------------|------|--------|----------------|----------------|
| Steel Hinge, Heavy Duty 40 | Each | 160 g | 23-011 | 23-011B |

Lift-Off Hinge 40



23-440

Application

Versatile hinge for 40 series profiles. For lift-off and non-removable door configurations. Two T-slot alignment blocks are included.

Technical Data

Zinc die cast, black powder coat

Pin: St., zinc plated

Maximum torque 100 Nm (74 ft-lbs)

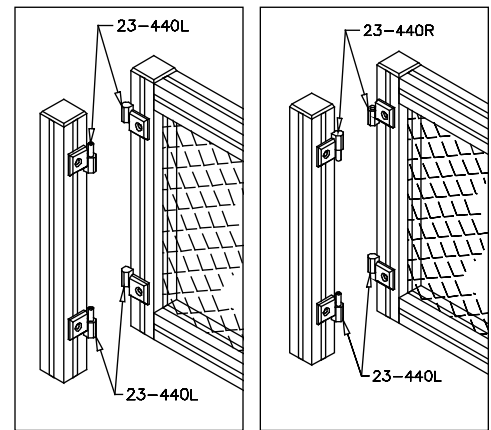
Order all hardware separately.

Attachment to 40 series profiles

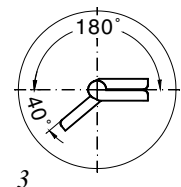
| Screws | T-Nuts |
|----------|------------------|
| 24-216-6 | 20-056 or 20-080 |

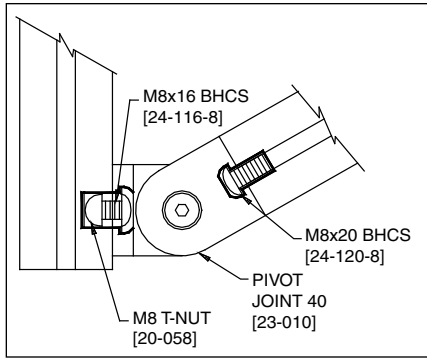
Ordering Information

| Description | Unit | Weight | Part # |
|-------------------------|-------|--------|---------|
| Lift-Off Hinge 40 Left | 1 set | 70 g | 23-440L |
| Lift-Off Hinge 40 Right | 1 set | 70 g | 23-440R |

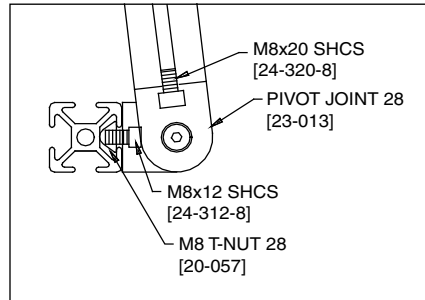


- 1 Lift-Off Door (load supported by two hinges)
- 2 Non-removable door (load supported by one hinge)
- 3 Range of swing

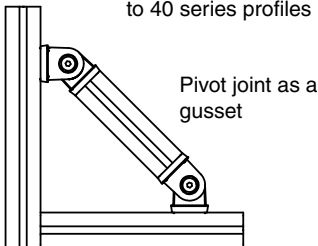




Attaching Pivot Joint 40 to 40 series profiles



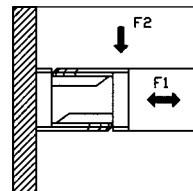
Attaching Pivot Joint 28 to 28 series profiles



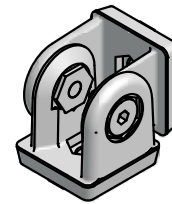
Pivot joint as a gusset

| | Load | |
|-------------------------------|--------|--------|
| | F1 (N) | F2 (N) |
| 23-010: Pivot Joint 40 | | |
| Fixed connection | 5000 | 2500 |
| Movable connection | 750 | 750 |
| 23-013: Pivot Joint 28 | | |
| Fixed connection | 1600 | 800 |
| Movable connection | 250 | 250 |

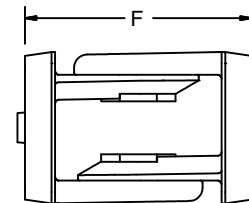
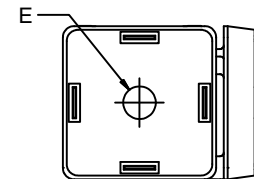
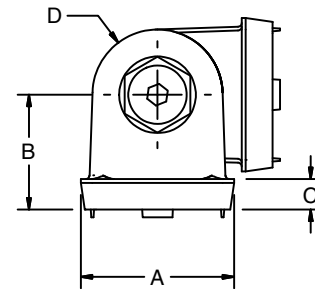
| Dimensions (mm or inch) | | | | | | |
|-------------------------|-------|-------|-------|-------|--------|-------|
| Series | A | B | C | ∅D | ∅E | F |
| 40 | 40 | 30 | 9 | 40 | 8.5 | 60 |
| 28/30 | 28 | 22.5 | 7 | 27 | 8.3 | 45 |
| 1.5" | 1.57" | 1.18" | 0.16" | 1.34" | 0.335" | 2.36" |
| 1" | 1.10" | 0.89" | 0.28" | 1.04" | 0.260" | 1.78" |



Pivot Joint



23-010
23-013
23-260
23-262



Application

For connecting profiles at various angles from 0° to 180°. Eliminates the need for a miter cut. Die cast inserts provide alignment with the profile end and prevents rotation.

Technical Data

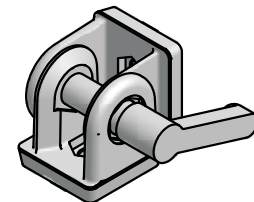
Zinc Die-Cast, Galvanized
 Finishes available: Clear or Black.
 Order all hardware separately

Recommended Fastening Hardware (Order Separately)

| Series | Attachment to T-Slot | | Attachment to End of Profile |
|--------|----------------------|--------------------------|------------------------------|
| | Screws | T-Nut | Screws |
| 40 | 24-116-8 | 20-058 | 24-120-8 |
| 28/30 | 24-312-8 | 20-057 | 24-320-8 |
| 1.5" | 25-110-5 | 25-002, 20-082 or 20-182 | 25-112-5 |
| 1" | 25-108-4 | 25-031, 25-034 or 25-036 | 25-112-4 |

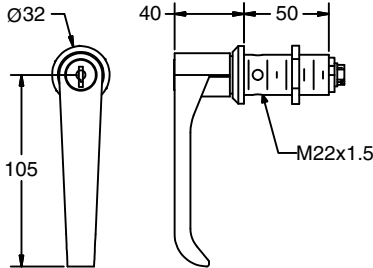
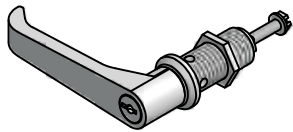
Ordering Information

| Series | Description | Unit | Weight | (Clear) | (Black) |
|--------|----------------------------|------|---------|---------|---------|
| 40 | Pivot Joint | Each | 0.37 kg | 23-010 | 23-010B |
| | Pivot Joint w/Clamp Handle | Each | 0.41 kg | 23-014 | 23-014B |
| 30, 28 | Pivot Joint | Each | 0.11 kg | 23-013 | 23-013B |
| | Pivot Joint w/Clamp Handle | Each | 0.18 kg | 23-015 | 23-015B |
| 1.5" | Pivot Joint | Each | 0.32 kg | 23-262 | |
| | Pivot Joint w/Clamp Handle | Each | 0.41 kg | 23-263 | |
| 1" | Pivot Joint | Each | 0.11 kg | 23-260 | |
| | Pivot Joint w/Clamp Handle | Each | 0.18 kg | 23-261 | |

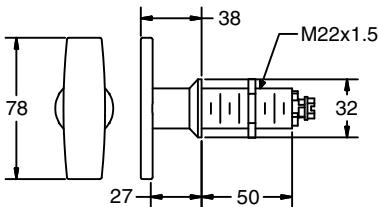
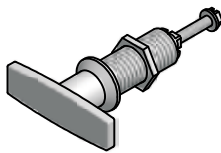


23-014
23-015
23-261
23-263

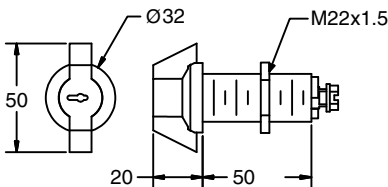
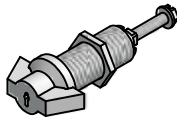
Quarter Turn Extrusion Mount



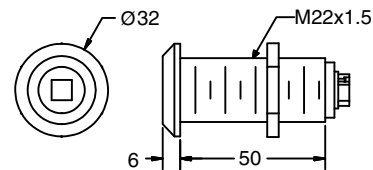
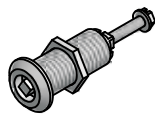
23-038
23-039



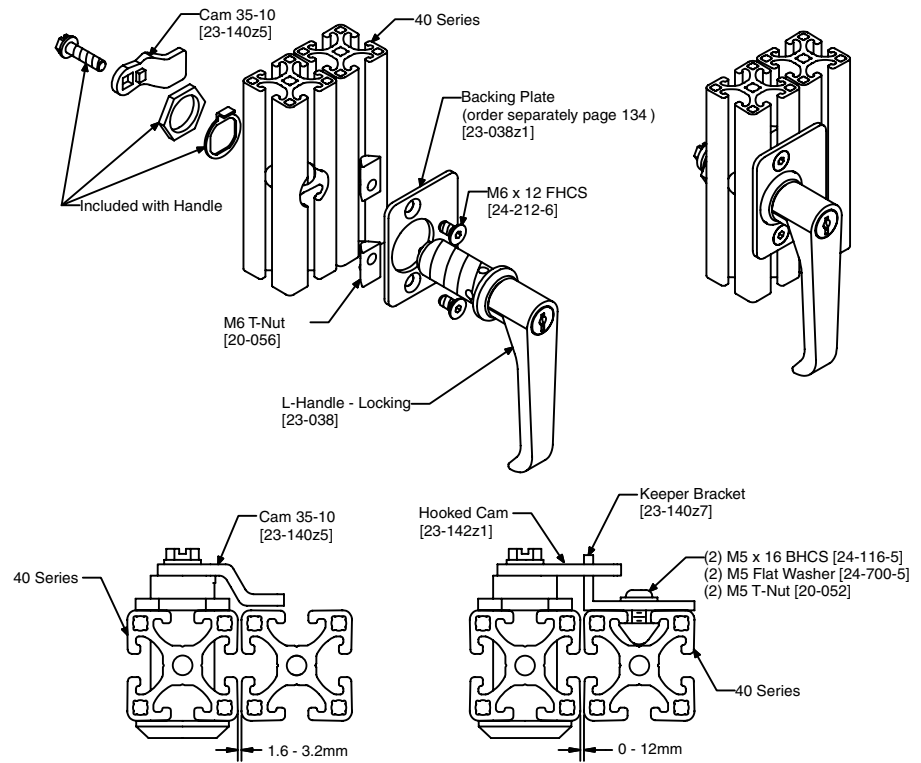
23-133



23-134



23-135



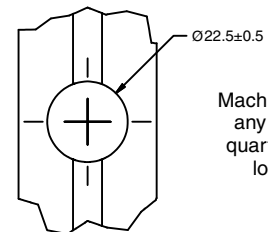
Application

Used for swinging, sliding or bi-fold door applications. Latch mounts through machined hole in extrusion.

Technical Data

Handle: Polyamide, Black

Housing/Insert: Zinc Die Cast, Black Powdercoat.



Machining for any of the quarter turn locks.

Ordering Information

Profile

| Series | Description | Unit | Weight | Part # |
|--------|------------------------------------|------|--------|--------|
| 40 | L-Handle, Locking ^{1*} | Each | 201 g | 23-038 |
| | L-Handle, Non-Locking [*] | Each | 201 g | 23-039 |
| | T-Handle, Non-Locking [*] | Each | 200 g | 23-133 |
| | Wing Knob, Locking ^{1*} | Each | 160 g | 23-134 |
| | Square Insert ^{2,3*} | Each | 50 g | 23-135 |
| 28/30 | L-Handle, Non-Locking [*] | Each | 201 g | 23-041 |
| | L-Handle, Locking ^{1*} | Each | 201 g | 23-040 |

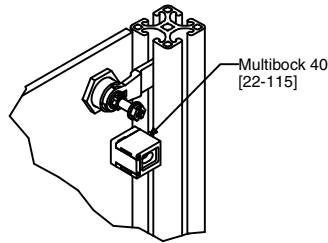
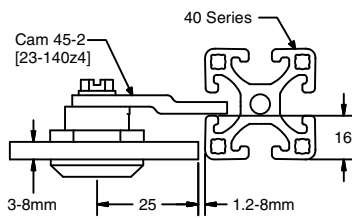
1. All locks come keyed alike except 28 Series; special keying options available as special order.

2. Additional style inserts are available as special orders.

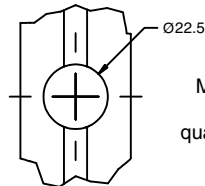
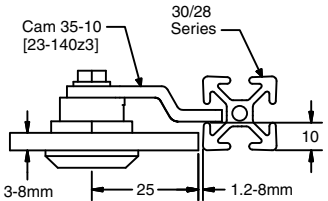
3. Order key separately (see page 138).

* Includes 23-038Z3 Keeper



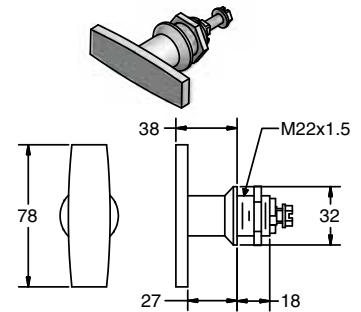


Add a multiblock as a door stop for panel doors.

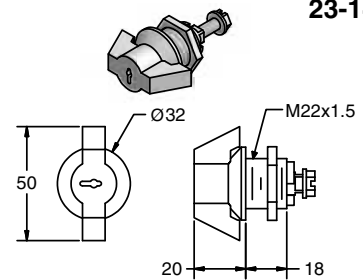


Machining for any of the quarter turn lock.

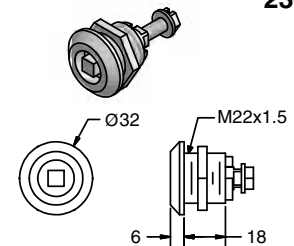
Quarter Turn Panel Mount



23-143



23-144



23-145

Application

Used for swinging or sliding door applications. Latch mounts directly to panel.

Technical Data

Handle: Polyamide, Black
Housing/Insert: Zinc Die Cast, Black Powdercoat.

Ordering Information

Description

- T-Handle, Non-Locking
- Wing Knob, Locking¹
- Square Insert²

| Unit | Weight | Part # |
|------|--------|--------|
| Each | 135 g | 23-143 |
| Each | 90 g | 23-144 |
| Each | 50 g | 23-145 |

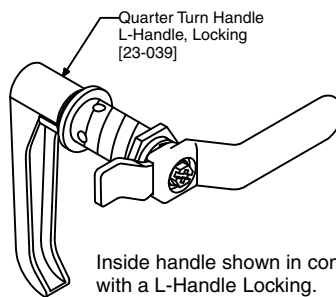
- 1 All Locks come keyed alike; special keying options available as special order.
- 2 Additional style inserts are available as special orders.
3. Order key separately (see page 138).

Application

Can be combined with any of our quarter turn handles to extend operation to inside of door.

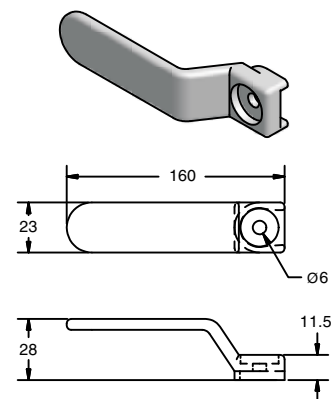
Technical Data

Polyamide, Red
Requires screw and 2 washers.



Inside handle shown in combination with a L-Handle Locking.

Inside Handle



23-159

Suggested Fastening Set (Order Separately)

| With Outside Handle | Screw | Washers |
|------------------------|----------|--------------------|
| 23-038, 23-039, 23-133 | 24-345-6 | 24-707-6, 24-711-6 |
| 23-040, 23-041 | 24-335-6 | 24-707-6, 24-711-6 |

Ordering Information

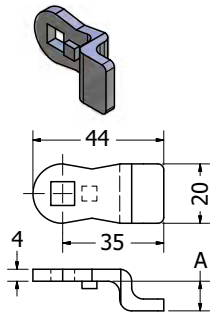
Description

Inside Handle

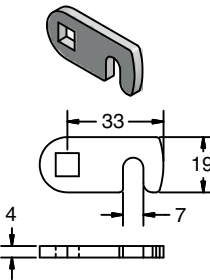
| Unit | Weight | Part # |
|------|--------|--------|
| Each | 0.9 g | 23-159 |



Cams & Keys



23-140z4
23-140z5
23-140z6



23-142z1

Application

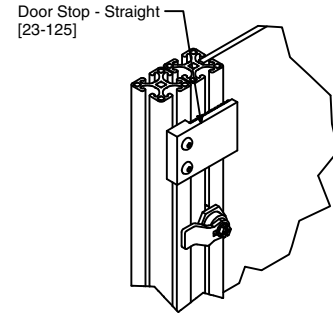
Various cams and keys for the quarter turn latches. You must order one cam per quarter turn lock.

| Part # | Dimension A |
|----------|-------------|
| 23-140Z3 | 8 |
| 23-140Z4 | 2 |
| 23-140Z5 | 10 |
| 23-140Z6 | -2 |

Ordering Information

Description

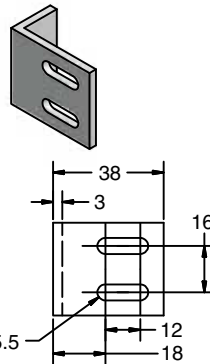
Cam 35-10 (offset 8)
Cam 35-16 (offset 2)
Cam 35-8 (offset 10)
Cam 35-20 (offset -2)
Hooked Cam
Spare Key for 23-038/23-040 & 23-134/23-144
Square Key for 23-135/23-145



Door Stop - Straight [23-125]
Add a door stop to swinging door to create a positive stop.

| Unit | Weight | Part # |
|------|--------|----------|
| Each | 22 g | 23-140Z3 |
| Each | 22 g | 23-140Z4 |
| Each | 18 g | 23-140Z5 |
| Each | 20 g | 23-140Z6 |
| Each | 13 g | 23-142Z1 |
| Each | 4 g | 23-140Z1 |
| Each | 4 g | 23-140Z2 |

Keeper Bracket



23-140z7

Application

Keeper brackets are used with a hooked cam on bi-fold or sliding doors.

Technical Data

Aluminum, Clear Anodized

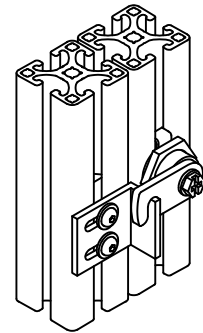
Recommended Hardware (order separately)

| Series | Screw | Washer | T-Nut |
|--------|----------|----------|------------------|
| Metric | 24-116-5 | 24-700-5 | 20-052 |
| Inch | 25-110-2 | 25-700-2 | 25-009 or 25-088 |

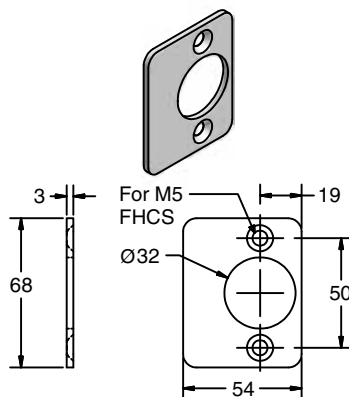
Ordering Information

Keeper Bracket

| Unit | Weight | Part # |
|------|--------|----------|
| Each | 13 g | 23-140z7 |



Backing Plate



23-038z1

Application

Backing plates can be added to a quarter turn latch and provide a positive stop for the door.

Technical Data

Steel, Matte Black Powder Coated

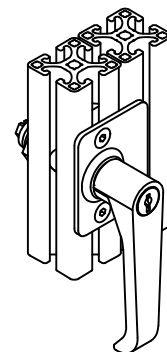
Recommended Fastening Hardware (Order Separately)

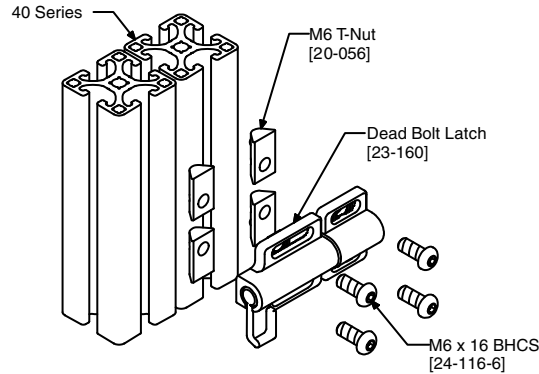
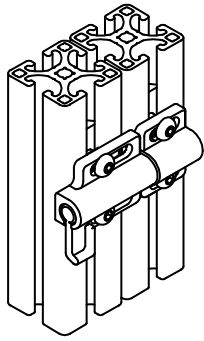
| Screws | T-Nut |
|----------|--------|
| 24-212-5 | 20-052 |

Ordering Information

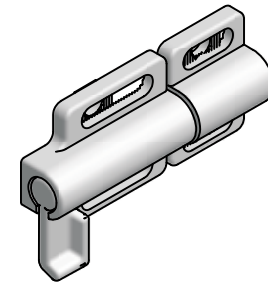
Backing Plate

| Unit | Weight | Part # |
|------|--------|----------|
| Each | 4.5 g | 23-038z1 |

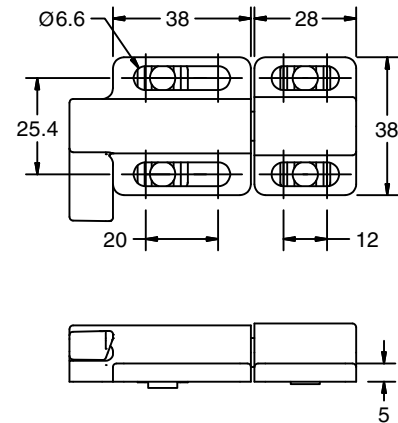




Deadbolt



23-160



Application

Designed to secure doors using a spring loaded latch mechanism. Combine with a door stop for an effective latching solution.

Technical Data

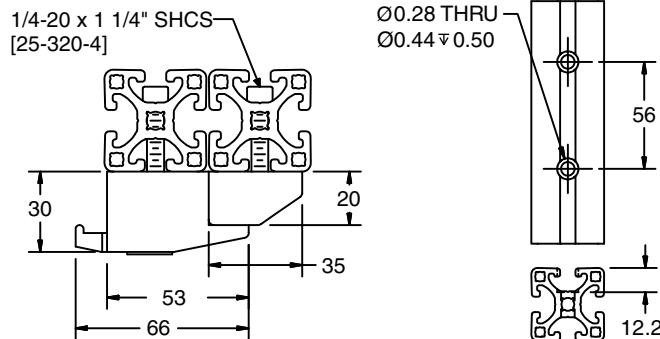
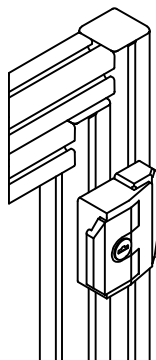
Die-Cast Zinc, Clear

Recommended Hardware (order separately)

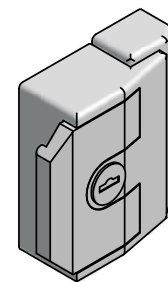
| Profile Series | Screws (4) | T-Nut (4) |
|----------------|------------|--------------------------|
| 40 | 24-116-6 | 20-056 |
| 28/30 | 25-108-4 | 25-031 |
| 1.5" | 25-110-4 | 25-001, 20-083 or 20-193 |
| 1" | 25-108-4 | 25-031, 25-034 or 25-036 |

Ordering Information

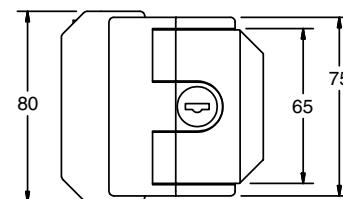
| Series | Description | Unit | Weight | Part # |
|-------------|-----------------|------|--------|--------|
| 40, 30 & 28 | Dead Bolt Latch | Each | 9 g | 23-160 |



Slam Latch



**23-155
 23-156**



Application

High strength latch designed to securely close door to the frame. An optional key locking version is available for extra security.

Technical Data

Die-Cast Zinc, Black

Recommended Fastening Hardware (Order Separately): 25-320-4

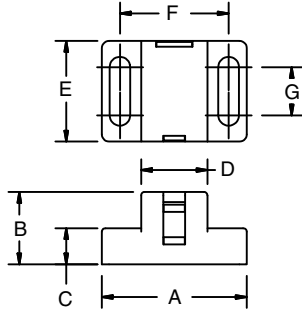
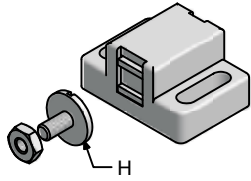
Ordering Information

| Description | Unit | Weight | Part # |
|--------------------------|------|---------|--------|
| Slam Latch - Locking* | Each | 1.25 lb | 23-155 |
| Slam Latch - Non-Locking | Each | 1.25 lb | 23-156 |

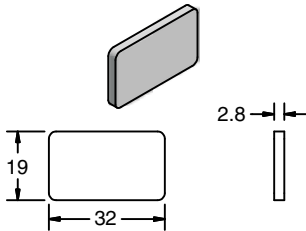
*All locks come keyed alike; special keying options available as special order.



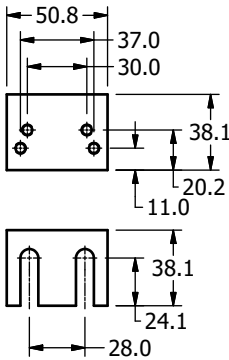
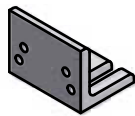
Magnetic Catches



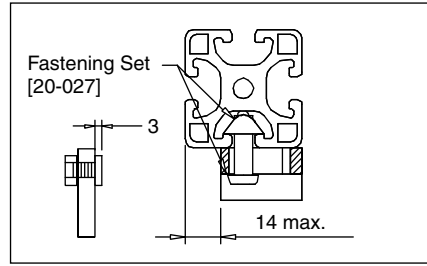
23-045
23-046



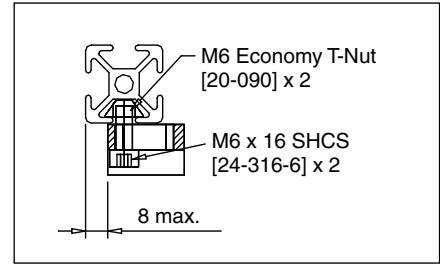
23-051



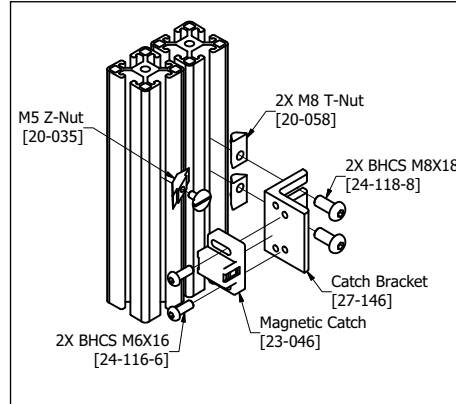
27-146



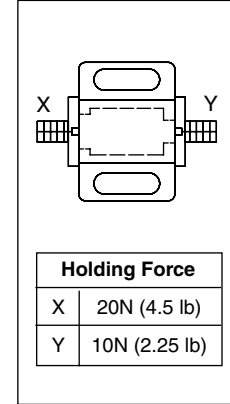
1



2



3



4

- 1 Mounting of 40 Series profile
- 2 Mounting of 28 Series profile
- 3 Assembly of Bracket on 40 Series profile
- 4 Holding force

| Holding Force | |
|---------------|---------------|
| X | 20N (4.5 lb) |
| Y | 10N (2.25 lb) |

Application

Quick catch for swinging or sliding doors. For different holding strengths, rotate catch 180°. Adjustable mounting position using slotted holes and appropriate mounting bracket if needed. Complete with pan head screw, or add optional plate for smooth mounting

Technical Data

Magnetic Catch: Glass Filled Nylon
 Strike Plate: Steel, Zinc Plated with pressure sensitive adhesive backing.
 Mounting Bracket: Aluminum, Clear Anodized.

Recommended Fastening Hardware* (Order Separately)

| Series | Screws | T-Nuts |
|--------|--------------|--------------------------|
| 40 | (2) 24-120-6 | (2) 20-056 |
| 28/30 | (2) 24-316-6 | (2) 20-090 |
| 20 | (2) 24-110-4 | (2) 20-044 |
| 1.5" | 25-112-4 | 25-001, 20-083 or 20-193 |
| 1" | 25-108-2 | 25-030, 20-088 or 25-035 |

Ordering Information

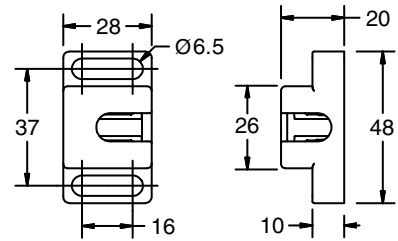
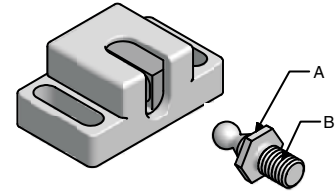
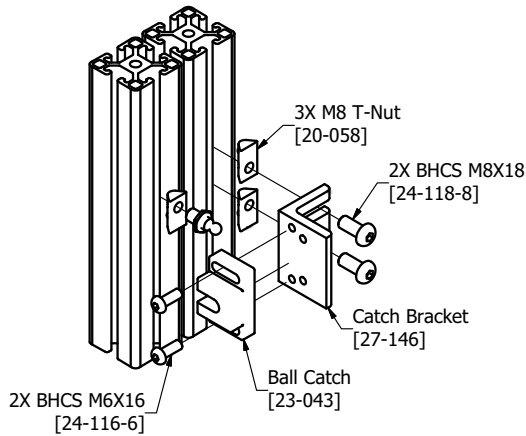
| Series | A | B | C | D | E | F | G | H | Weight | Part # |
|------------------|-------------|----|----|-------|------|----|------|-------|--------|---------------|
| 40, 30, 28, 1.5" | 40 | 20 | 10 | 18.32 | 27.8 | 30 | 12.9 | M5x12 | 38 g | 23-046 |
| 20, 1" | 28 | 14 | 6 | 12 | 17 | 20 | 7.7 | M4x5 | 9 g | 23-045 |
| All | See drawing | | | | | | | | 8 g | 23-051 |

Bracket

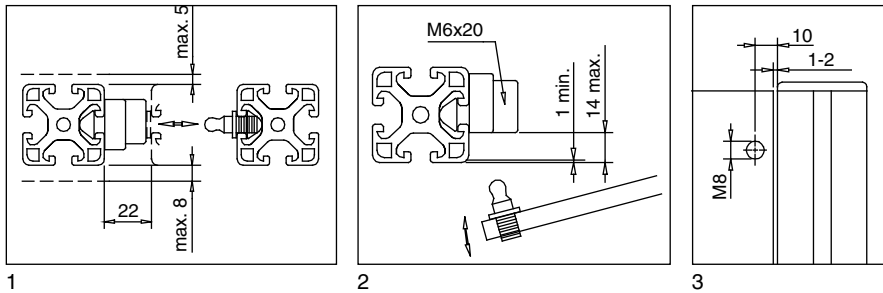
| Use w/Catch | Description | Thread | Unit | Weight | Part # |
|-------------|-------------------|--------|------|--------|---------------|
| 23-046 | Single Bracket 40 | M6 | Each | 60 g | 27-146 |



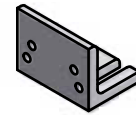
Ball Catch PA



**23-043
 23-121**



- 1 Attachment to a sliding door
- 2 Attachment to a swinging door
- 3 Mounting dimensions



Application

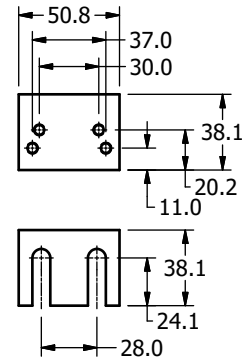
Catch for use on swinging and sliding doors. Brackets can be used to mount the catch in the location that you desire.

Technical Data

Housing: Glass-filled Nylon, Black
 Ball Screw: Stainless Steel
 Bracket: Aluminum, Anodized
 Holding Force: 6.7 - 11 lbs

Recommended Fastening Hardware (Order Separately)

| Part # | Screws | T-Nuts |
|-----------------|-------------------------------|------------------------------------------|
| 23-043 + 27-146 | (2) 24-114-8 and (2) 24-114-6 | (3) 20-058 |
| 23-043 only | (2) 24-114-6 | (1) 20-056 |
| 23-121 + 27-146 | (2) 25-110-5 and (2) 25-112-4 | (2) 25-002 or (1) 25-042 plus (1) 25-001 |



27-146

Ordering Information

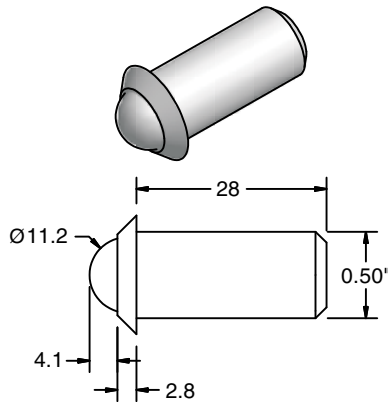
| Series | Description | A (Hex) | B (Thread) | Unit | Weight | Part # |
|---------|-------------|---------|------------|------|--------|---------------|
| 40 | Ball Catch | 13 | M8 | Each | 23 g | 23-043 |
| 40/1.5" | Ball Catch | 1/2" | 1/4-20 | Each | 29 g | 23-121 |

Bracket

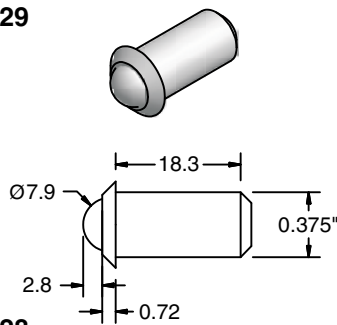
| Description | Thread | Unit | Weight | Part # |
|-----------------------|--------|------|--------|---------------|
| Catch Bracket 40/1.5" | M6 | Each | 60 g | 27-146 |



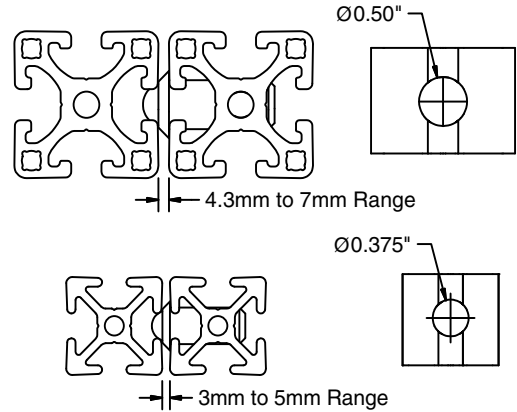
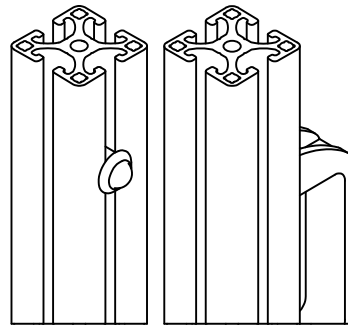
Ball Plungers



23-129



23-128



Application

An economical solution to hold swinging doors closed. The ball plunger presses easily into a machined hole in the extrusion, and the force of the ball in combination with a T-Slot on the door frame holds the door closed.

Ordering Information

| Profile Series | Description |
|----------------|--------------------------------|
| 40, 30 | Ball Plunger, 1/2" Dia. x 28mm |
| 28 | Ball Plunger, 3/8" Dia x 18mm |

* Requires service 19-022

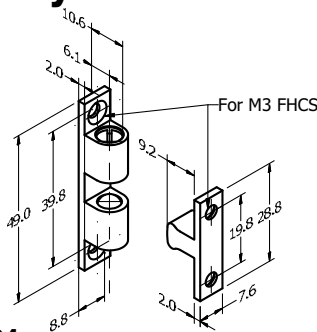
Technical Data

Housing: Steel, Black Oxide
Ball: Nylon

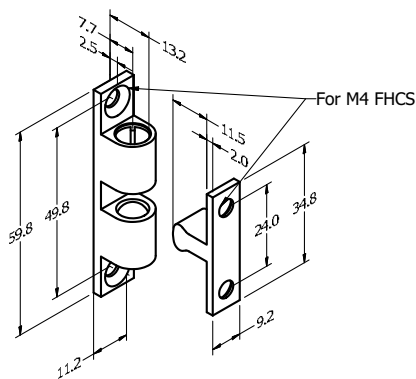
| Part# | Holding Force |
|--------|---------------|
| 23-128 | 5-14 lbs. |
| 23-129 | 8-18 lbs. |

| Unit | Weight | Part # |
|------|--------|---------|
| Each | 22.7 g | 23-129* |
| Each | 13.6 g | 23-128* |

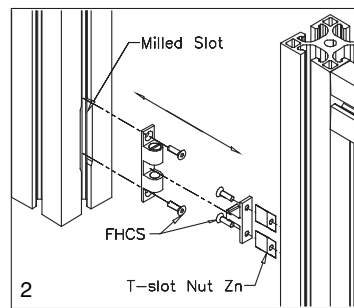
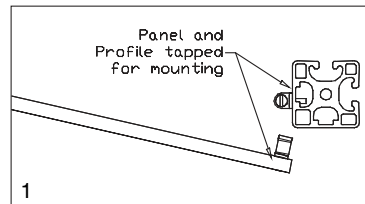
3-Way Ball Catch



23-004



23-012

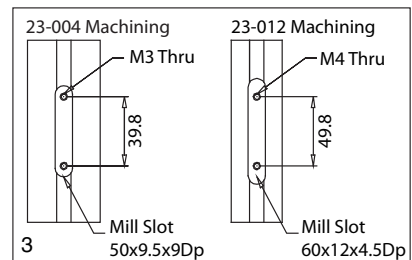


Application

Universal door catch for swinging and sliding doors in small and medium load ranges. Can be mounted in serviced slot for flush closing.

Description

| |
|--------------------------|
| 3-Way Ball Catch, Small |
| 3-Way Ball Catch, Medium |



- 3-Way Ball Catch on swinging door
- 3-Way Ball Catch on sliding door
- Servicing of the slot for 23-004 on 40 Std or 28/30 series profiles for sliding doors. For 40 series Heavy or Light profiles mill slot 58x9.5x12.3 Dp.

Technical Data

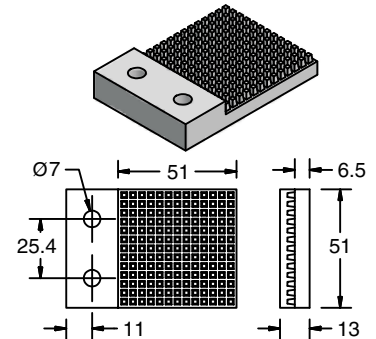
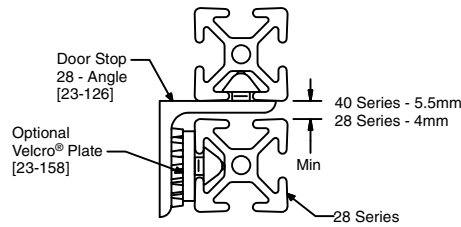
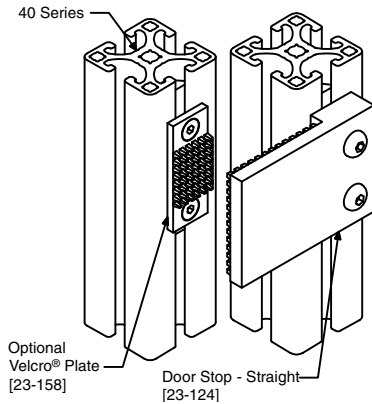
Brass, chrome finish with two steel balls for adjustable spring tension

Order all hardware separately

| | |
|---------------|--------------|
| Part # 23-004 | (4) 24-210-3 |
| Part # 23-012 | (4) 24-208-4 |

| Unit | Weight | Part # |
|-------|--------|--------|
| 1 set | 26 g | 23-004 |
| 1 set | 40 g | 23-012 |

Light Duty Door Stops



23-124

Application

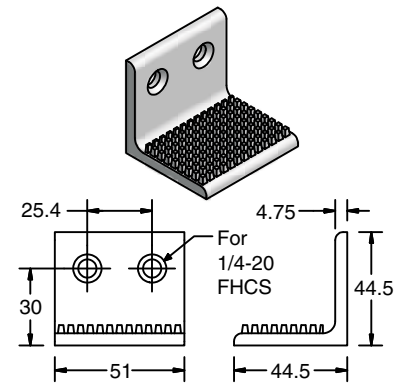
Door Stops provide a positive stop to keep the door lined up with a frame. An optional Velcro® plate can be added to create a light-duty catch.

Technical Data

Aluminum, Clear Anodized with Velcro® Pad

Recommended Fastening Hardware (Order Separately)

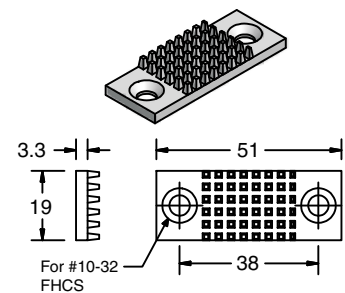
| Profile Series | Fastener | Part # 23-124 | Part # 23-125 | Part # 23-158 |
|----------------|----------|------------------|------------------|------------------|
| 40/30 1.5" | Screws | 25-114-4 | 25-210-4 | 25-208-2 |
| | T-Nuts | 25-001 or 20-083 | 25-001 or 20-083 | 25-009 or 20-088 |
| 28 | Screws | 25-112-4 | 25-208-4 | 25-208-2 |
| | T-Nuts | 25-055 | 25-055 | 20-038 |
| 1" | Screws | 25-112-4 | 25-206-2 | 25-206-2 |
| | T-Nuts | 25-031 or 25-034 | 25-030 or 25-035 | 25-030 or 25-035 |



23-125

Ordering Information


| Description | Unit | Weight | Part # |
|--------------------------|------|--------|--------|
| Door Stop - Straight | Each | 91 g | 23-124 |
| Door Stop 40, 30 - Angle | Each | 91 g | 23-125 |
| Velcro® Plate | Each | 9 g | 23-158 |



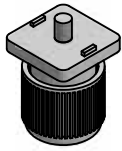
23-158*

* For wider surfaces, use 22-145 and apply velcro strip. Order hardware separately.

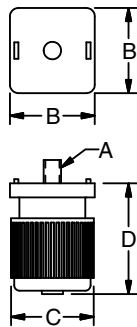
Section 6 Feet & Casters

| | | | | | |
|------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------|------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|
| Leveling Feet Anti-Vibration Bolt Down | 156-157 158 158 |  | Flange Feet | 165 |  |
| Knuckle Feet | 159-160 |  | Hollow King Pin Casters | 167 |  |
| Knuckle Foot Accessories Rubber Insert Clamping Shoe | 161 161 |  | Threaded Casters | 168 |  |
| Corner Mounting Plate | 161 |  | Top Plate Casters | 169 |  |
| L-Base Leveling Foot Floor Anchor | 162 162 |  | Floor Lock | 169 |  |
| Floor Brackets Economy Floor Brackets | 163 164 |  | Adapter Plates Base Plates Base Plates (SMART) | 170 171 172 |  |

Leveling Foot



21-001
21-001-30

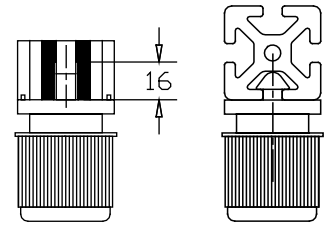


Application

For leveling tables and light equipment stands. Ratchet-type adjustment on 21-001 requires no tools. 21-001-30 is height adjustable by hand or with tools.

Technical Data

21-001
Base - Glass-filled nylon (Black)
Spindle, nut & disk – Steel, Galvanized
Mounts to end of 40 Series profile with machining 19-012. Fastens to T-Slot using 40 Series T-Nuts



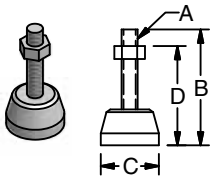
21-001-30

Base - Glass-filled nylon (Black)
Spindle, nut & disk – Steel, Zinc Plated
Mounts to end of 30 Series profile with machining 19-012. Fastens to T-Slot using 30 Series T-Nuts

Ordering Information

| Series | A | B | C | Dmin | Dmax | Max Load N (lbs) | Weight (g) | Part # |
|--------|-------|----|----|------|------|------------------|------------|-----------|
| 40 | M8x16 | 40 | 39 | 40 | 65 | 1500 (337) | 68 | 21-001 |
| 30 | M8x16 | 30 | 30 | 37 | 50 | 1500 (337) | 47 | 21-001-30 |

Leveling Foot 20



21-007

Application

For leveling of light duty structures constructed of 20 series profiles

Technical Data

Base - Glass-filled nylon (Black)
Spindle, nut & disk – Steel, Zinc Plated

Ordering Information

| Profile Series | Dimensions | | | | | Max Load N (lbs) | Weight (g) | Part # |
|----------------|------------|----|----|------|------|------------------|------------|--------|
| | A | B | C | Dmin | Dmax | | | |
| 20 | M5 | 37 | 18 | 12 | 27 | 1000 (225) | 12 | 21-007 |

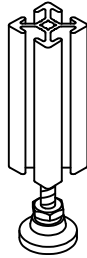
Mounts to end of 20 Series profile with machining 19-012
Fastens to T-Slot using 20 Series T-Nuts

Application

For leveling of light duty structures.
Constructed with a delrin base to protect the surface against scratching.

Technical Data

Base: Delrin (White)
Stud: Steel, Black

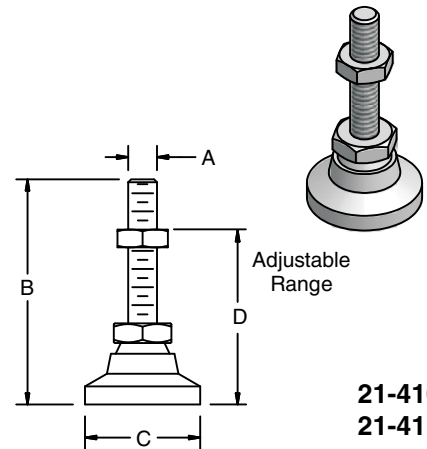


Ordering Information

| Profile Series | Dimensions | | | | | Load (kg) | Weight (g) | Part # |
|----------------|------------|-------|-------|-------|-------|-----------|------------|--------|
| | A | B | C | D min | D max | | | |
| 1" | 1/4-20 | 1.94" | 1.00" | 0.70" | 1.44" | 91 | 27 | 21-410 |
| 1.5", 1" | 3/8-16 | 2.88" | 1.25" | 0.88" | 2.38" | 136 | 54 | 21-411 |

Dmin is without nut.
21-411 can be used on either 1" or 1.5" Profiles with a baseplate.

Leveling Feet



21-410
21-411

Application

For leveling of structures with high load capacity.

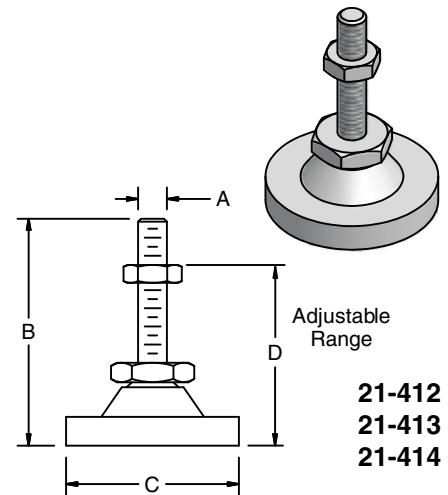
Technical Data

Steel

Ordering Information

| Profile Series | Dimensions | | | | | Load (kg) | Weight (g) | Part # |
|----------------|------------|-------|-------|--------|-------|-----------|------------|--------|
| | A | B | C | D min | D max | | | |
| 1" | 1/4-20 | 1.94" | 1.00" | 0.625" | 1.44" | 454 | 45 | 21-412 |
| 1.5", 1" | 3/8-16 | 2.88" | 1.25" | 0.88" | 2.38" | 1704 | 100 | 21-413 |
| | 1/2-13 | 3.13" | 1.88" | 1.13" | 2.63" | 2273 | 218 | 21-414 |

Dmin is without nut.
21-413 & 21-414 can be used on either 1" or 1.5" Profiles with a baseplate.



21-412
21-413
21-414

Application

For leveling of heavy duty structures constructed of 80 x 80 profiles

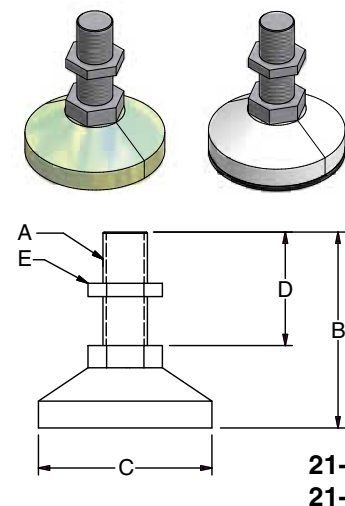
Technical Data

Base: 21-015: Nylon with Non-skid Pad
Spindle & Nut: Steel, Yellow Zinc Plated
Base: 21-224: Yellow Zinc Plated Steel
Spindle & Nut: Steel, Yellow Zinc Plated

Ordering Information

| Profile Series | Dimensions | | | | | Load (kg) | Weight (g) | Part # |
|----------------|------------|----|----|----|----|-----------|------------|--------|
| | A | B | C | D | E | | | |
| 40 | M20 | 89 | 51 | 76 | 27 | 818 | 326 | 21-015 |
| 40 | M20 | 89 | 51 | 76 | 27 | 3350 | 771 | 21-224 |

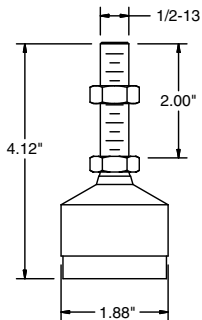
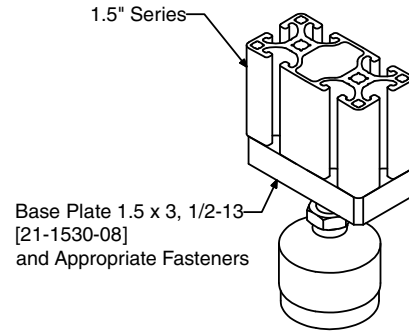
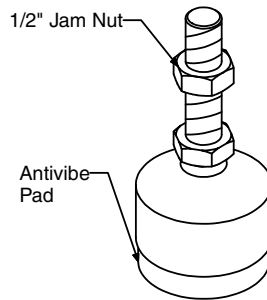
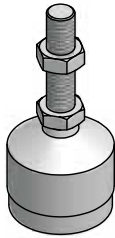
Note: Mounts to end of 80x80 profile with machining 19-010 (4 times) and mounted to base plate 21-028



21-015
21-224



Anti-Vibration



21-422
21-423
21-424

Application

Leveling foot with an anti-vibration pad to reduce transmitted vibration for high precision machinery.

You should use the mount which has the maximum load range which comes closest to the specific weight required for your need. This will reduce 98% of the transmitted vibration on most machinery.

Technical Data

Low Carbon Steel
Yellow Zinc Plated
Anti-Vibration Pad Rubber

| Part # | Max Load per Mount |
|--------|--------------------|
| 21-422 | 120 |
| 21-423 | 240 |
| 21-424 | 2400 |

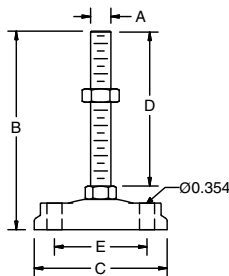
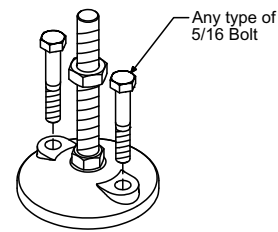
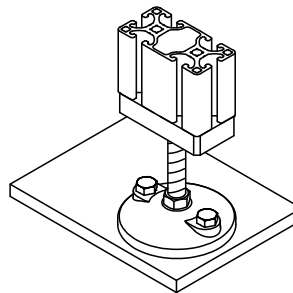
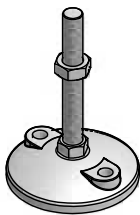
Ordering Information

Description

Anti-Vibe 1/2-13, Light
Anti-Vibe 1/2-13, Medium
Anti-Vibe 1/2-13, Heavy

| Unit | Weight | Part # |
|------|---------|--------|
| Each | 0.37 kg | 21-422 |
| Each | 0.37 kg | 21-423 |
| Each | 0.30 kg | 21-424 |

Bolt Down



21-420
21-421

Application

Leveling foot with holes to allow you to bolt structure directly to the floor or desired surface.

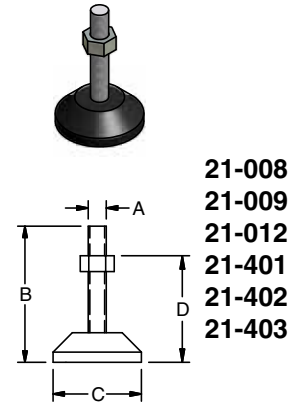
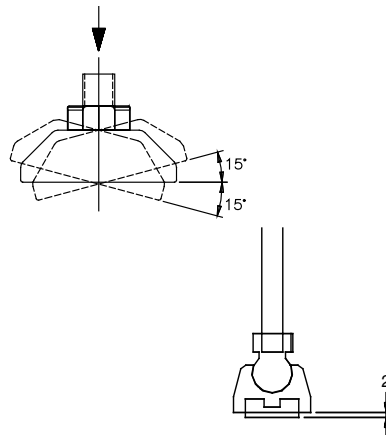
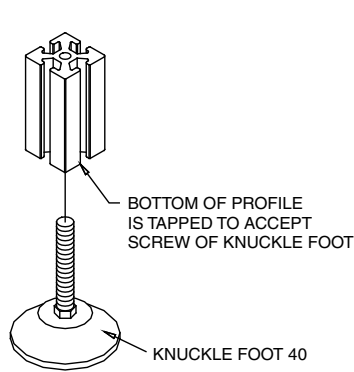
Technical Data

Base - Glass filled Nylon, Black
Thread & Nut - Steel Galvanized, Black
Max Load - 1100 lbs

Ordering Information

| Dimensions | | | | | Weight (kg) | Part # |
|------------|------|------|------|------|----------------|--------|
| A | B | C | D | E | | |
| 1/2 -13 | 3.94 | 3.15 | 2.60 | 2.17 | 0.22 | 21-420 |
| 5/8-11 | 3.94 | 3.94 | 2.60 | 2.91 | 0.27 | 21-421 |

Knuckle Foot



Application

Adjustable height leveling foot for heavy and medium structures such as machine bases and assembly tables.

For 1" Series, a base plate must be used. See page 172.

Technical Data

Base - Glass-filled nylon (Black)
 Spindle, nut & disk – Steel, Galvanized
 Self-aligning leveling adjustment has a maximum tilt of 15° via ball and socket.

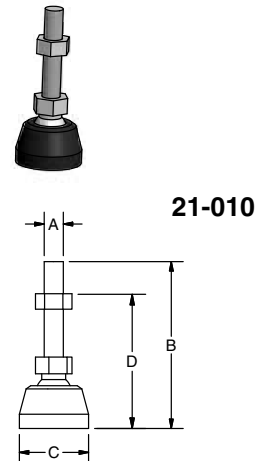
Ordering Information

| Profile Series | Dimensions | | | | | Max Load N (lbs) | Weight (g) | Part # |
|----------------|------------|-------|-------|-------|-------|------------------|------------|--------|
| | A | B | C | Dmin | Dmax | | | |
| 40 | M8 | 60 | 39 | 32 | 50 | 1500 (337) | 37 | 21-008 |
| | M8 | 80 | 39 | 32 | 65 | 1500 (337) | 43 | 21-009 |
| | M10 | 80 | 39 | 34 | 65 | 1500 (337) | 66 | 21-012 |
| 28/30 | M8 | 70 | 29 | 30 | 58 | 3000 (674) | 20 | 21-010 |
| 1.5" | 5/16-18 | 2.40" | 1.50" | 1.31" | 2.00" | 1500 (337) | 36 | 21-401 |
| | 5/16-18 | 3.15" | 1.50" | 1.31" | 2.50" | 1500 (337) | 41 | 21-402 |
| 1" | 3/8-16 | 3.15" | 1.50" | 1.38" | 2.50" | 1500 (337) | 68 | 21-403 |

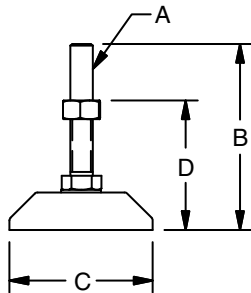
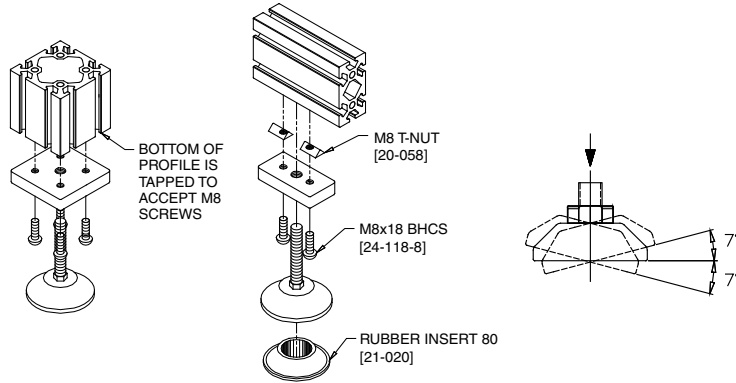
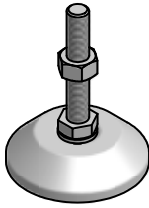
M8 or 5/16-18 thread mounts to end of profiles with machining 19-016.

M10 or 3/8-16 thread mounts to end of 40 Series profiles with machining 19-017.

Fastens to T-slot using 30 Series T-nuts.



Knuckle Foot 80 Knuckle Foot 1.5



Application

Adjustable height leveling foot for heavy duty structures. Require appropriate base plate for mounting.

Technical Data

Base – Zinc Cast
Spindle & Nut - Steel, Galvanized

Ordering Information

| Series | A | B | C | Dmin | Dmax | Max Load N (lbs) | Weight (kg) | Part # |
|--------|-----|-----|----|------|------|------------------|-------------|--------|
| 40 | M12 | 100 | 76 | 41 | 80 | 10,000 (2250) | 0.29 | 21-013 |
| | M12 | 160 | 76 | 41 | 140 | 10,000 (2250) | 0.33 | 21-014 |
| | M16 | 100 | 76 | 45 | 80 | 10,000 (2250) | 0.36 | 21-016 |
| | M16 | 160 | 76 | 45 | 140 | 10,000 (2250) | 0.44 | 21-018 |

Mounts to end of 40 Series profile with M12 or M16 machining 19-014

| Series | A | B | C | Dmin | Dmax | Max Load N (lbs) | (kg) | Part # |
|--------|--------|------|------|------|------|------------------|------|--------|
| 1.5" | 1/2-13 | 4.00 | 3.00 | 1.63 | 3.15 | 10,000 (2250) | 0.29 | 21-404 |
| | 1/2-13 | 6.30 | 3.00 | 1.63 | 5.50 | 10,000 (2250) | 0.33 | 21-405 |
| | 5/8-11 | 4.00 | 3.00 | 1.81 | 3.15 | 10,000 (2250) | 0.36 | 21-406 |
| | 5/8-11 | 6.30 | 3.00 | 1.81 | 5.50 | 10,000 (2250) | 0.44 | 21-407 |

Application

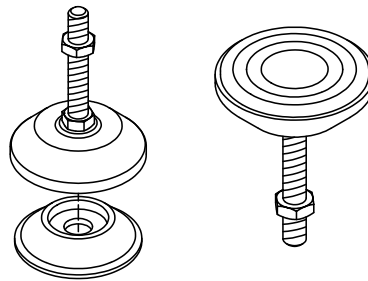
For vibration-dampening and floor protection with the Knuckle Foot 80 or Knuckle Foot 1.5.

Technical Data

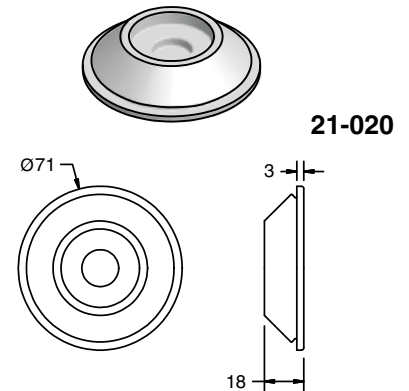
Rubber (Black)
 Hardness 80° Shore A
 Oil and water resistant

Ordering Information

| Description | Unit | Weight | Part # |
|------------------|------|--------|--------|
| Rubber Insert 80 | Each | 50 g | 21-020 |



Rubber Insert



Application

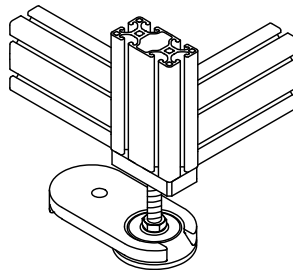
Clamps Knuckle Foot 80 or Knuckle Foot 1.5 to Floor

Technical Data

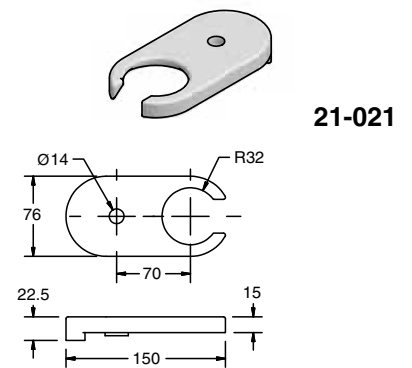
Zinc, Black Powder-coat
 3000 kg Max Load

Ordering Information

| Description | Unit | Weight | Part # |
|---------------------|------|---------|--------|
| Clamping Shoe 80 | Each | 0.47 kg | 21-021 |
| Floor Fastening Set | Each | 0.50 kg | 21-032 |



Clamping Shoe



Application

Mounting plate for knuckle feet for leveling structures and/or permanent placement of structures.

Technical Data

Aluminum, Black Finish

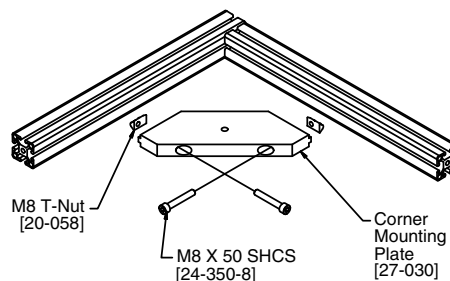
**Recommended Fastening Hardware
 (Sold Separately)**

| Series | Screws | T-Nuts | Set |
|--------|--------------|------------|---------|
| 40 | (2) 24-350-8 | (2) 20-058 | 21-031M |
| 1.5" | (2) 25-332-5 | (2) 25-002 | 21-031E |

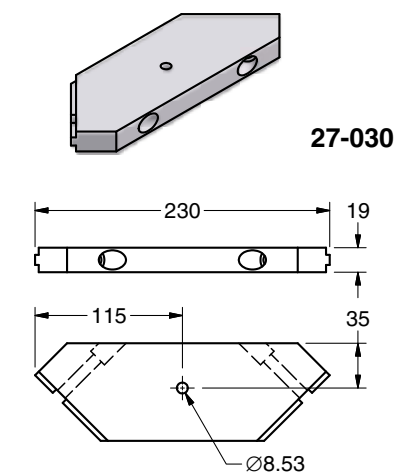
Ordering Information

| Series | Description | Unit | Weight | Part # |
|---------|---------------------------------|------|---------|---------|
| 40/1.5" | Corner Mounting Plate* | Each | 0.75 kg | 27-030 |
| | Profile Fastening Set (Metric) | Set | 60 g | 21-031M |
| | Profile Fastening Set (English) | Set | 60 g | 21-031E |
| | | | | 19-014 |

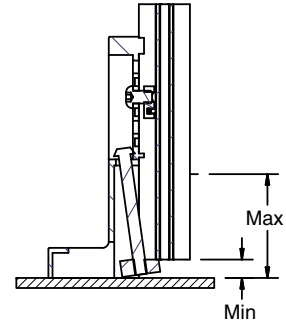
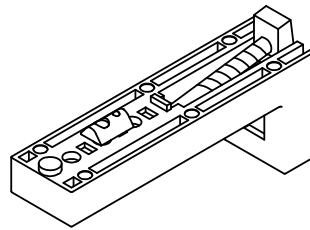
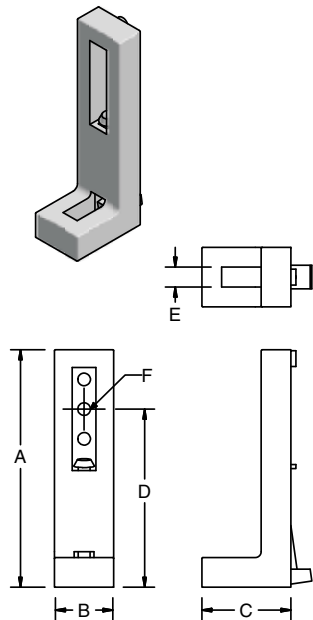
* Requires tap service on Ø8.5mm hole



Corner Mounting Plate



Leveling Foot



Application

Leveling foot for light and heavy duty equipment. Height is adjustable by leveling screw, which is accessed from the top.

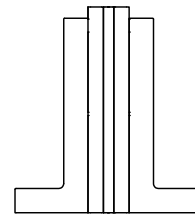
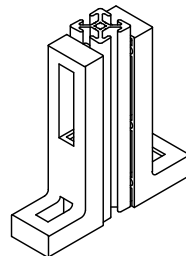
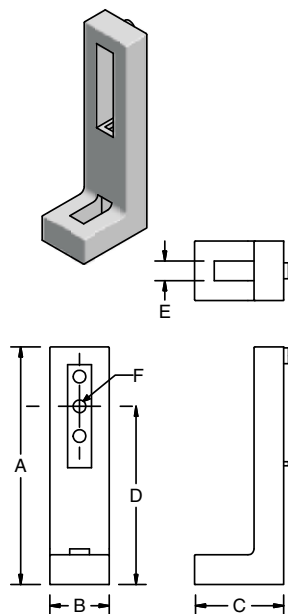
Technical Data

21-022
Base – Zinc Cast, Black Powdercoat
Max Vertical Load – 10,000N (2,250 lbs)
All fastening hardware to attach to profile is included.

Ordering Information

| Profile Series | Dimensions | | | | | | Adjustment | | Wt. (kg) | Part # |
|----------------|------------|-------|-------|-------|--------|--------|------------|--------|----------|-----------|
| | A | B | C | D | E | F | Min | Max | | |
| 40 | 160 | 40 | 60 | 120 | 10 | 8.3 | 10 | 75 | 0.28 | 21-022 |
| 30 | 120 | 30 | 45 | 81 | 10 | 8.3 | 8.5 | 31 | 0.22 | 21-022-30 |
| 28 | 120 | 30 | 45 | 81 | 10 | 6.4 | 8.5 | 31 | 0.22 | 21-022-28 |
| 1.5" | 6.30" | 1.57" | 0.36" | 4.72" | 0.394" | 0.331" | 0.394" | 2.00" | 0.28 | 21-415 |
| 1" | 4.72" | 1.18" | 1.77" | 3.19" | 0.394" | 0.252" | 0.335" | 1.125" | 0.22 | 21-416 |

Floor Anchor



Application

For attachment of light equipment to floors or mounting surface

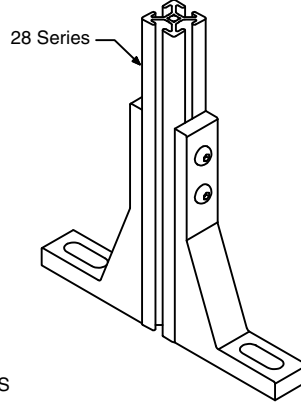
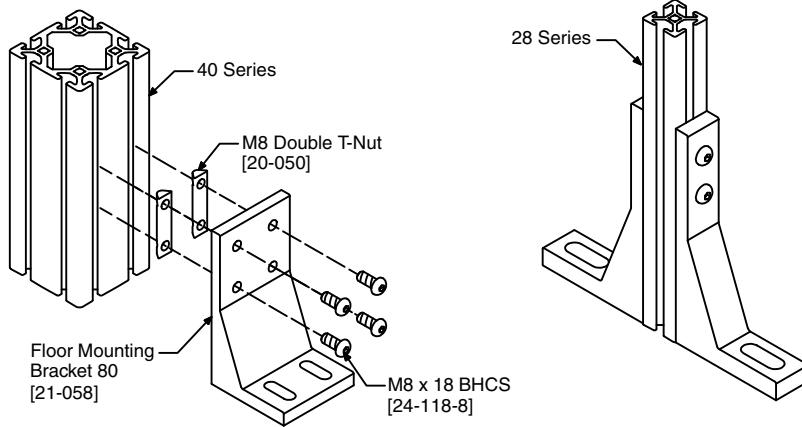
All fastening hardware to attach to profile is included.

Technical Data

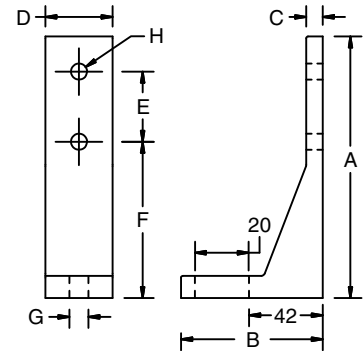
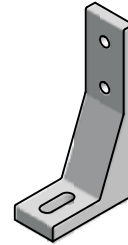
Zinc Cast, Black Powdercoat
Includes all fastening hardware.

Ordering Information

| Profile Series | Dimensions | | | | | | Weight (kg) | Part # |
|----------------|------------|-------|-------|-------|--------|--------|-------------|-----------|
| | A | B | C | D | E | F | | |
| 40 | 160 | 40 | 60 | 120 | 10 | 8.3 | 0.28 | 21-023 |
| 30 | 120 | 30 | 45 | 81 | 10 | 8.3 | 0.22 | 21-023-30 |
| 28 | 120 | 30 | 45 | 81 | 10 | 6.4 | 0.22 | 21-023-28 |
| 1.5" | 6.30" | 1.57" | 2.36" | 4.72" | 0.394" | 0.331" | 0.28 | 21-060 |
| 1" | 4.72" | 1.18" | 1.77" | 3.19" | 0.394" | 0.252" | 0.22 | 21-061 |



Floor Mounting Brackets



27-057
27-059

Application

Economical bracket for mounting structures to floor or mounting surface

Technical Data

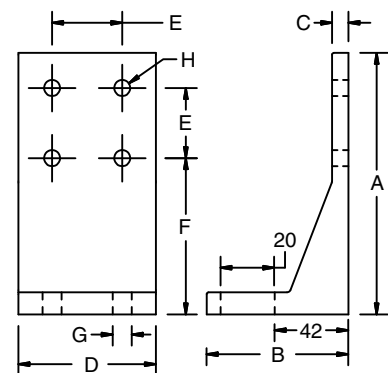
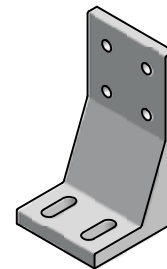
Aluminum, Clear Anodized
 Metric series hole dia. is 8.8mm.
 Inch series hole dia. is 0.28".

Recommended Hardware

| Series | Screws | T-Nuts | Double T-Nuts* |
|--------|----------|--------------------------|------------------|
| 40 | 24-118-8 | 20-058 | 20-050 |
| 30 | 24-118-8 | 20-058 | 20-050 |
| 28 | 24-116-8 | 20-057 or 20-091 | — |
| 1.5" | 25-112-5 | 25-002, 20-082 or 20-182 | 25-041 or 25-046 |
| 1" | 25-110-4 | 25-031 or 25-034 | — |

Ordering Information

| Series | A | B | C | D | E | F | G | ∅H | Wt. (kg) | Part # |
|-----------|-----|----|---|------|------------|----|----|--------|----------|---------------|
| 40, 1.5" | 142 | 77 | 9 | 38 | 40 | 82 | 10 | 10 | 0.28 | 27-057 |
| | 142 | 77 | 9 | 76 | 40 | 82 | 10 | 10 | 0.57 | 27-058 |
| 30/28, 1" | 142 | 77 | 9 | 28 | 28 25.4 | 82 | 10 | 9 7 | 0.19 | 27-059 |
| | 142 | 77 | 9 | 50.8 | 28 25.4 | 82 | 10 | 9 7 | 0.35 | 27-060 |



27-058
27-060

Economy Floor Mounting Brackets

Application

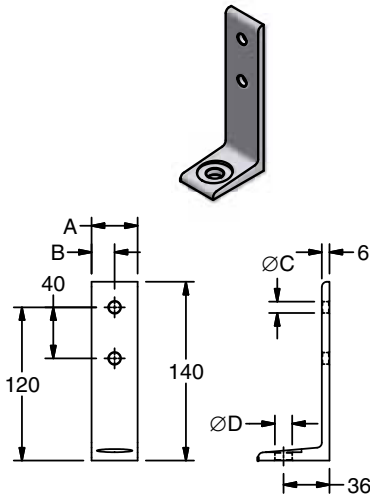
Economical light duty floor mounting brackets for 20, 30, 40, 1" and 1.5" Series profiles. Securely mounts structures to floor or mounting surface.

Technical Data

Aluminum, Anodized

Recommended Hardware

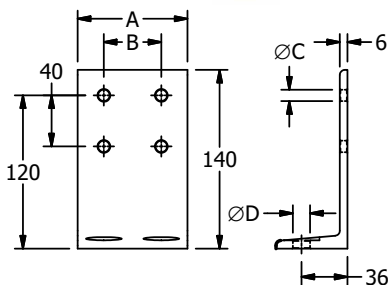
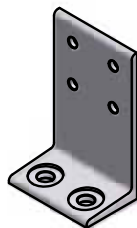
| Series | Screws | T-Nuts |
|--------|----------|------------------|
| 40 | 24-116-8 | 20-058 or 20-081 |
| 30 | 24-114-6 | 20-056 or 20-090 |
| 20 | 24-112-5 | 20-045 or 20-085 |
| 1.5" | 25-112-5 | 25-002 or 20-082 |
| 1" | 25-108-4 | 25-031 or 25-034 |



- 28-501
- 28-502
- 28-503
- 28-504
- 28-505

Ordering Information

| Profile | Style | A | B | ØC | ØD | Weight | Part # |
|---------|--------|------|------|-----|------|--------|--------|
| 40 | Single | 36.0 | 18.0 | 9.0 | 13.5 | 115 g | 28-505 |
| | Double | 76.0 | 40.0 | 9.0 | 13.5 | 245 g | 28-510 |
| 30 | Single | 27.0 | 13.5 | 7.0 | 11.0 | 87 g | 28-503 |
| | Double | 57.0 | 30.0 | 7.0 | 11.0 | 185 g | 28-508 |
| 20 | Single | 18.0 | 9.0 | 5.5 | 9.0 | 60 g | 28-501 |
| | Double | 38.0 | 20.0 | 5.5 | 9.0 | 125 g | 28-506 |
| 1.5" | Single | 34.0 | 17.0 | 9.0 | 13.5 | 108 g | 28-504 |
| | Double | 72.0 | 38.0 | 9.0 | 13.5 | 230 g | 28-509 |
| 1" | Single | 23.0 | 11.5 | 7.0 | 9.0 | 75 g | 28-502 |
| | Double | 48.0 | 25.1 | 7.0 | 9.0 | 156 g | 28-507 |



- 28-506
- 28-507
- 28-508
- 28-509
- 28-510

Application

Heavy duty flange foot for attaching structures to floor. Tapped holes in base can be used for leveling.

Universal Flange Feet are machined to accommodate both the 40 and 1.5" Series profiles only.

Technical Data

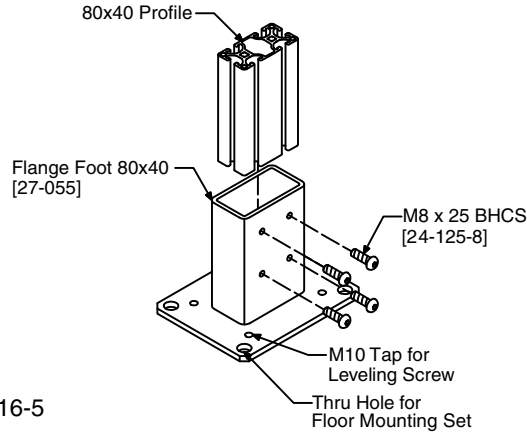
Steel, Black Finish

Order Hardware Separately

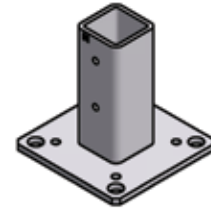
For clamping Profile use 24-125-8 or 25-116-5

For Leveling use 24-525-10F

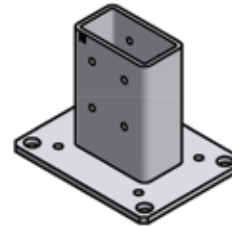
Floor Fastening Set 21-032 includes wedge anchor, washer and hex nut.



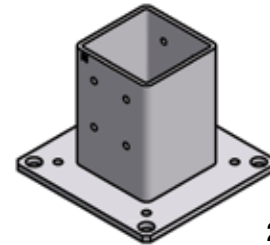
Flange Feet



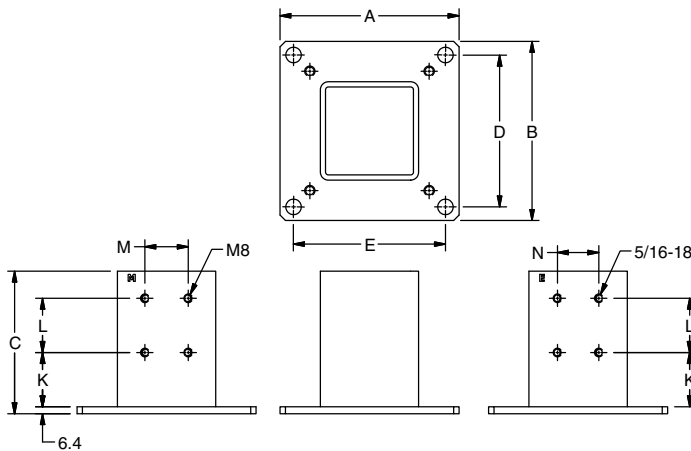
27-050



27-055



27-056



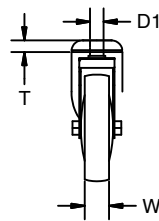
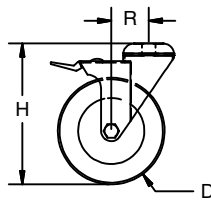
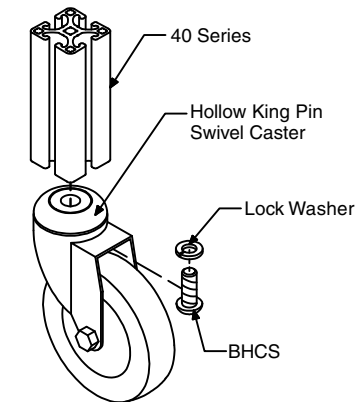
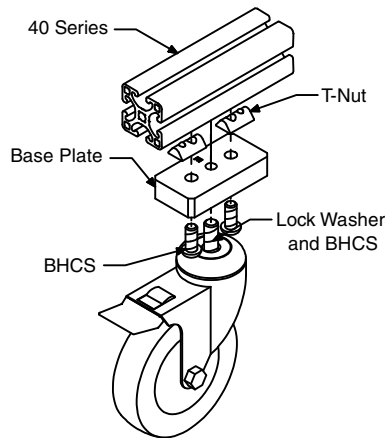
Ordering Information

| Profile Size | Dimensions (mm) | | | | | | | | | | Weight (kg) | Part # |
|------------------------|-----------------|-----|-----|-----|-----|------|----|----|----|------|-------------|---------------|
| | A | B | C | D | E | F | K | L | M | N | | |
| 40 x 40 1.5" x 1.5" | 125 | 125 | 128 | 100 | 100 | 14.3 | 50 | 50 | — | — | 1.55 | 27-050 |
| 80 x 40 3" x 1.5" | 165 | 127 | 125 | 100 | 140 | 14.3 | 50 | 50 | 40 | 38.1 | 2.19 | 27-055 |
| 80 x 80 3" x 3" | 165 | 165 | 125 | 140 | 140 | 14.3 | 25 | 50 | 40 | 38.1 | 2.79 | 27-056 |

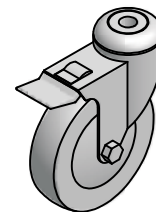
Caster Quick Reference

| Type | | Load Capacity kg (lbs) | Wheel | Wheel Dia. (mm) | Wheel Width (mm) | Total Height (mm) | Wheel Center | Weight (kg) | Part # |
|--------------------|----------|---------------------------|-------------------------|-----------------------|------------------------|-------------------------|---------------|----------------|--------|
| Hollow King Pin | Swivel | 40 (88) | Rubber Grey Non-Marking | 50 | 19 | 68 | Pressed Steel | 0.21 | 21-300 |
| | Swivel | 40 (88) | Rubber Grey Non-Marking | 50 | 19 | 68 | Pressed Steel | 0.24 | 21-301 |
| | Swivel | 80 (175) | Neoprene Rubber, Black | 75 | 25 | 100 | Pressed Steel | 0.39 | 21-310 |
| Threaded Stem | Swivel | 91 (200) | Hard Rubber | 125 | 32 | 162 | Solid Rubber | 1.04 | 21-314 |
| | Swivel | 91 (200) | Hard Rubber | 125 | 32 | 162 | Solid Rubber | 1.2 | 21-315 |
| | Leveling | 600 (set of 4) | Nylon | 50 | 18 | 82 | Pressed Steel | 0.8 | 21-323 |
| | Leveling | 1200 (set of 4) | Nylon | 62 | 30 | 102 | Pressed Steel | 1.2 | 21-327 |
| Top Plate | Swivel | 102 (225) | Grey Poly | 76 | 32 | 112 | Pressed Steel | 0.71 | 21-303 |
| | Swivel | 102 (225) | Grey Poly | 76 | 32 | 112 | Pressed Steel | 0.88 | 21-304 |
| | Rigid | 102 (225) | Antistatic Grey | 76 | 31 | 119 | Pressed Steel | 0.3 | 21-302 |
| | Rigid | 136 (300) | Hard Rubber Grey | 127 | 32 | 165 | Solid Rubber | 0.92 | 21-311 |
| | Swivel | 136 (300) | Blue Grey Rubber | 125 | 32 | 165 | Pressed Steel | 1.14 | 21-312 |
| | Swivel | 136 (300) | Blue Grey Rubber | 125 | 32 | 165 | Pressed Steel | 1.29 | 21-313 |
| | Swivel | 410 (900) | Purple Poly | 152 | 51 | 191 | Pressed Steel | 2.2 | 21-318 |
| | Swivel | 410 (900) | Purple Poly | 152 | 51 | 191 | Pressed Steel | 2.6 | 21-319 |
| | Leveler | 600 (set of 4) | Nylon | 50 | 18 | 82 | Pressed Steel | 0.8 | 21-324 |
| | Leveler | 1200 (set of 4) | Nylon | 62 | 30 | 102 | Pressed Steel | 1.2 | 21-328 |
| | Floor | 182 (400) | Vulcanized Rubber Pad | — | — | 165 ret. 196 ext. | Pressed Steel | 2.1 | 21-325 |

Hollow King Pin



Swivel



Swivel w/Brake

Application

Casters designed for light and medium duty applications with ratings up to 91kg (200lbs). Mounting surface is a hollow king pin with ball bearing swivel.

Technical Data

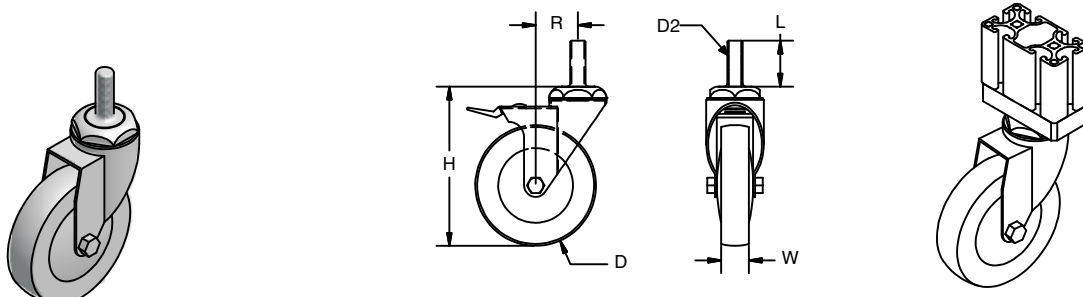
Housing: Pressed Steel, Zinc Chromated.

Ordering Information

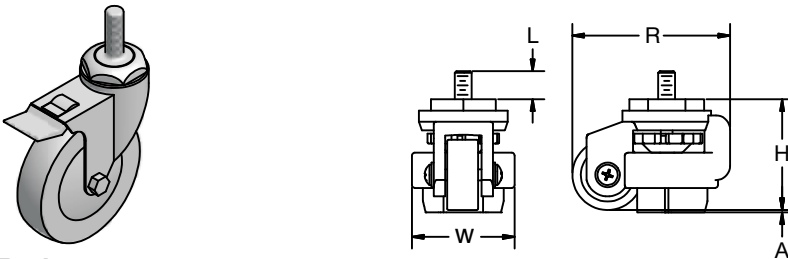
| Load Cap. kg (lbs) | Wheel | Dimensions (mm) | | | | | | Locking | Weight (kg) | Part # |
|-----------------------|--------------------------|-----------------|----|-----|-----|-----|------|------------|----------------|---------------|
| | | D | W | H | R | T | D1 | | | |
| 40 (88) | Rubber Black Non-Marking | 50 (2") | 19 | 68 | 50 | 7.8 | 10.2 | None | 0.21 | 21-300 |
| 40 (88) | Rubber Black Non-Marking | 50 (2") | 19 | 68 | 70 | 7.8 | 10.2 | Wheel | 0.24 | 21-301 |
| 80 (175) | Neoprene Rubber, Black | 75 (3") | 25 | 100 | 100 | 7.8 | 10.2 | Total Lock | 0.39 | 21-310 |

Threaded Casters

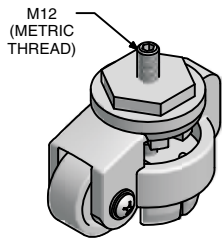
Swivel



Swivel w/Brake



Leveling



Application

Casters designed light to heavy loads. A wrench fits easily on the swivel to allow installation to a base plate. 21-323 and 21-327 are leveling casters with adjustable pad.

Technical Data

Housing: Pressed Steel, Ball Bearing Swivel Head.
Order hardware and base plates separately

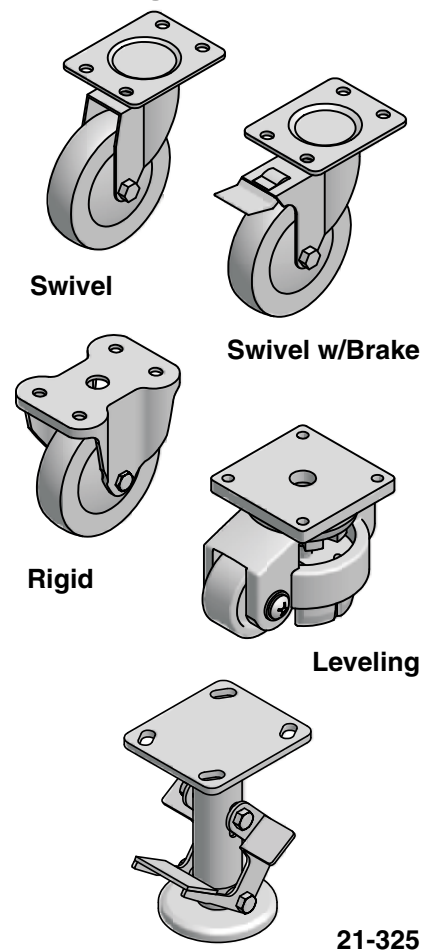
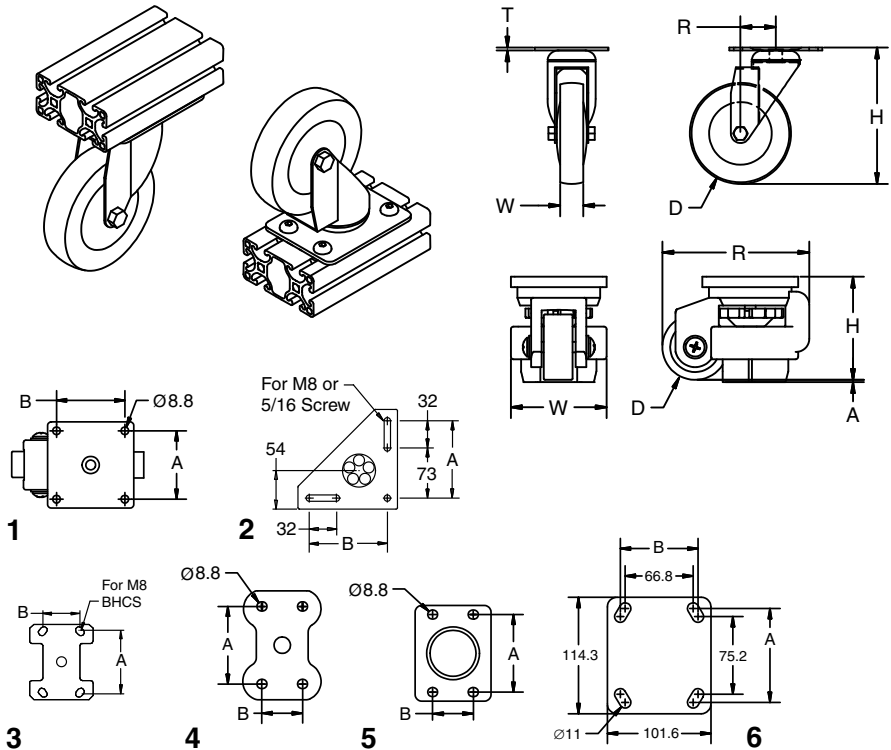
Ordering Information

| Load Cap kg (lbs) | Wheel | Dimensions (mm) | | | | | | Wheel Center | Lock | Wt. (kg) | Part # |
|----------------------|-------------|-----------------|-----------|-----|-----|-----|----|---------------|------------|-------------|--------|
| | | W | D | H | R | D2 | L | | | | |
| 91 (200) | Hard Rubber | 32 | 125 (5") | 162 | 106 | M10 | 38 | Pressed Steel | None | 1.04 | 21-314 |
| 91 (200) | Hard Rubber | 32 | 125 (5") | 162 | 106 | M10 | 38 | Pressed Steel | Total Lock | 1.20 | 21-315 |
| 272 (600)* | Nylon | 73 | 50 (2") | 82 | 104 | M12 | 19 | Pressed Steel | Leveler | 0.80 | 21-323 |
| 545 (1200)* | Nylon | 88 | 62 (2.5") | 102 | 128 | M12 | 19 | Pressed Steel | Leveler | 1.20 | 21-327 |

* Set of 4



Plate Type Casters



Application

Top plate casters are great for all types of loads and applications. The caster bolts directly to the appropriate extrusion T-Slot or the end of a profile using an adapter.

Technical Data

Housing: Pressed Steel, Ball Bearing Swivel Head.

Order hardware and base plates separately. Locking foot 21-325 requires adapter plate 21-335.

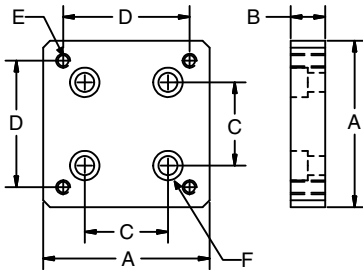
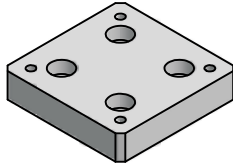
Ordering Information

| Type | Lock | Load Cap. kg (lbs) | Wheel | Dimensions (mm) | | | | | | | Wt. (kg) | Plate Dwg. | Part # |
|---------|------------|-----------------------|------------------|-----------------|----|-----|-----|------|-------|-------|-------------|---------------|---------|
| | | | | D | W | H | R | T | A | B | | | |
| Swivel | None | 102 (225) | Grey Poly | 76 (3") | 32 | 112 | 80 | 9.4 | 75 | 40 | 0.71 | 5 | 21-303 |
| Swivel | Total | 102 (225) | Grey Poly | 76 (3") | 32 | 112 | 106 | 9.4 | 75 | 40 | 0.88 | 5 | 21-304 |
| Rigid | None | 102 (225) | Antistatic Grey | 76 (3") | 31 | 119 | - | 3 | 75 | 40 | 0.30 | 4 | 21-302 |
| Rigid | None | 136 (300) | Blue Grey Rubber | 125 (5") | 32 | 165 | - | 3 | 75 | 40 | 0.92 | 4 | 21-311 |
| Swivel | None | 136 (300) | Blue Grey Rubber | 125 (5") | 32 | 165 | 106 | 2.5 | 75 | 40 | 1.14 | 5 | 21-312 |
| Swivel | Total Lock | 136 (300) | Blue Grey Rubber | 125 (5") | 32 | 165 | 106 | 2.5 | 75 | 40 | 1.29 | 5 | 21-313 |
| Swivel | None | 410 (900) | Purple Poly | 152 (6") | 51 | 191 | 125 | 11.5 | 76-92 | 67-76 | 2.20 | 5 | 21-318 |
| Swivel | Total Lock | 410 (900) | Purple Poly | 152 (6") | 51 | 191 | 180 | 11.5 | 76-92 | 67-76 | 2.60 | 5 | 21-319 |
| Leveler | Foot | 600 (Set of 4) | Nylon | 50 (2") | 73 | 82 | 104 | 6.25 | 58 | 58 | 0.80 | 1 | 21-324* |
| Leveler | Foot | 1200 (Set of 4) | Nylon | 62 (2.5") | 89 | 102 | 128 | 7.25 | 70 | 70 | 1.20 | 1 | 21-328* |
| Foot | Locking | 182 (400) | Rubber Pad | - | - | 197 | - | - | 92 | 67 | 2.14 | 6 | 21-325 |

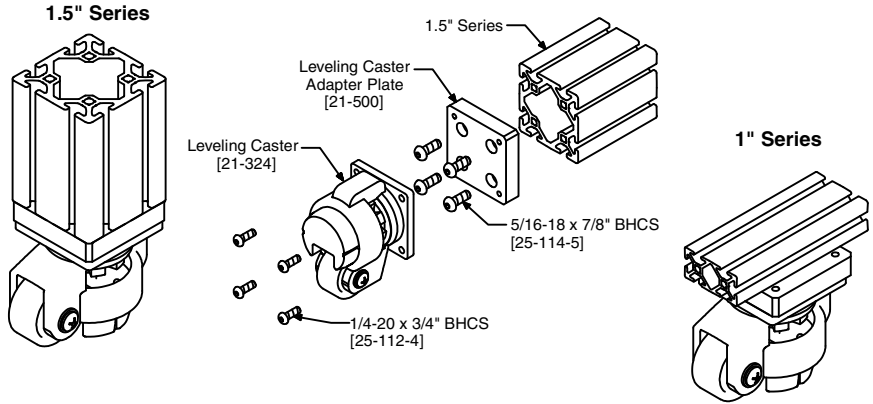
* Requires special mounting plate. Adapter plates for inch profiles on page 172. Consult factory for engineering assistance for metric profile adapter plates.



Adapter Plates



- 21-500
- 21-501
- 21-502
- 21-504



Application

Used to mount heavy duty casters or floor locks to either the end of the extrusion or T-slots.

Technical Data

Aluminum, Clear Anodized

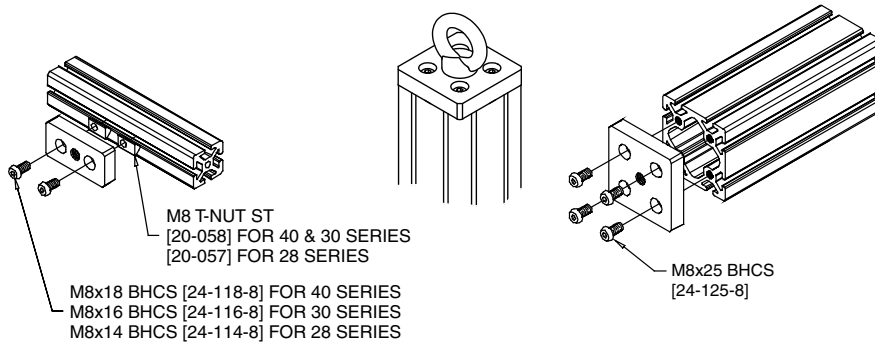
Recommended Fastening Hardware (Order Separately)

| Mounting Method | Screws | T-Nuts |
|------------------|----------|------------------|
| End of Extrusion | 25-114-5 | — |
| T-Slot | 25-112-5 | 25-002 or 25-051 |

Ordering Information

| Caster | A | B | C | D | E | F | (kg) | Part # |
|--------|-------|--------|------|-------|--------|----------|------|---------------|
| 21-324 | 3.0" | 0.625" | 1.5" | 2.28" | 1/4-20 | for 5/16 | 0.64 | 21-500 |
| | 3.0" | 0.625" | 1.0" | 2.28" | 1/4-20 | for 1/4 | 0.65 | 21-501 |
| 21-328 | 3.5" | 0.625" | 1.5" | 2.76" | 1/4-20 | for 5/16 | 0.75 | 21-502 |
| 21-504 | 4.50" | 0.63" | 1.5" | 3.00" | 3/8-16 | for 5/16 | 0.85 | 21-504 |

Base Plates

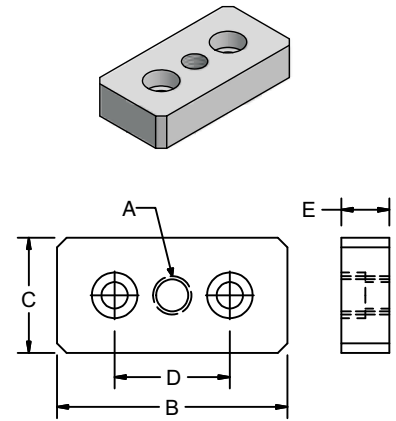


Application

Base plates are used primarily to mount leveling feet and casters on the end or side of an extrusion. These plates can also be used for mounting other parts such as lifting eyes.

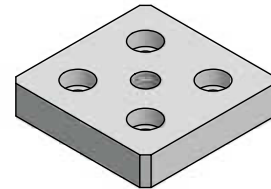
Technical Data

Aluminum, Clear Anodized



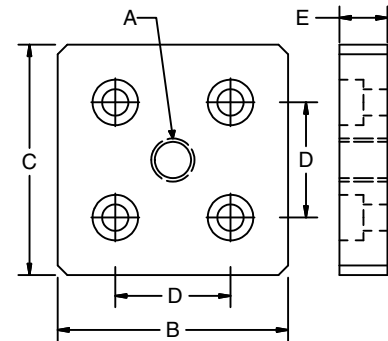
Recommended Hardware

| Mounting | Series | Screws | T-Nuts | Machining |
|-------------------------|--------|----------|--------------------------|-----------|
| Attached to Profile End | 30/28 | 24-125-8 | — | 19-010 |
| | 20 | 24-114-5 | — | 19-010 |
| | 1" | 25-112-4 | — | 19-009 |
| Attaching to T-Slot | 30 | 24-116-8 | 20-058 | — |
| | 28 | 24-114-8 | 20-057 | — |
| | 20 | 24-112-5 | 20-045 or 20-085 | — |
| | 1" | 25-110-4 | 25-031, 25-034 or 25-036 | — |

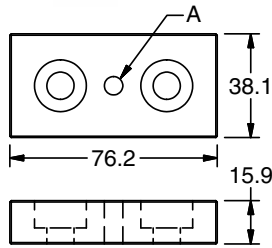
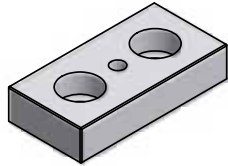


Ordering Information

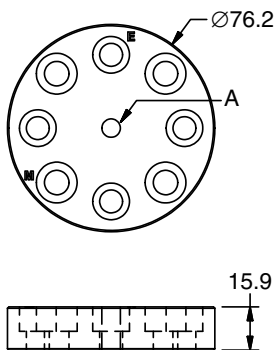
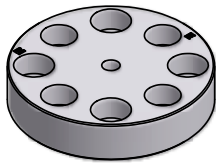
| Profile Series | Dimensions | | | | | Weight (kg) | Part # |
|----------------|------------|------|------|------|--------|-------------|------------|
| | A | B | C | D | E | | |
| 30 | M8 | 60 | 30 | 30 | 15.9 | 0.24 | 21-029-8 |
| | M10 | 60 | 30 | 30 | 15.9 | 0.24 | 21-029-10 |
| | M12 | 60 | 30 | 30 | 15.9 | 0.24 | 21-029-12 |
| 28 | M8 | 54 | 25.4 | 28 | 15.9 | 0.15 | 21-004 |
| | M10 | 54 | 25.4 | 28 | 15.9 | 0.15 | 21-005 |
| | M12 | 54 | 25.4 | 28 | 15.9 | 0.15 | 21-006 |
| | M8 | 54 | 54 | 28 | 15.9 | 0.30 | 21-204 |
| | M10 | 54 | 54 | 28 | 15.9 | 0.30 | 21-205 |
| | M12 | 54 | 54 | 28 | 15.9 | 0.30 | 21-206 |
| 20 | M8 | 40 | 40 | 20 | 12 | 0.81 | 21-220-8 |
| | M10 | 40 | 40 | 20 | 12 | 0.81 | 21-220-10 |
| | M12 | 40 | 40 | 20 | 12 | 0.81 | 21-220-12 |
| 1" | 1/4-20 | 2.0" | 1.0" | 1.0" | 0.625" | 0.15 | 21-1020-04 |
| | 5/16-18 | 2.0" | 1.0" | 1.0" | 0.625" | 0.15 | 21-1020-05 |
| | 5/16-18 | 2.0" | 2.0" | 1.0" | 0.625" | 0.24 | 21-2020-05 |
| | 3/8-16 | 2.0" | 2.0" | 1.0" | 0.625" | 0.24 | 21-2020-06 |
| | 1/2-13 | 2.0" | 2.0" | 1.0" | 0.625" | 0.24 | 21-2020-08 |



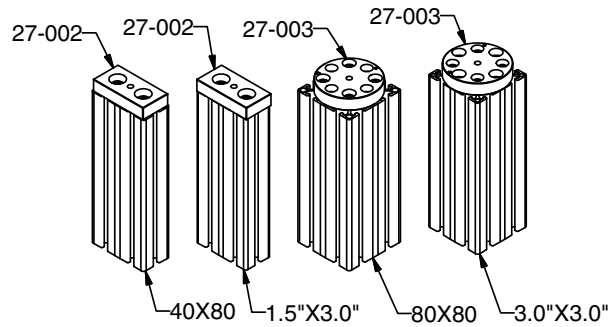
Base Plates (SMART)



27-002-xxx



27-003-xxx



Application

SMART base plates are used primarily to mount leveling feet and casters on the end or side of an extrusion. These plates can also be used for mounting other parts such as lifting eyes.

The SMART base plates adapt to both 40 and 1.5" Series extrusions.

Technical Data

Aluminum, Clear Anodized

Recommended Hardware

| Mounting | Series | Screws | T-Nuts | Machining |
|-------------------------|--------|----------|--------------------------|-----------|
| Attached to Profile End | 1.5" | 25-114-5 | — | 19-010 |
| | 40 | 24-125-8 | — | 19-010 |
| Attaching to T-Slot | 1.5" | 25-112-5 | 25-002, 20-082 or 20-182 | — |
| | 40 | 24-118-8 | 20-058, 20-081 or 20-181 | — |

Ordering Information

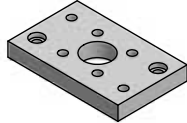
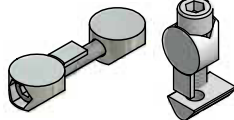
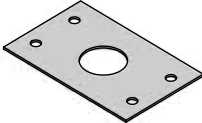
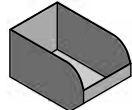

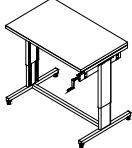
27-002- **M08**

| Code | A Thread |
|------|----------|
| M08 | M8 |
| M10 | M10 |
| M12 | M12 |
| M16 | M16 |
| M20 | M20 |
| E05 | 5/16-18 |
| E06 | 3/8-16 |
| E08 | 1/2-13 |
| E10 | 5/8-11 |

27-003- **M08**

| Code | A Thread |
|------|----------|
| M08 | M8 |
| M10 | M10 |
| M12 | M12 |
| M16 | M16 |
| M20 | M20 |
| E05 | 5/16-18 |
| E06 | 3/8-16 |
| E08 | 1/2-13 |
| E10 | 5/8-11 |

Section 7 Special Applications

| | | |
|----------------------------------------------------------------------|-------------------|--------------------------------------------------------------------------------------|
| Pneumatic Plates Connecting Joining Blank | 176 177 178 |  |
| Pneumatic Fasteners Universal Butt | 178 178 |  |
| Pneumatic Seals | 179 |  |
| Workstation Components Bins Adjustable Bin Mounting Drawers | 181 182 183 |  |
| Tool Runner | 183 |  |
| Lift Systems Two-Cylinder Four-Cylinder | 184 185 |  |

Pneumatic Profiles

Application

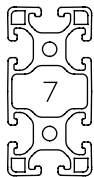
The cavity within a profile can be used to distribute compressed air as well as provide structural foundation for the system application. Connections may be made at any location using the proper accessory component and machining. Many of the profile configurations also provide for multiple channels allowing for the complete distribution of compressed air in complex systems.

Available Profiles

| Part # | Description | Available Air Channels | Structural Properties | | | | | Weight [kg/m] | Page |
|--------|-------------------------|------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|----------------------------|---------------|------|
| | | | I _x [cm ⁴] | I _y [cm ⁴] | W _x [cm ⁴] | W _y [cm ⁴] | Section [cm ²] | | |
| 10-080 | Profile 80X40 Standard | 1 | 71.79 | 17.23 | 17.99 | 8.62 | 11.53 | 3.18 | 26 |
| 11-080 | Profile 80X40 Heavy | 1 | 102.00 | 26.73 | 25.50 | 13.37 | 16.59 | 4.58 | 26 |
| 10-088 | Profile 80X80 Standard | 1 | 138.30 | 138.30 | 34.58 | 34.58 | 20.17 | 5.45 | 27 |
| 11-088 | Profile 80X80 Heavy | 1 | 185.20 | 185.20 | 46.30 | 46.30 | 26.01 | 7.02 | 27 |
| 10-120 | Profile 120X40 Standard | 2 | 220.54 | 24.22 | 36.76 | 12.11 | 16.12 | 4.35 | 28 |
| 11-122 | Profile 120x80 Heavy | 4 | 575.07 | 274.46 | 92.75 | 68.61 | 40.08 | 10.82 | 27 |
| 10-164 | Profile 160X40 Standard | 3 | 517.25 | 33.13 | 64.65 | 16.56 | 21.48 | 5.80 | 28 |
| 11-140 | Profile 160X40 Heavy | 3 | 749.51 | 54.80 | 93.60 | 27.40 | 32.30 | 8.72 | 28 |
| 10-160 | Profile 160X80 Standard | 4 | 922.50 | 271.10 | 115.30 | 67.80 | 38.10 | 10.29 | 29 |
| 11-160 | Profile 160X80 Heavy | 2 | 1215.79 | 357.51 | 151.97 | 89.38 | 51.72 | 13.96 | 29 |

Cavity areas shown are in cm² (1 cm² = 0.155 in²)

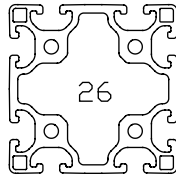
To calculate volume, multiply area by the profile length.



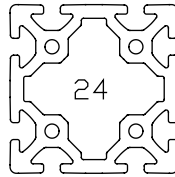
10-080



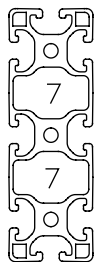
11-080



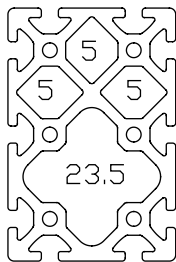
10-088



11-088



10-120



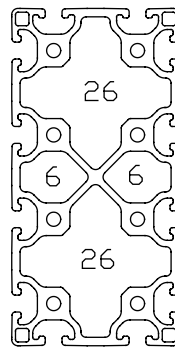
11-122



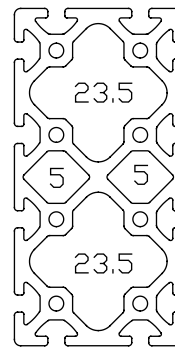
10-164



11-140



10-160



11-160

Pressure Ratings and Leak Test

Safe Maximum Pressure Rating

1725 kPa (250 psi)

Supporting Pressure Rating Data

Procedures

Stage 1

A sample assembly was connected to a nitrogen cylinder. Pressure of 690 kPa (100psi) was applied. The holding button head screws were checked and tightened to a torque of 13.6 Nm (10 ft-lbs). Pressure was increased in stages to 6900 kPa (1000 psi) with continuous inspection for leaks. This was duplicated for each profile.

Stage 2

A sample was filled with water and pressure was applied in the same manner as in stage 1. Pressure was increased until a gaskets leaked or profiles burst. This was duplicated for each profile.

Sample Testing Results

| Profile | Pressure Medium | Pressure kPA (psi) | Observation |
|---------|-----------------|--------------------|---------------|
| 10-080 | Nitrogen | 6,900 (1000) | No Leakage |
| | Water | 9,655 (1400) | Profile Burst |
| 10-088 | Nitrogen | 6,900 (1000) | No Leakage |
| | Water | 9,655 (1400) | Profile Burst |
| 11-080 | Nitrogen | 6,900 (1000) | No Leakage |
| | Water | 27,580 (4000) | No Leakage |
| 11-088 | Nitrogen | 6,900 (1000) | No Leakage |
| | Water | 10,345 (1500) | Gasket Leaked |

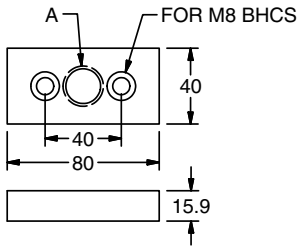
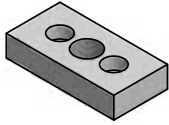
Connecting Plates

Application

Connecting plates provide threaded NPT ports and align with air chambers within properly machined profiles. Both styles are designed to be attached to the end face of the profile. The 80x80 plate can also be attached to the T-slotted side of a profile with an 80mm dimension. All plates include the appropriate sealing gasket. These plates can be used to seal end of profile by using appropriate plug.

Technical Data

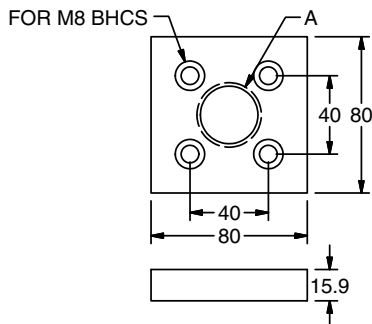
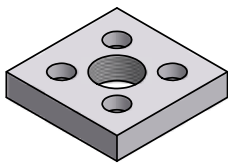
Plate: Aluminum, Anodized
 Seal: Neoprene or Buna



21-040zX

Recommended Fasteners

| Mounting | Hardware | 21-040zX | 21-043zX |
|----------------|----------|--------------|--------------|
| End Face Mount | Screw | (2) 24-125-8 | (4) 24-125-8 |
| Side Mount | Screw | — | (4) 24-118-8 |
| | T-Nut | — | (4) 20-058 |

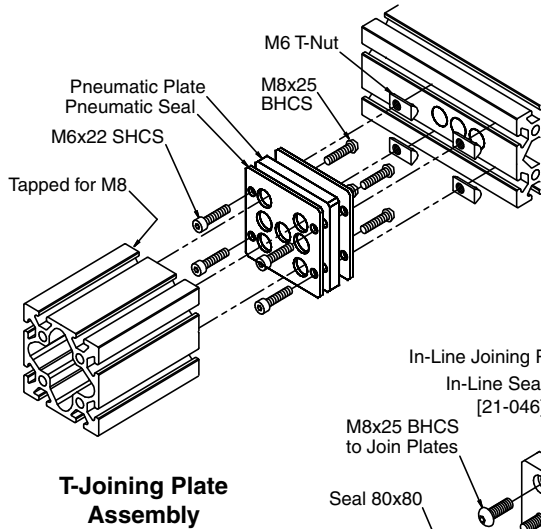


21-043zX

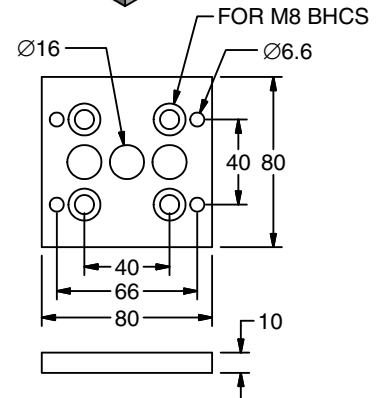
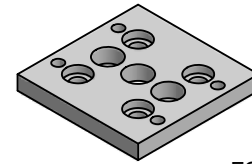
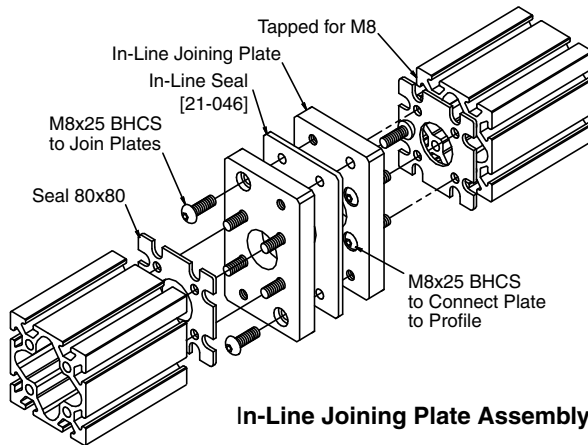
Ordering Information

| Description | A | Unit | Weight | Part # |
|-----------------------|-------------|-------|---------|----------|
| Connector Plate 80x40 | 1/8"-27 NPT | 1 Set | 0.11 kg | 21-040z1 |
| | 1/4"-18 NPT | 1 Set | 0.11 kg | 21-040z2 |
| | 3/8"-18 NPT | 1 Set | 0.11 kg | 21-040z4 |
| | 1/4" BSPP | 1 Set | 0.11 kg | 21-040z6 |
| | 1/2"-14 NPT | 1 Set | 0.11 kg | 21-040z8 |
| Connector Plate 80x80 | 1/2"-14 NPT | 1 Set | 0.23 kg | 21-043z2 |
| | 1/2" BSPP | 1 Set | 0.23 kg | 21-043z6 |
| | 1"-11.5 NPT | 1 Set | 0.23 kg | 21-043z8 |

Joining Plates



Assembly note for 21-044: M6 SHCS must be inserted head first into T-slot of 80x80 profile BEFORE attachment of plate to end.



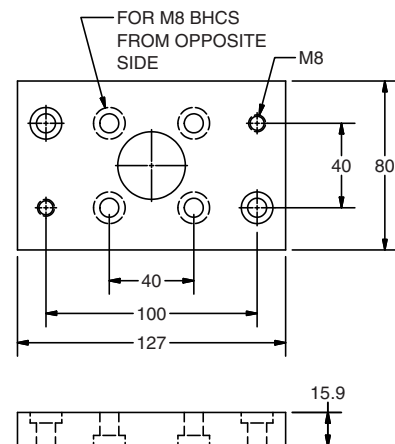
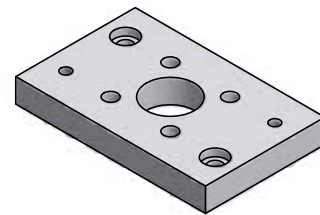
21-044

Application

Joining Plates are used to join two profiles together while extending the compressed air cavity across the joint. These plates are available in in-line as well as "T" configurations. In-Line connections couple the end face of two profiles into a continuous straight section. "T" plates allow a profile to extend at a 90° angle. All Joining Plates come with the necessary seals for the intended application.

Technical Data

- 21-044: Steel, Galvanized
- 21-045: Aluminum, Clear Anodized



21-045

Recommended Fasteners

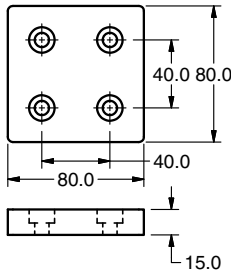
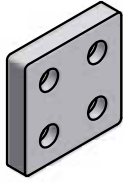
| Mounting | Screws | T-Nuts |
|-------------------------|------------------------------|------------|
| "T" Connection (21-044) | (4) 24-125-8 (4) 24-322-6 | (4) 20-058 |
| In-Line (21-045) | (12) 24-125-8 | — |

Ordering Information

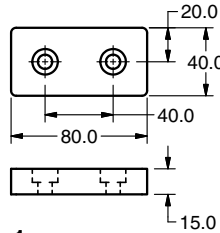
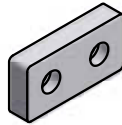
| Description | Unit | Weight | Part # |
|-----------------------|-------|---------|--------|
| T-Joining Plate | 1 Set | 0.42 kg | 21-044 |
| In-Line Joining Plate | 1 Set | 1.09 kg | 21-045 |



Blank Plates



21-8000z1



21-4000z1

Application

Used for closing 80x40 and 80x80 profile ends.

Technical Data

Aluminum, Clear Anodized

Recommended Fasteners (Order Separately)

Screws: 24-125-8

Ordering Information

Description

Blank Plate 80x40
Blank Plate 80x80

Unit

Each
Each

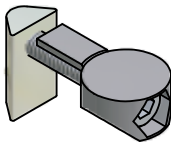
Weight

0.1 kg
0.2 kg

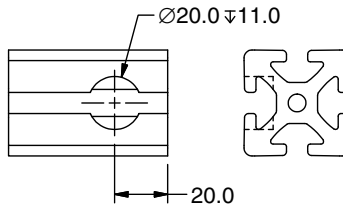
Part

21-4000z1
21-8000z1

Pneumatic Fasteners



20-011

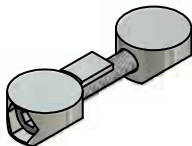


Application

Two styles for connecting 80x40 or larger profiles together when used as compressed air piping. Universal is used on 90° connections. Butt-Fastening is for end to end connections

Technical Data

Zinc Cast, Galvanized



20-012

Ordering Information

Description

Pneumatic Universal Fastening Set
Butt-Fastening Set M6

Unit

Each
Each

Weight

36 g
45 g

Part

20-011
20-012

Pneumatic Seals

Application

Replacement seals for pneumatic connections.

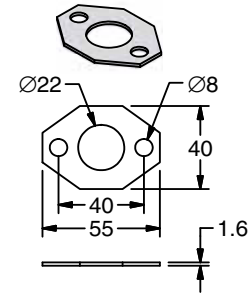
Technical Data

Neoprene or Buna, Black

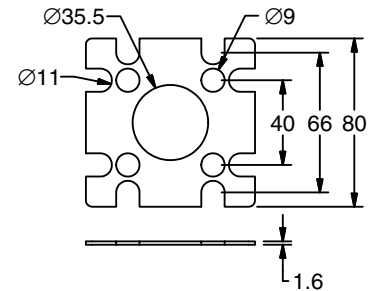
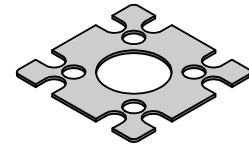
Note: Seals should be retightened after 24 hours of initial installation.

Ordering Information

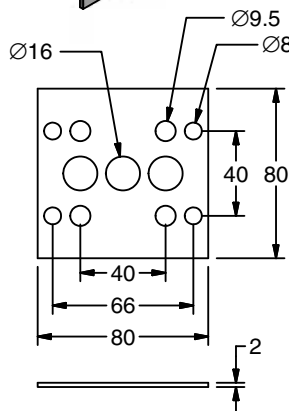
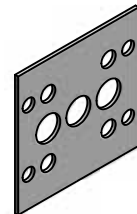
| Description | Unit | Part # |
|----------------------------|------|--------|
| Seal 80x40 | Each | 21-041 |
| Seal 80x80 | Each | 21-042 |
| Seal 80x80 T-Joining Plate | Each | 21-144 |
| Seal 80x80 In-Line Plate | Each | 21-046 |



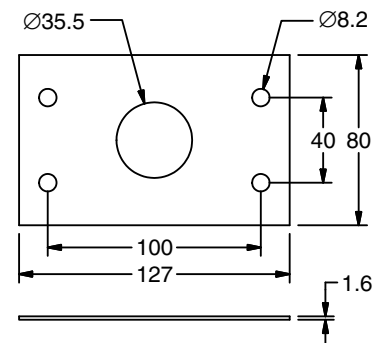
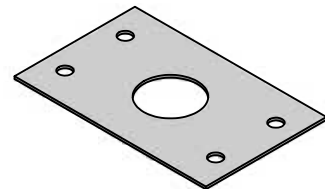
21-041



21-042



21-144



21-046

Complete Workstations



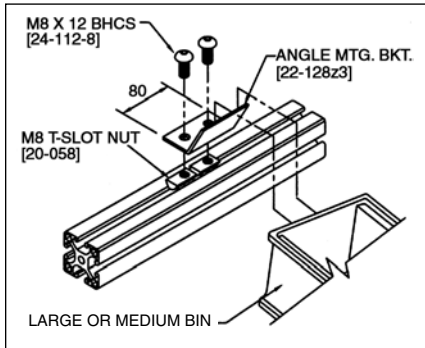
Modular designed workstations by IPS offer a wide range of options and accessory combinations. All structural profiles used in our workstations are made of high strength aluminum, combined with our unique fastening system which provides exceptional flexibility in design for a wide range of applications. All profiles are clear anodized with several available in black. Special colors and coatings are available on request.

T-Slots provide easy attachment points for accessories. Closed face profiles are also available for applications requiring aesthetically clean looks or reduction in the potential for dust and contamination.

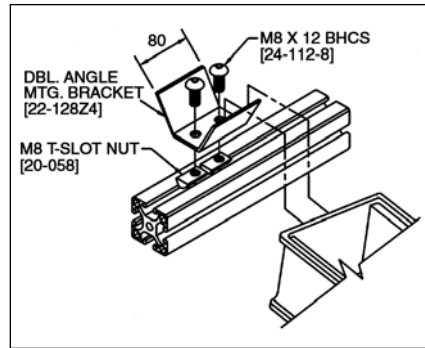
All workstations can be customized for your exact needs. From the heaviest assembly tables to ergonomic LEAN work cells, we have the products and expertise to meet your specifications.



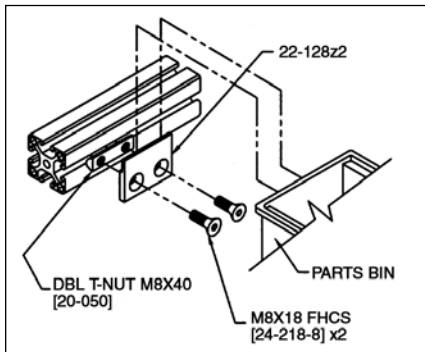
Parts Bin



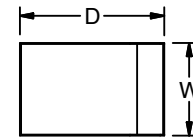
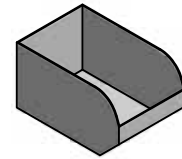
1



2



3



22-126 thru 22-129

Application

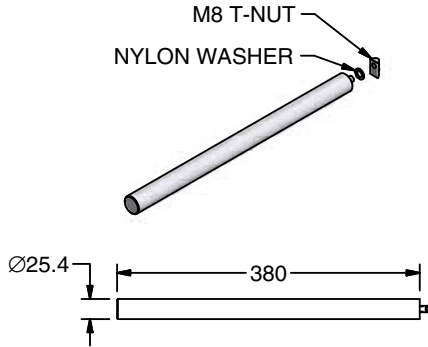
Bins for small to large parts and equipment on work benches, work stations, parts racks, etc. Minimizes parts handling.

Order all hardware separately

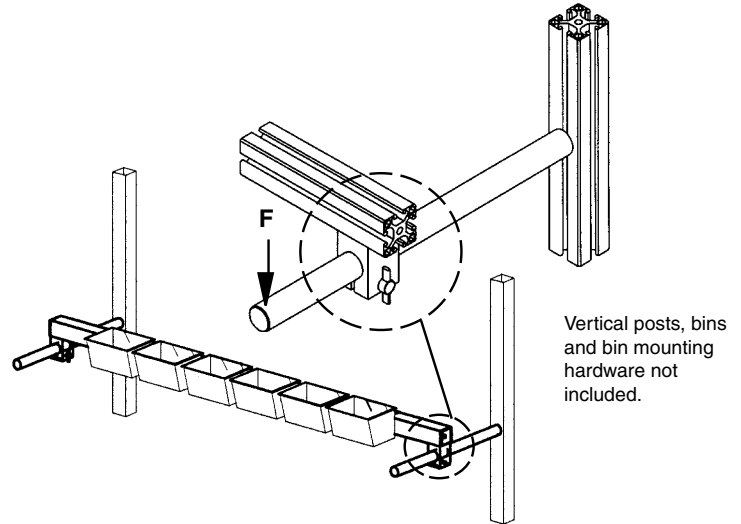
Ordering Information

| Description | Dimensions | | | Mounting Hardware | Material | Weight (kg) | Part # |
|---------------------------|------------|-----|------|-----------------------------------|-------------------------------|-------------|----------|
| | W | D | H | | | | |
| Parts Bins | 140 | 280 | 127 | See fig. 1-3 for mounting choices | Heavy duty polypropylene, red | 0.67 | 22-126 |
| | 280 | 280 | 127 | See fig. 1-3 for mounting choices | | 1.24 | 22-127 |
| | 105 | 135 | 76 | See fig. 1-3 for mounting choices | | 0.08 | 22-128 |
| | 105 | 187 | 76 | See fig. 1-3 for mounting choices | | 0.11 | 22-129 |
| Flat Mounting Bracket | 60 | 6.4 | 25.4 | Not included (See fig. 3) | Al, anodized | 0.02 | 22-128Z2 |
| Angled Mounting Bracket | 80 | 47 | 30 | Not included (See fig. 1) | Al, anodized | 0.08 | 22-128Z3 |
| DbI Ang. Mounting Bracket | 80 | 74 | 30 | Not included (See fig. 2) | Al, anodized | 0.07 | 22-128Z4 |

Adjustable Bin Mounting Components



22-130



Application

Adjustable bin mounting system for 40 Series work stations and assembly lines. Allows shelf adjustment in two directions: up-down and in-out. 40 series profile can be used as brace for bins at any required horizontal length.

Bins and bin mounting hardware must be ordered separately.

Technical Data

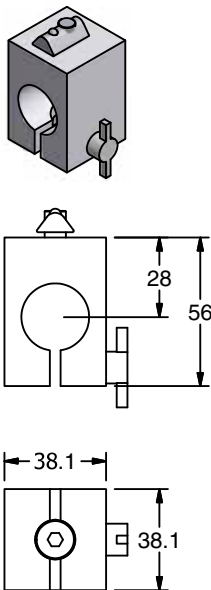
Slide Rail: Al, clear anodized

Slide Collar: Delrin, black

Includes all hardware as shown.

Max. load $F = 60 \text{ N}$ (13.5 lbs)

Mounting Brace includes: profile and two end caps.

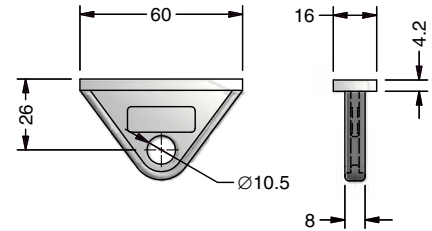
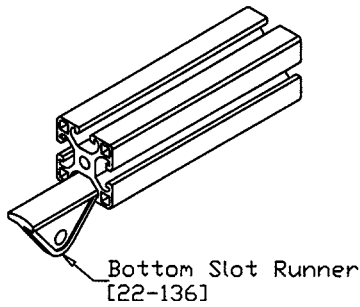


22-134

Ordering Information

| Description | Unit | Weight | Part # |
|----------------------------------|-------|---------|--------|
| Bin Mounting Slide Rail (2 req.) | 1 set | 0.53 kg | 22-130 |
| Slide Collar (2 req.) | 1 set | 81 g | 22-134 |

Tool Runner



22-136

Application

To suspend and position tools at work stations. Runner slides in 40 series profile.

Technical Data

Runner: glass-filled nylon, black

Max. load 100 N (23 lbs)

Runner Stop can be created by using:

(1) Flat Point Set Screw [24-516-5F]

(1) M5 Z-Nut [20-035]

Ordering Information

| Description | Unit | Weight | Part # |
|-------------|------|--------|--------|
| Runner | 1 pc | 12 g | 22-136 |

Technical Data

Grey painted steel construction with ball bearing slides and padlock attachment. Stackable.

Order all hardware separately

For mounting to 40 series profile:

| | |
|--------------|----------|
| Screws | 24-118-8 |
| T-nuts | 20-058 |
| Flat Washers | 24-700-8 |

Ordering Information

Description (W x D x H)

Drawer 400 x 508 x 172mm

Drawer 400 x 508 x 343mm

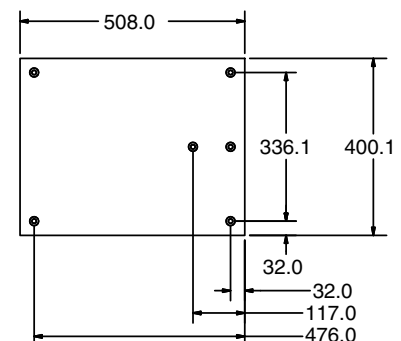
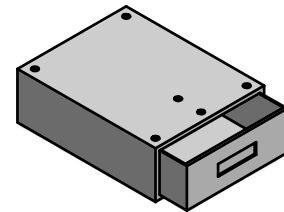
* Contact factory for additional details

Part#

22-121

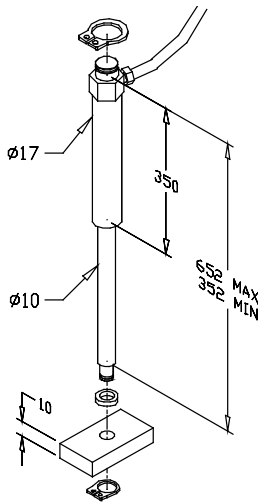
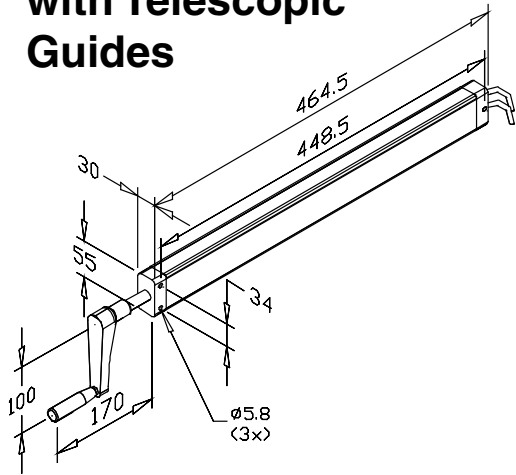
22-122

Drawer

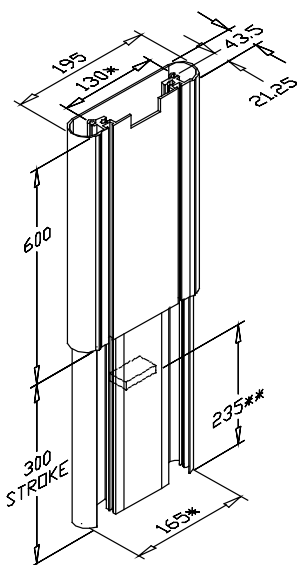


22-121

2-Cylinder Lift System with Telescopic Guides

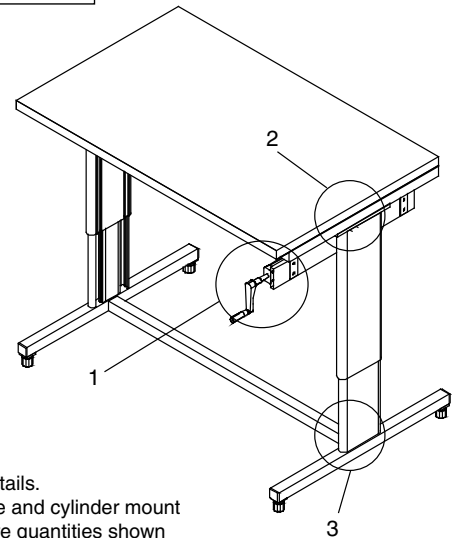
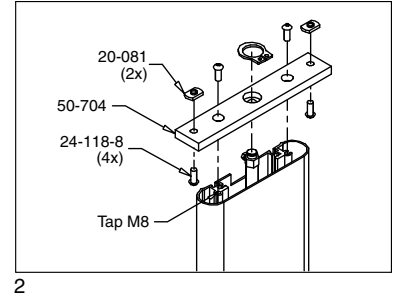
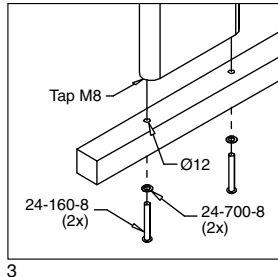
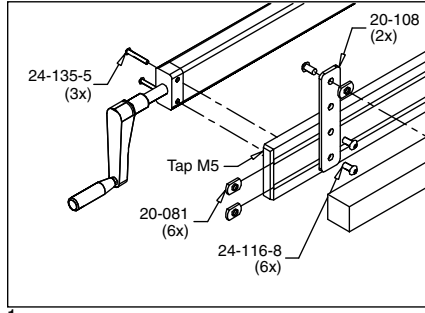


50-702



* Distance between mounting holes
** Cylinder mounting distance

50-703



1, 2, 3 Pump mount details.
Telescopic guide and cylinder mount details (hardware quantities shown per side).

Application

2-Cylinder Lift System together with Telescopic Guides create a compact versatile height adjustment mechanism. The system consists of two fluid-drive cylinders connected by flexible tubing to a manual pump with a unique "fold-away" hand crank. Due to cylinder internal construction, use of telescopic guides is required. Each guide has four mounting holes (two on top, two on bottom) that can be tapped for M8 or 5/16"-18.

Order mounting hardware for pump and telescopic guides separately (see application illustration).

Technical Data

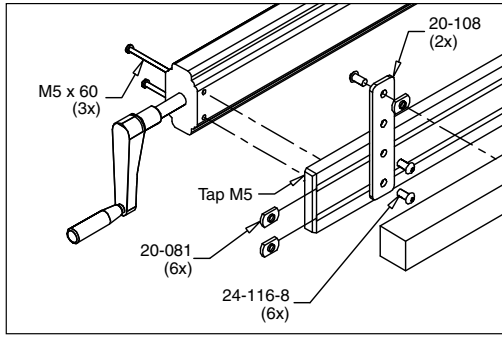
Maximum lift capacity 2224 N (500lbs.)
Adjustment range 300mm
Cylinders are single acting. External force of approx. 67 N (15 lbs.) is required for return stroke.
Tubing length: one at 8' and one at 10' section.
Minimum bending radius for tubing 40mm.
Operating temperature 0 - 115°F.

Ordering Information

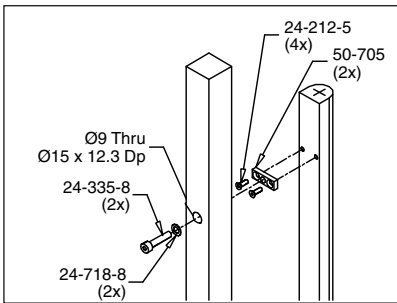
| Description | Unit | Weight | Part # |
|-------------------------------|-------|--------|--------|
| 2-Cylinder Lift System | 1 set | | 50-702 |
| Telescopic Guide (2 required) | 1 pc | 4.3 kg | 50-703 |
| Mounting Plate for 50-703 | 1 pc | 6 g | 50-704 |



4-Cylinder Lift System

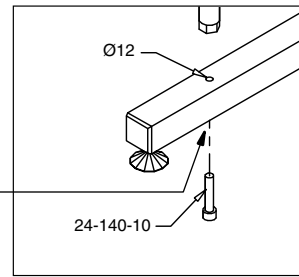


1

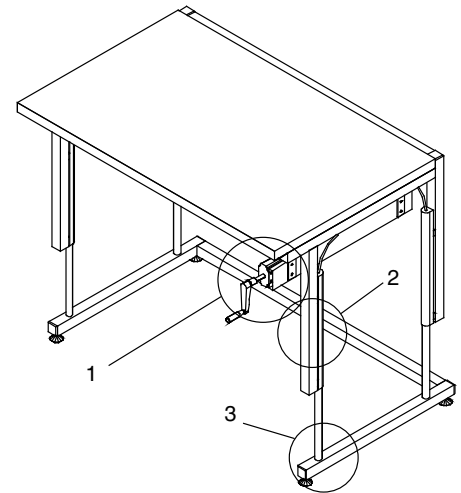
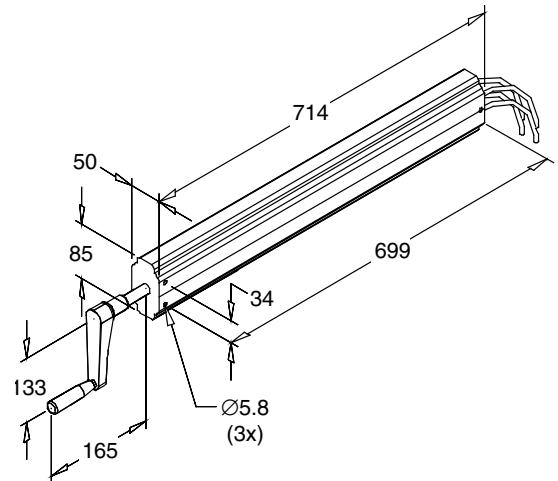


2

1 Pump mount details.
2,3 Cylinder mount details
(hardware quantities shown
per cylinder).



3



Application

4-Cylinder Lift System is a compact versatile height adjustment mechanism. It consists of four fluid-drive cylinders connected by flexible tubing to a manual pump with a unique "fold-away" hand crank. The cylinders are completely self-contained, requiring no external support structure.

Each cylinder has five pre-tapped mounting holes: four on a flat side (M5x7mm deep) and one at the bottom (M10x12mm deep).

Technical Data

Maximum lift capacity 3336 N (750lbs.)

Adjustment range 300mm

Cylinders are single acting. External force of approx. 89 N (20 lbs.) is required for return stroke.

Tubing length: two at 8' and two at 10' section.

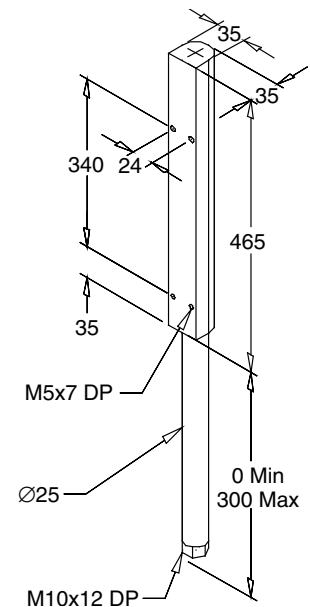
Minimum bending radius for tubing 40mm.

Operating temperature 0 - 115°F.

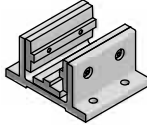
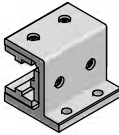
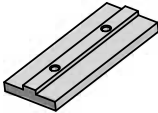

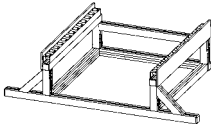

Order all mounting hardware separately (see application sample 1-3).

Ordering Information

| Description | Unit | Weight | Part # |
|--------------------------------------------|-------|---------|--------|
| 4-Cylinder Lift System | 1 set | 11.7 kg | 50-700 |
| Mounting Plate for 50-700 (2 per cylinder) | 1 pc | 6 g | 50-705 |



Section 8 Linear Applications

| | | |
|----------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------|
| Double Flange Slide Blocks 28 and 1" Series 40 and 1.5" Series | 192-193 196-197 |  |
| Side Flange Slide Blocks 28 and 1" Series 40 and 1.5" Series | 194-195 198-199 |  |
| Slide Pads & Shims | 200 |  |
| Slide Block Accessories Clamp Accessories Ratchet Lever Clamp Machining | 201 201 202 |  |
| Roller Track | 203 |  |
| LR Series Roller Systems Linear Drive Components | 205-221 222-230 |  |

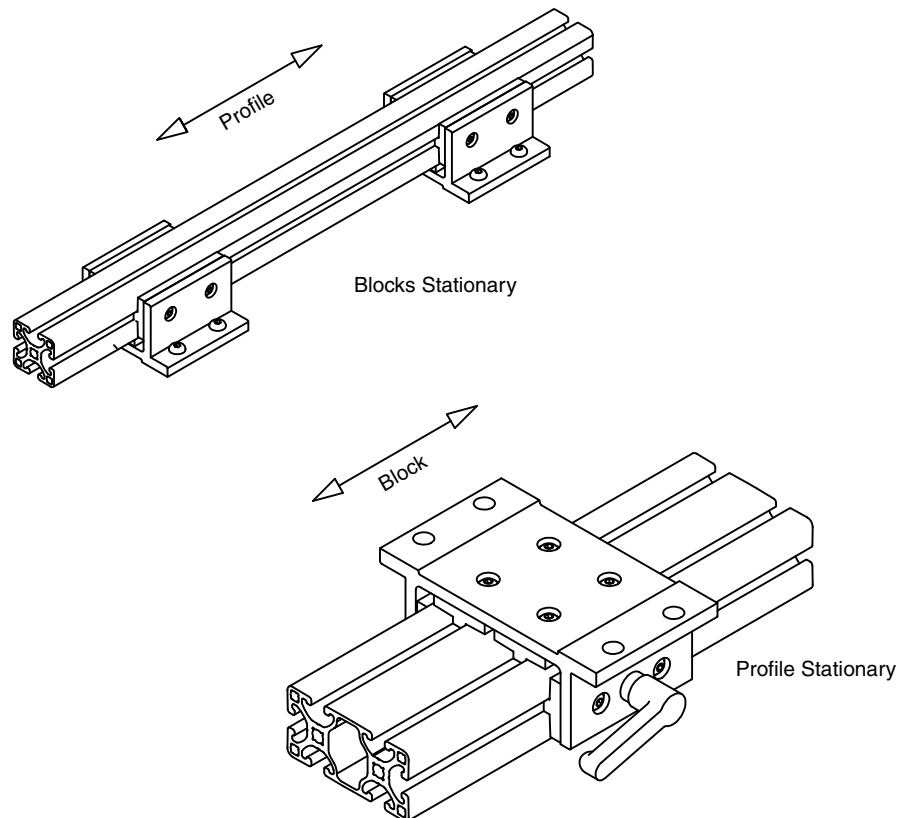
Slide Blocks



Application

Profile Slide Blocks are a versatile, cost efficient concept to build a multitude of adjustable slides and movable rail systems with 40mm and 80mm wide profiles. UMHW slide pads engage directly into the T-slots. Shims provide adjustment for a variety of assembly tolerances. Slide blocks are designed for a compression load – do not hang a load from the pad.

The slide blocks attach to any surface with M8 button head screws. The block slides along a profile when the profile is stationary, or a profile slides in the block, when the block is mounted. Clamping mechanism can be added to lock slide block in place.



UHMW-PE has one of the highest impact strengths of any thermoplastic. It is abrasion resistant, has high tensile strength, displays resistance to stress cracking, and has a low coefficient of friction. It is well-suited where durability and low friction are of paramount importance. Its high resistance to corrosive chemicals, with the exception of oxidizing acids, make it an ideal choice for a wide variety of corrosive environment applications. Maximum operating temperature is 210°F. UHMW-PE can also operate successfully at temperatures as low as -375°F, making it an excellent material for cryogenic applications.

UHMW-PE Design Information

Engineering Specifications of UHMW-Polyethylene

| General Properties | Temp. | ASTM Units | Typical Test | Value |
|------------------------------|-------|---------------------|--------------|-------------------------|
| Physical | | | | |
| Specific Gravity | 73°F | gms/cc | D792 | .830-.934 |
| Water Absorption 24 hours | 73°F | % | D670 | |
| Mechanical | | | | |
| Tensile Strength | | | | |
| Yield | 73°F | 10 ³ psi | D638 | 3.1 |
| Break | 73°F | 10 ³ psi | D638 | 7.0 |
| Tensile Elongation | | | | |
| Yield | 73°F | % | D638 | — |
| Break | 73°F | % | D638 | 350 |
| Izod Impact Strength | | | | |
| Notched | -40°F | ft-lbs/in | D256 | 21.0 |
| Notched | 73°F | ft-lbs/in | D256 | 30.0 |
| Shore Hardness | 73°F | | D2240 | D62-66 |
| Thermal | | | | |
| Deflection Temp: 68 psi | | °F | D648 | 203 |
| Coef. of Thermal Exp. | | in/in/°F | D698 | 1.11x10 ⁻⁵ |
| Thermal Conductivity | | BTU-in/Hr/Ft/°F | | 2.92 |
| Flammability Rating, UL94 | | | | HB |
| Electrical | | | | |
| Diel. Strength (short time) | | V/mil | D146 | 2,300 |
| Dielectric Constant, 50% RH | 73°F | | D160 | 2.3 |
| Dissipation Fact., 50% RH | 73°F | 50 Hz | D160 | 1.0 x 10 ⁻⁵ |
| | | 100 Hz | | 2.5 x 10 ⁻⁵ |
| Volume Resis. Dry | 73°F | ohm/cm | D287 | >5.0 x 10 ⁻⁵ |

Bearing Pad Properties

UHMW-PE Deformation under Compression (%)

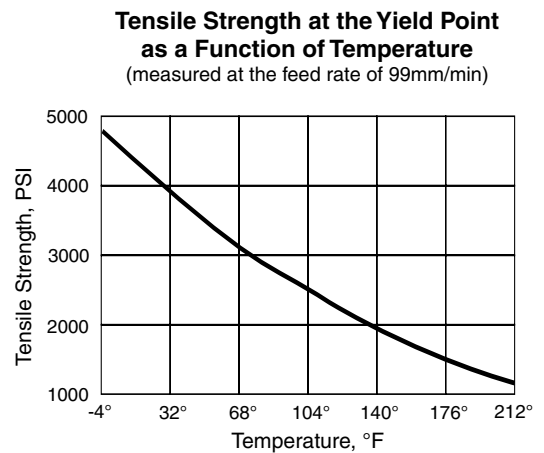
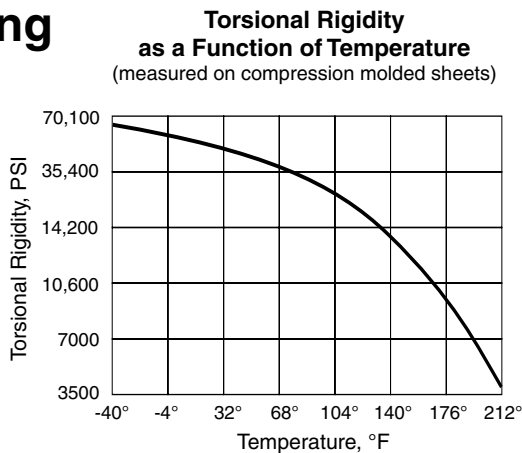
| Temp | PSI Compression | Initial Loading | | | | | Permanent Deformation After Removal of Load | |
|--------|-----------------|-----------------|----------|-----------|-------|---------|---------------------------------------------|---------------|
| | | 10 Min. | 100 Min. | 1000 Min. | 1 Day | 55 Days | After 1 Min. | After 24 Hrs. |
| 68° F | 282 | 1.5 | 1.7 | 1.8 | 1.9 | 2.4 | 0.9 | 0.8 |
| | 570 | 2.4 | 2.5 | 2.7 | 3.0 | 4.0 | 1.8 | 1.2 |
| | 850 | 3.0 | 4.0 | 4.5 | 5.0 | 5.1 | 2.7 | 1.8 |
| | 1140 | 4.0 | 5.0 | 6.0 | 7.0 | 7.5 | 3.6 | 2.4 |
| | 1420 | 5.0 | 6.6 | 7.5 | 8.0 | 9.0 | 4.5 | 2.8 |
| | 1700 | 7.0 | 7.5 | 8.0 | 10.0 | 11.0 | 5.4 | 3.5 |
| 122° F | 282 | 1.6 | 1.8 | 2.0 | 2.5 | 2.6 | 1.3 | 0.8 |
| | 570 | 2.6 | 3.0 | 3.5 | 4.0 | 5.0 | 2.7 | 1.5 |
| | 850 | 4.5 | 5.0 | 5.5 | 6.0 | 7.5 | 4.1 | 2.3 |
| | 1140 | 6.0 | 7.0 | 8.0 | 9.0 | 11.0 | 5.5 | 3.1 |
| | 1420 | 7.6 | 9.0 | 10.0 | 11.0 | 14.0 | 6.9 | 3.9 |
| | 1700 | 9.0 | 11.0 | 12.0 | 13.0 | 16.0 | 8.2 | 4.7 |
| 176° F | 282 | 2.6 | 3.0 | 3.5 | 4.0 | 4.5 | 1.8 | 1.1 |
| | 570 | 5.0 | 5.5 | 6.0 | 6.5 | 8.0 | 3.2 | 2.3 |
| | 850 | 7.5 | 8.0 | 9.0 | 10.0 | 12.0 | 4.8 | 3.5 |
| | 1140 | 10.0 | 11.0 | 12.5 | 14.0 | 15.5 | 6.4 | 4.6 |
| | 1420 | 12.5 | 14.0 | 15.5 | 17.0 | 20.0 | 8.1 | 5.8 |
| | 1700 | 15.0 | 17.0 | 18.0 | 20.5 | 24.0 | 9.7 | 6.9 |

Coefficient of Friction

UHMW-PE polymer has a lower coefficient of friction than glass. Together with its self-lubricating characteristics, it is an ideal material for bearings, bushings, valves, wear strips or any application where sliding contact is encountered.

| Materials | Static | Kinetic |
|--------------------------------------------|--------|---------|
| Aluminum vs. UHMW-PE | 0.12 | 0.016 |
| Anodized 204 R1 spec on extruded aluminum. | | |

Load Bearing Properties



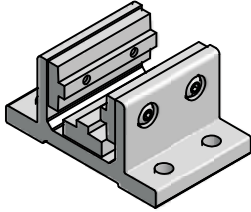
Chemical Resistance of UHMW-PE

| | |
|----------------------|--------------------------------------------------------------------------|
| Test specimens | Dumb-bell type |
| Duration of Test | 30 days |
| + Resistant | Mechanical properties not appreciably affected |
| / Limited Resistance | Decreases in yield stress and ultimate tensile strength less than 20% |
| - Not Resistant | Decreases in yield stress and ultimate tensile strength greater than 20% |

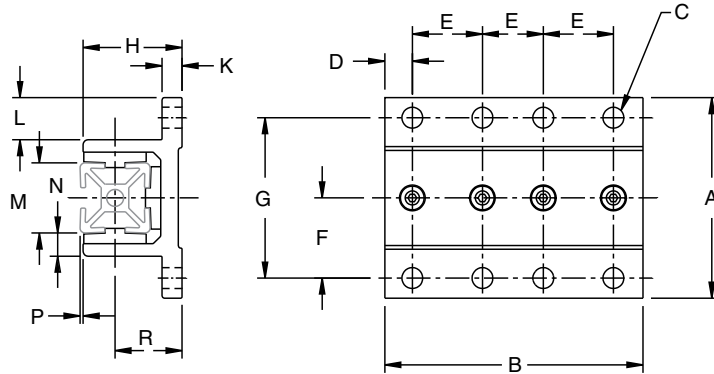
| Reagent | 20°C | 50°C | 80°C | Reagent | 20°C | 50°C | 80°C |
|------------------------------------------------------|------|------|------|----------------------------------------------------|------|------|------|
| I. Inorganic Acids | | | | V. Hydrocarbons | | | |
| Chromic acid (80%) | + | + | / | Benzene | / | / | - |
| Hydrochloric acid (conc) | + | + | + | Carbon Tetrachloride | / | - | - |
| Hydrocyanic acid | + | + | - | Cyclohexane | + | + | - |
| Hydrofluoric acid | - | - | - | Dichloroethylene | - | - | - |
| Nitric acid (conc) | / | - | - | Diesel oil | + | + | / |
| Nitric acid (50%) | + | + | / | n-Heptane | + | + | - |
| Nitric acid (20%) | + | + | + | Petroleum ether | + | - | - |
| Phosphoric acid (85%) | + | - | - | Trichloroethylene | / | - | - |
| Sulphuric acid (conc) | + | - | - | Toluene | / | - | - |
| Sulphuric acid (50%) | + | + | + | White spirit | + | / | - |
| | | | | Xylene | / | / | - |
| II. Alkalis | | | | VI. Alcohols, Ketones, Ester and Amines | | | |
| Aqueous ammonia | + | + | - | Acetone | + | + | - |
| Potassium Hydroxide solution | + | + | + | Aniline | + | + | / |
| Sodium Hydroxide solution | + | + | + | Benzyl alcohol | + | + | + |
| III. Aqueous Solutions of Inorganic Salts | | | | Butyl alcohol | + | + | + |
| Aluminum Chloride | + | + | - | Cyclohexanol | + | + | + |
| Aluminum Nitrate | + | + | + | Ethanol | + | + | - |
| Bleaching powder | + | + | + | Ethyl acetate | + | + | - |
| Calcium Chloride | + | + | + | Ethylene glycol | + | + | + |
| Sodium Carbonate | + | + | + | Glycene | + | + | + |
| Sodium Chloride | + | + | + | Lauryl alcohol | + | + | + |
| Sodium Hypochlorite | + | + | + | Propyl alcohol | + | + | + |
| Zinc Chloride | + | + | + | VII. Miscellaneous | | | |
| IV. Organic Acids | | | | Beer | + | + | + |
| Acetic acid (99%) | + | + | / | Detergents in aqueous solution | + | + | + |
| Acetic acid (10%) | + | + | + | Distilled water | + | + | + |
| Butyric acid | + | + | - | Hydrogen peroxide 30% | + | + | - |
| Citric acid | + | + | + | Linseed oil | + | + | + |
| Formic acid | + | + | - | Milk | + | + | + |
| Oleic acid | + | + | / | Olive Oil | + | + | + |
| | | | | Sea water | + | + | + |
| | | | | Wine | + | + | + |

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Double Flange 28 x 28 and 1" x 1"

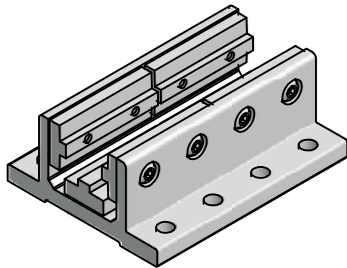


30-2801
30-1002



| Part # | A | B | C | D | E | F | G |
|---------|------|-----|--------|----|------|-----|------|
| 30-2801 | 80 | 50 | 4xØ8.3 | 11 | 28 | 32 | 64 |
| 30-2808 | 80 | 100 | 8xØ8.3 | 8 | 28 | 32 | 64 |
| Part # | H | K | L | M | N | P* | R |
| 30-2801 | 39.5 | 8 | 16.75 | 28 | 9.25 | 1.1 | 26.9 |
| 30-2808 | 39.5 | 8 | 16.75 | 28 | 9.25 | 1.1 | 26.9 |

* Add 28mm (1.102") when using 12-248 profile.



30-2808
30-1004

| Part # | A | B | C | D | E | F | G |
|---------|-------|-------|----------|-------|-------|-------|-------|
| 30-1002 | 3.15" | 2.00" | 4xØ0.28" | 0.50" | 1.00" | 1.25" | 2.50" |
| 30-1004 | 3.15" | 4.00" | 8xØ0.28" | 0.50" | 1.00" | 1.25" | 2.50" |
| Part # | H | K | L | M | N | P | R |
| 30-1002 | 1.56" | 0.31" | 0.66" | 1.03" | 0.40" | 0.06" | 1.11" |
| 30-1004 | 1.56" | 0.31" | 0.66" | 1.03" | 0.40" | 0.06" | 1.11" |

Application

These double flange units offer low cost linear guidance. They utilize glide pads oriented within T-slots. You make your own guidance device. You provide the power – pneumatic, electro-mechanical or manual.

Shims are available to provide a more precise fit. See page 201 for optional clamping mechanism and page 202 for machining details.

Technical Data

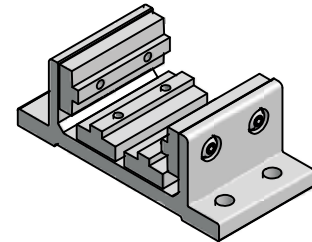
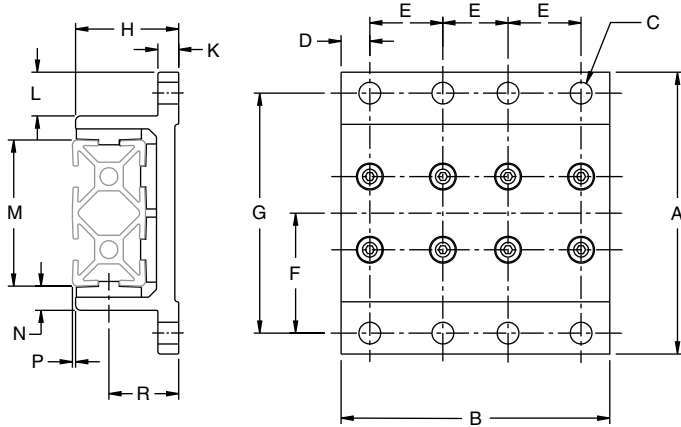
Aluminum, Clear Anodized

UHMW glide pads

Ordering Information

| Description | Unit | Weight | Part # |
|----------------------------|------|---------|---------|
| Slide Block 28, 50mm Long | Each | 0.14 kg | 30-2801 |
| Slide Block 28, 100mm Long | Each | 0.58 kg | 30-2808 |
| Slide Block 1, 2" Long | Each | 0.14 kg | 30-1002 |
| Slide Block 1, 4" Long | Each | 0.25 kg | 30-1004 |

Double Flange 56 x 28 and 2" x 1"

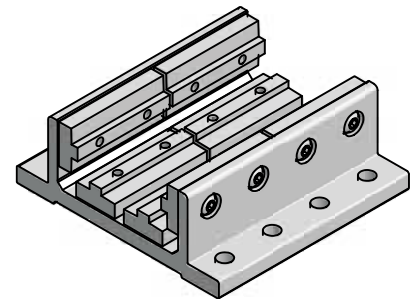


30-5601
30-2002

| Part # | A | B | C | D | E | F | G |
|---------|------|-----|--------|----|------|-------|-------|
| 30-5601 | 108 | 50 | 4xØ8.3 | 11 | 28 | 46 | 92 |
| 30-5608 | 108 | 100 | 8xØ8.3 | 8 | 28 | 46 | 92 |
| Part # | H | K | L | M | N | P* | R |
| 30-5601 | 39.5 | 8 | 16.75 | 56 | 9.25 | 1.125 | 26.75 |
| 30-5608 | 39.5 | 8 | 16.75 | 56 | 9.25 | 1.125 | 26.75 |

* Add 28mm (1.102") when using 12-056 profile.

| Part # | A | B | C | D | E | F | G |
|---------|-------|-------|----------|-------|-------|-------|-------|
| 30-2002 | 4.25" | 2.00" | 4xØ0.28" | 0.50" | 1.00" | 1.75" | 3.50" |
| 30-2004 | 4.25" | 4.00" | 8xØ0.28" | 0.50" | 1.00" | 1.75" | 3.50" |
| Part # | H | K | L | M | N | P | R |
| 30-2002 | 1.56" | 0.31" | 0.66" | 2.03" | 0.45" | 0.06" | 1.11" |
| 30-2004 | 1.56" | 0.31" | 0.66" | 2.03" | 0.45" | 0.06" | 1.11" |



30-5608
30-2004

Application Data

These double flange units offer low cost linear guidance. They utilize glide pads oriented within T-slots. You make your own guidance device. You provide the power – pneumatic, electro-mechanical, or manual.

Shims are available to provide a more precise fit. See page 201 for optional clamping mechanism and page 202 for machining details.

Technical Data

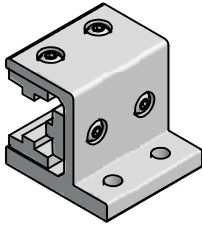
Aluminum, Clear Anodized
 UHMW glide pads

Ordering Information

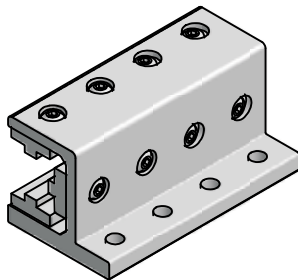
| Description | Unit | Weight | Part # |
|----------------------------|------|---------|---------|
| Slide Block 28, 50mm Long | Each | 0.34 kg | 30-5601 |
| Slide Block 28, 100mm Long | Each | 0.72 kg | 30-5608 |
| Slide Block 2, 2" Long | Each | 0.23 kg | 30-2002 |
| Slide Block 2, 4" Long | Each | 0.42 kg | 30-2004 |



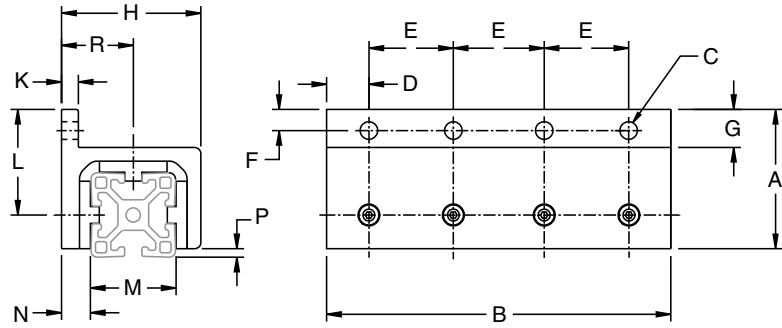
Side Flange 28 x 28 and 1" x 1"



30-2821
30-1012



30-2828
30-1014



| Part # | A | B | C | D | E | F | G |
|---------|------|-----|--------|----|------|-----|------|
| 30-2821 | 54 | 50 | 2xØ8.3 | 11 | 28 | 10 | 18 |
| 30-2828 | 54 | 100 | 4xØ8.3 | 8 | 28 | 10 | 18 |
| Part # | H | K | L | M | N | P* | R |
| 30-2821 | 49.5 | 8 | 41 | 28 | 11.9 | 1.2 | 26.3 |
| 30-2828 | 49.5 | 8 | 41 | 28 | 11.9 | 1.2 | 26.3 |

* Add 28mm (1.102") when using 12-428 profile.

| Part # | A | B | C | D | E | F | G |
|---------|-------|-------|----------|-------|-------|--------|-------|
| 30-1012 | 2.13" | 2.00" | 2xØ0.28" | 0.50" | 1.00" | 0.375" | 0.71" |
| 30-1014 | 2.13" | 4.00" | 4xØ0.28" | 0.50" | 1.00" | 0.375" | 0.71" |
| Part # | H | K | L | M | N | P | R |
| 30-1012 | 1.95" | 0.31" | 1.68" | 1.03" | 0.52" | 0.06" | 1.03" |
| 30-1014 | 1.96" | 0.31" | 1.68" | 1.03" | 0.52" | 0.06" | 1.03" |

Application

Used with 28x28 profiles for low cost linear applications where one side is not available for mounting. Delrin slide pads engage directly into the profile T-slots. Shims are available to provide a more precise fit. See page 201 for optional clamping mechanism and page 202 for machining details.

Technical Data

Aluminum, Clear Anodized
UHMW glide pads

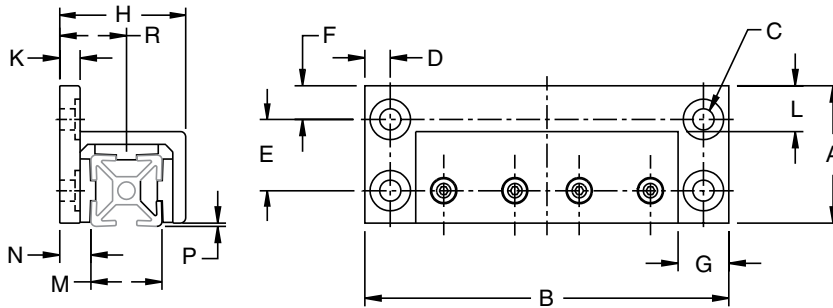
Ordering Information

| Description | Unit | Weight | Part # |
|----------------------------|------|---------|---------|
| Slide Block 28, 50mm Long | Each | 0.34 kg | 30-2821 |
| Slide Block 28, 100mm Long | Each | 0.39 kg | 30-2828 |
| Slide Block 1", 2" Long | Each | 0.14 kg | 30-1012 |
| Slide Block 1", 4" Long | Each | 0.25 kg | 30-1014 |

Note: All dimensions in mm (in)



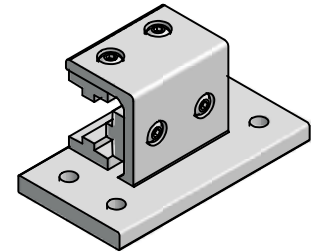
**Side Flange
 Extended
 28 x 28 and 1" x 1"**



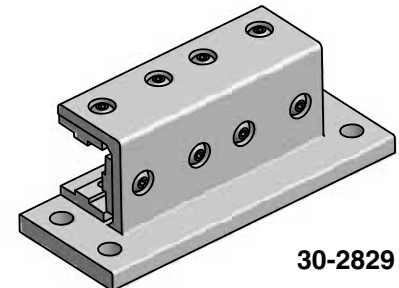
| Part # | A | B | C | D | E | F | G |
|---------|------|-----|--------|----|----|------|------|
| 30-2822 | 54 | 90 | 4xØ8.3 | 10 | 28 | 13.2 | 20 |
| 30-2829 | 54 | 140 | 4xØ8.3 | 10 | 28 | 13.2 | 20 |
| Part # | H | K | L | M | N | P* | R |
| 30-2822 | 49.5 | 8 | 18 | 28 | 12 | 11.9 | 26.3 |
| 30-2829 | 49.5 | 8 | 18 | 28 | 12 | 11.9 | 26.3 |

* Add 28mm (1.102") when using 12-428 profile.

| Part # | A | B | C | D | E | F | G |
|---------|-------|-------|----------|-------|-------|-------|-------|
| 30-1024 | 2.13" | 4.00" | 4xØ0.28" | 0.50" | 1.00" | 0.56" | 1.00" |
| Part # | H | K | L | M | N | P | R |
| 30-1024 | 1.95" | 0.31" | 0.71" | 1.03" | 0.52" | 0.06" | 1.03" |



**30-2822
 30-1024**



30-2829

Application

Used with 28x28 profiles for low cost linear applications where one side is not available for mounting. Delrin slide pads engage directly into the profile T-slots. Shims are available to provide a more precise fit. See page 201 for optional clamping mechanism and page 202 for machining details.

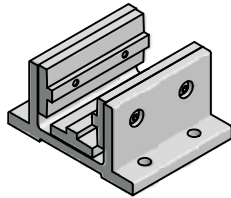
Technical Data

Aluminum, Clear Anodized
 UHMW glide pads

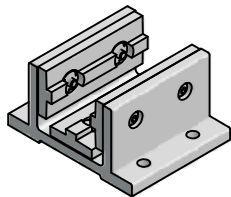
Ordering Information

| Description | Unit | Weight | Part # |
|---------------------------------------|------|---------|---------|
| Slide Block 28, 90mm Long | Each | 0.34 kg | 30-2822 |
| Slide Block 28, 140mm Long | Each | 0.72 kg | 30-2829 |
| Slide Block 1" Extended, 4" Long Each | | 0.26 kg | 30-1024 |

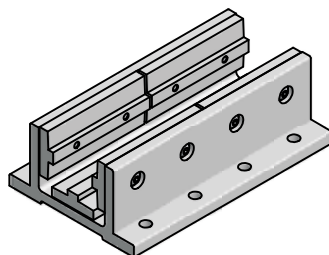
Double Flange 40 x 40 and 1.5" x 1.5"



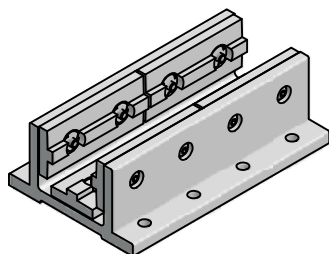
30-4001
30-1503



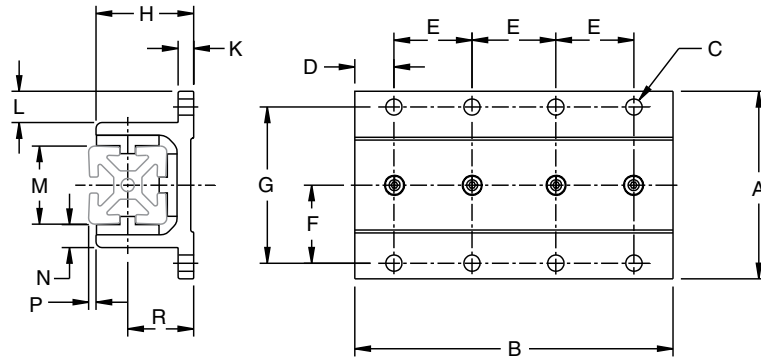
30-4001HC
30-1503HC



30-4008
30-1506



30-4008HC
30-1506HC



| Part # | A | B | C | D | E | F | G |
|---------|----|-----|--------|----|----|----|----|
| 30-4001 | 96 | 80 | 4xØ8.3 | 20 | 40 | 40 | 80 |
| 30-4008 | 96 | 160 | 8xØ8.3 | 20 | 40 | 40 | 80 |
| Part # | H | K | L | M | N | P* | R |
| 30-4001 | 50 | 8 | 16 | 40 | 12 | 4 | 34 |
| 30-4008 | 50 | 8 | 16 | 40 | 12 | 4 | 34 |

* Add: 40mm (1.575") when using 10-080, 10-680 or 11-080 profile.
80mm (3.15") when using 10-120 profile.
120mm (4.72") when using 10-164 or 11-140 profile.

| Part # | A | B | C | D | E | F | G |
|---------|-------|-------|----------|-------|-------|-------|-------|
| 30-1503 | 3.78" | 3.00" | 4xØ0.28" | 0.75" | 1.50" | 1.50" | 3.00" |
| 30-1506 | 3.78" | 6.00" | 8xØ0.28" | 0.75" | 1.50" | 1.50" | 3.00" |
| Part # | H | K | L | M | N | P | R |
| 30-1503 | 1.97" | 0.31" | 0.63" | 1.52" | 0.50" | 0.12" | 1.34" |
| 30-1506 | 1.97" | 0.31" | 0.63" | 1.52" | 0.50" | 0.12" | 1.34" |

Application

Bearing block for slides and movable rail applications requiring very cost efficient construction. This block can be used on 40 series Standard or Heavy profiles. High cycle (HC) units utilize a steel threaded insert to mount the pad to the unit. These specially designed slide block units are used in high cycle applications where rapid acceleration and deceleration takes place.

Shims are available to provide a more precise fit. See page 201 for optional clamping mechanism and page 202 for machining details.

Technical Data

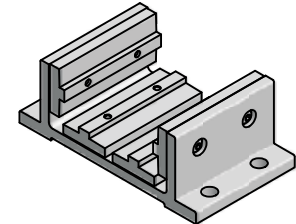
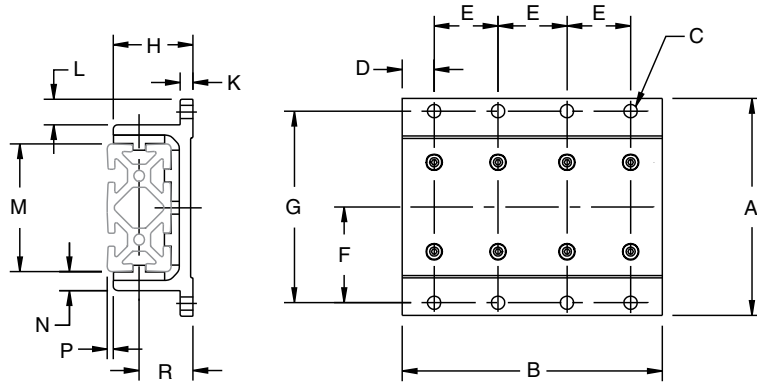
Aluminum, Clear Anodized
UHMW glide pads

Safe load:
30-4001 or 30-1503 = 1,000 N (225 lbs)
30-4008 or 30-1506 = 2,000 N (450 lbs)

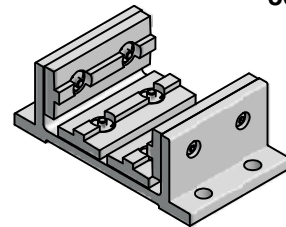
Ordering Information

| Description | Unit | Weight | Part # |
|-------------------------------|------|---------|-----------|
| Slide Block 40, 80mm Long | 1 pc | 0.31 kg | 30-4001 |
| Slide Block 40, 160mm Long | 1 pc | 0.62 kg | 30-4008 |
| Slide Block 40 HC, 80mm Long | 1 pc | 0.31 kg | 30-4001HC |
| Slide Block 40 HC, 160mm Long | 1 pc | 0.62 kg | 30-4008HC |
| Slide Block 1.5, 3" Long | 1 pc | 0.31 kg | 30-1503 |
| Slide Block 1.5, 6" Long | 1 pc | 0.62 kg | 30-1506 |
| Slide Block 1.5 HC, 3" Long | 1 pc | 0.31 kg | 30-1503HC |
| Slide Block 1.5 HC, 6" Long | 1 pc | 0.62 kg | 30-1506HC |

Double Flange 80 x 40 and 3" x 1.5"



30-8001
30-3003

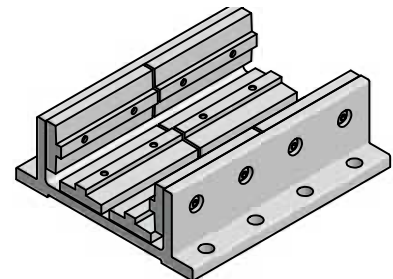


30-8001HC
30-3003HC

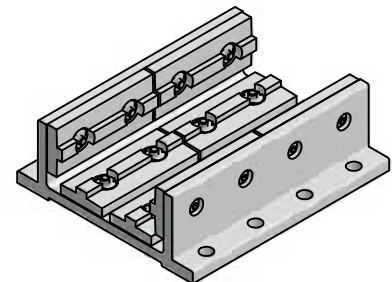
| Part # | A | B | C | D | E | F | G |
|---------|-----|-----|--------|----|----|-----|-----|
| 30-8001 | 136 | 80 | 4xØ8.3 | 20 | 40 | 60 | 120 |
| 30-8008 | 136 | 160 | 8xØ8.3 | 20 | 40 | 60 | 120 |
| Part # | H | K | L | M | N | P* | R |
| 30-8001 | 50 | 8 | 16 | 80 | 12 | 3.7 | 34 |
| 30-8008 | 50 | 8 | 16 | 80 | 12 | 3.7 | 34 |

* Add: 40mm (1.575") when using 10-088 or 11-088 profile.
 120mm (4.72") when using 10-160 or 11-160 profile.

| Part # | A | B | C | D | E | F | G |
|---------|-------|-------|----------|-------|-------|-------|-------|
| 30-3003 | 5.35" | 3.00" | 4xØ0.34" | 0.75" | 1.50" | 2.35" | 4.69" |
| 30-3006 | 5.35" | 6.00" | 8xØ0.34" | 0.75" | 1.50" | 2.35" | 4.69" |
| Part # | H | K | L | M | N | P | R |
| 30-3003 | 1.97" | 0.31" | 0.63" | 3.02" | 0.54" | 0.12" | 1.34" |
| 30-3006 | 1.93" | 0.31" | 0.63" | 3.02" | 0.54" | 0.12" | 1.34" |



30-8008
30-3006



30-8008HC
30-3006HC

Application

Bearing block for slides and movable rail applications requiring very cost efficient construction. This block can be used on the 80mm side of 40 series Standard or Heavy profiles. High cycle (HC) units utilize a steel threaded insert to mount the pad to the unit. These specially designed slide block units are used in high cycle applications where rapid acceleration and deceleration takes place.

Shims are available to provide a more precise fit. See page 201 for optional clamping mechanism and page 202 for machining details.

Technical Data

Aluminum, Clear Anodized
 UHMW glide pads

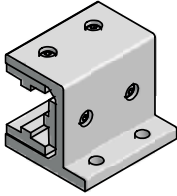
Safe load:
 30-8001 or 30-3003 = 2,000 N (450 lb)
 30-8008 or 30-3006 = 4,000 N (900 lb)

Ordering Information

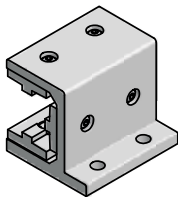
| Description | Unit | Weight | Part # |
|-------------------------------|------|---------|-----------|
| Slide Block 80, 80mm Long | 1 pc | 0.38 kg | 30-8001 |
| Slide Block 80, 160mm Long | 1 pc | 0.76 kg | 30-8008 |
| Slide Block 80 HC, 80mm Long | 1 pc | 0.38 kg | 30-8001HC |
| Slide Block 80 HC, 160mm Long | 1 pc | 0.76 kg | 30-8008HC |
| Slide Block 3, 3" Long | 1 pc | 0.38 kg | 30-3003 |
| Slide Block 3, 6" Long | 1 pc | 0.76 kg | 30-3006 |
| Slide Block 3 HC, 3" Long | 1 pc | 0.38 kg | 30-3003HC |
| Slide Block 3 HC, 6" Long | 1 pc | 0.76 kg | 30-3006HC |



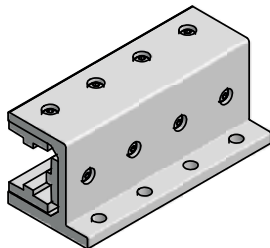
Side Flange 40 x 40 and 1.5" x 1.5"



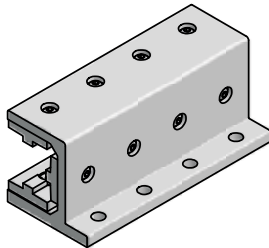
30-4021
30-1513



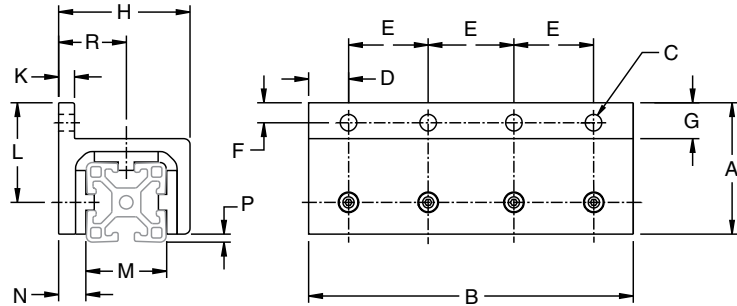
30-4021HC
30-1513HC



30-4028
30.1523



30-4028HC
13-1523HC



| Part # | A | B | C | D | E | F | G |
|---------|----|-----|--------|----|----|----|----|
| 30-4021 | 66 | 80 | 2xØ8.3 | 20 | 40 | 10 | 18 |
| 30-4028 | 66 | 160 | 4xØ8.3 | 20 | 40 | 10 | 18 |
| Part # | H | K | L | M | N | P* | R |
| 30-4021 | 66 | 8 | 50 | 40 | 14 | 4 | 34 |
| 30-4028 | 66 | 8 | 50 | 40 | 14 | 4 | 34 |

* Add: 40mm (1.575") when using 10-080, 10-680 or 11-080 profile.
80mm (3.15") when using 10-120 profile.
120mm (4.72") when using 10-164 or 11-140 profile.

| Part # | A | B | C | D | E | F | G |
|---------|-------|-------|----------|-------|-------|-------|-------|
| 30-1513 | 2.60" | 3.00" | 2xØ0.34" | 0.75" | 1.50" | 0.38" | 0.71" |
| 30-1523 | 2.60" | 6.00" | 4xØ0.34" | 0.75" | 1.50" | 0.38" | 0.71" |
| Part # | H | K | L | M | N | P | R |
| 30-1513 | 2.60" | 0.31" | 1.97" | 1.61" | 0.58" | 0.12" | 1.34" |
| 30-1523 | 2.60" | 0.31" | 1.97" | 1.61" | 0.58" | 0.12" | 1.34" |

Application

Used with 40x40 or 1.5"x1.5" profiles for low cost linear applications where one side is not available for mounting. Slide pads engage directly into the profile T-slots. Shims are available to provide a more precise fit. High cycle (HC) units utilize a steel threaded insert to mount the pad to the unit. These specially designed slide block units are used in high cycle applications where rapid acceleration and deceleration takes place.

Optional clamping mechanism can be added as required. Each clamp requires a machined hole. Refer to pages 201-202 for details

Technical Data

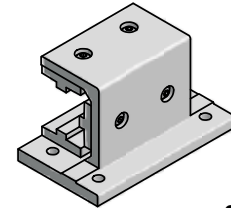
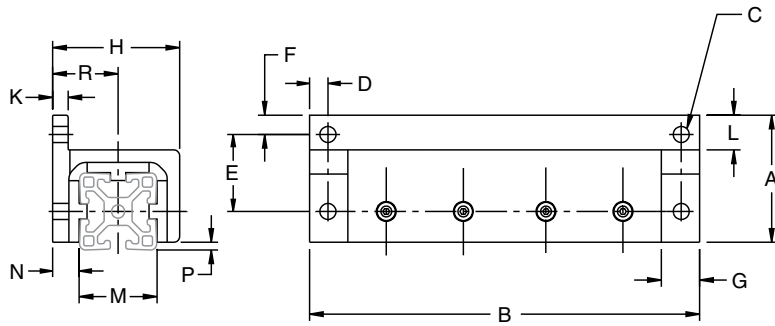
Aluminum, Clear Anodized

UHMW glide pads

Ordering Information

| Description | Unit | Weight | Part # |
|-------------------------------|------|---------|------------|
| Slide Block 40, 80mm Long | Each | 0.31 kg | 30-4021 |
| Slide Block 40, 160mm Long | Each | 0.42 kg | 30-4028 |
| Slide Block 40 HC, 80mm Long | Each | 0.31 kg | 30-4021HC |
| Slide Block 40 HC, 160mm Long | Each | 0.42 kg | 30-4028HC |
| Slide Block 1.5, 3" Long | Each | 0.31 kg | 30-1513 |
| Slide Block 1.5, 6" Long | Each | 0.62 kg | 30-1523 |
| Slide Block 1.5 HC, 3" Long | Each | 0.31 kg | 30-1513 HC |
| Slide Block 1.5 HC, 6" Long | Each | 0.62 kg | 30-1523 HC |

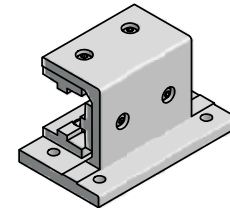
Side Flange Extended 40 x 40 and 1.5" x 1.5"



30-4022
30-1516

| Part # | A | B | C | D | E | F | G |
|---------|----|-----|--------|----|----|----|----|
| 30-4022 | 66 | 120 | 4xØ8.3 | 10 | 40 | 10 | 20 |
| 30-4029 | 66 | 200 | 4xØ8.3 | 10 | 40 | 10 | 20 |
| Part # | H | K | L | M | N | P* | R |
| 30-4022 | 66 | 8 | 18 | 40 | 14 | 4 | 34 |
| 30-4029 | 66 | 8 | 18 | 40 | 14 | 4 | 34 |

* Add: 40mm (1.575") when using 10-080, 10-680 or 11-080 profile.
 80mm (3.15") when using 10-120 profile.
 120mm (4.72") when using 10-164 or 11-140 profile.



30-4022HC
30-1516HC

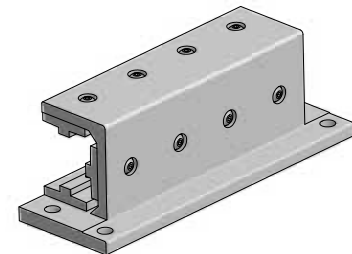
| Part # | A | B | C | D | E | F | G |
|---------|-------|-------|----------|-------|-------|-------|-------|
| 30-1516 | 2.60" | 4.50" | 4xØ0.34" | 0.50" | 1.50" | 0.47" | 0.75" |
| Part # | H | K | L | M | N | P* | R |
| 30-1516 | 2.60" | 0.31" | 1.97" | 1.50" | 0.58" | 0.12" | 1.34" |

Application

Used with 40x40 or 1.5"x1.5" profiles for low cost linear applications where one side is not available for mounting. Slide pads engage directly into the profile T-slots. Shims are available to provide a more precise fit.

High cycle (HC) units utilize a steel threaded insert to mount the pad to the unit. These specially designed slide block units are used in high cycle applications where rapid acceleration and deceleration takes place.

Optional clamping mechanism can be added as required. Each clamp requires a machined hole. Refer to pages 201-202 for details.



30-4029

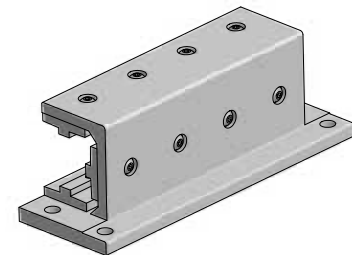
Technical Data

Aluminum, Clear Anodized

UHMW glide pads

Ordering Information

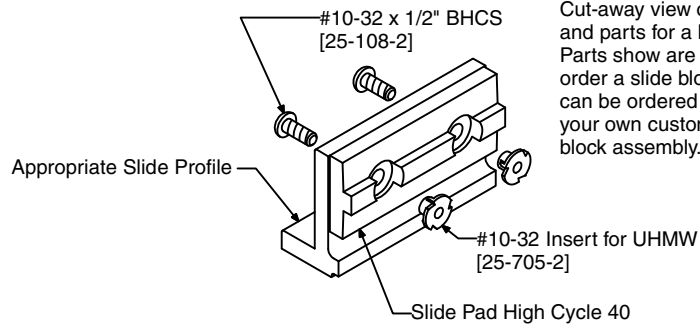
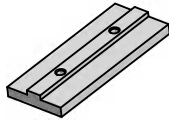
| Description | Unit | Weight | Part # |
|-------------------------------|------|---------|-----------|
| Slide Block 40, 120mm Long | Each | 0.34 kg | 30-4022 |
| Slide Block 40, 200mm Long | Each | 0.72 kg | 30-4029 |
| Slide Block 40 HC, 120mm Long | Each | 0.34 kg | 30-4022HC |
| Slide Block 40 HC, 200mm Long | Each | 0.72 kg | 30-4029HC |
| Slide Block 1.5, 4.5" Long | Each | 0.37 kg | 30-1516 |
| Slide Block 1.5 HC, 4.5" Long | Each | 0.37 kg | 30-1516HC |



30-4029HC



Slide Pads & Shims



Cut-away view of the assembly and parts for a high cycle slide. Parts shown are included when you order a slide block assembly, but can be ordered separately to make your own custom high cycle slide block assembly.

Application

Glide pads let you custom design a low friction guidance unit. Slide pad can also be attached to a profile to serve as a guide in sliding door applications.

Technical Data

Slide Pad: UHMW

Shim: PET (polyethylene terephthalate), 0.005" thick

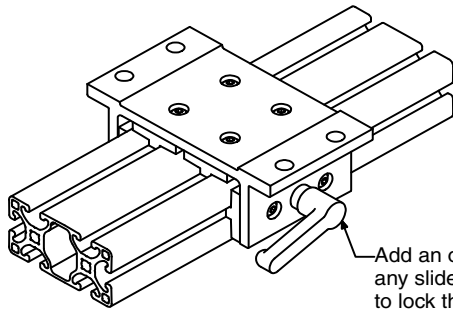
Recommended Fastener: 24-112-5

Ordering Information

| Description | Unit | Part # |
|--------------------------------------|----------|-----------|
| Slide Pad 28 Series, 80mm* | 1 pc | 30-2800-2 |
| Slide Pad 40 Series, 80mm* | 1 pc | 30-4000-2 |
| Slide Pad 40 Series, 300mm† | 1 pc | 30-4000-3 |
| Slide Pad 40 Series, 80mm High Cycle | 1 pc | 30-4000-6 |
| Shim 80 | pkg of 4 | 30-412Z2 |
| Shim 160 | pkg of 4 | 30-812Z2 |
| Slide Pad, 1" x 2" * | 1 pc | 30-1000 |
| Slide Pad, 1" x 2" Top* | 1 pc | 30-1001 |
| Slide Pad, 1" x 2" Top* | 1 pc | 30-2000 |
| Slide Pad, 1.5" x 3" * | 1 pc | 30-1500 |
| Slide Pad, 1.5" x 3" High Cycle | 1 pc | 30-1501 |
| Slide Pad, 3" * | 1 pc | 30-3000 |
| Slide Pad, 3" High Cycle | 1 pc | 30-3001 |

* Tapped

† Un-tapped



Add an optional locking handle to any slide block, to provide a mechanism to lock the slide block in place anywhere on the extrusion.

Application

These clamp accessories provide positioning and adjustment for 40 Series slide units. Handles provide mechanism to lock the slide block in place anywhere on the extrusion.

Slide extrusions and pads can be drilled to accept clamp.

Ordering Information

| Description | Width (mm) | Depth (mm) | Part # | |
|---------------------|------------|------------|----------------|-----------|
| | | | 40/1.5" Series | 28 Series |
| Ratcheting L-Handle | 63 | 32.8 | 30-0011 | 30-0001 |
| Star Handle | 40 | 36.7 | 30-0015 | 30-0005 |

Clamp Accessories



30-0001



30-0005



30-0011



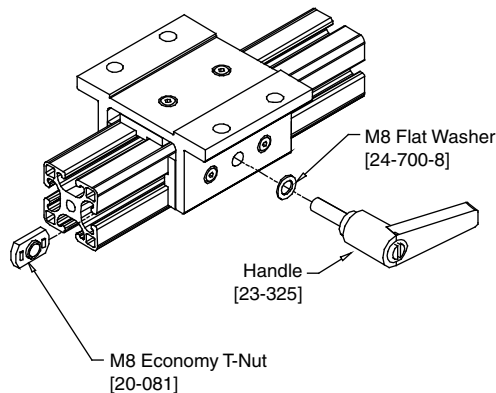
30-0015

Application

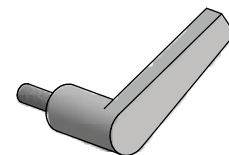
For use on applications where a locking handle is desired, particularly on profile slide blocks. A 9mm hole is required to mount the ratchet lever.

Technical Data

Fiber reinforced techno-polymer plastic with metal insert. Hardware varies with application.



Ratchet Lever



23-325

Ordering Information

| Description | Unit | Weight | Part # |
|-----------------------|------|--------|--------|
| Ratchet Lever M8 x 16 | Each | 87 g | 23-316 |
| Ratchet Lever M8 x 20 | Each | 43 g | 23-320 |
| Ratchet Lever M8 x 25 | Each | 45 g | 23-325 |
| Ratchet Lever M8 x 40 | Each | 50 g | 23-340 |
| Ratchet Lever M8 x 50 | Each | 53 g | 23-350 |
| Ratchet Lever M8 x 63 | Each | 57 g | 23-363 |



Clamp Machining

Slide blocks may be pre-drilled for mounting of the clamp. If drilling is desired, specify the machining service number and give the location of the hole(s) to be drilled according to the drawings below.

Ordering Information

| Profiles | Hole Size | Machining Service No. |
|----------------------|-----------|-----------------------|
| 28, 56, 40, 80, 1.5" | Ø0.323" | 19-140 |

Ordering Examples:

Slide block drilled for one clamp

(note the description added to the slide block part number):

30-2822 w/19-140 @ LU

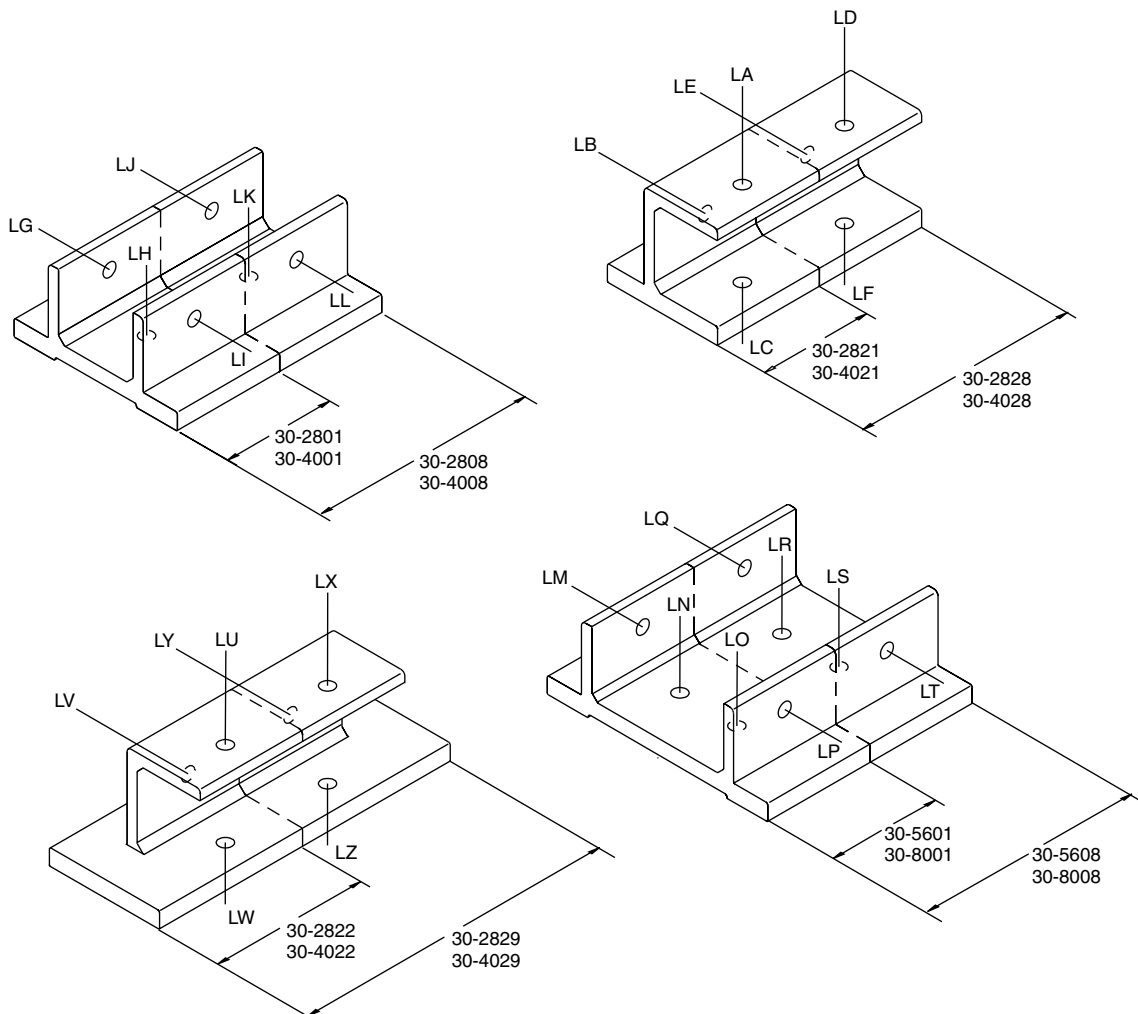
Multiple clamps may be mounted on a slide block. Each clamp requires a hole to be drilled. Note the description and the number of holes is added to the slide block part number.

Guide drilled for two clamps:

30-4008 w/19-140 @ LG and LL

Guide drilled for three clamps:

30-8008 w/19-140 @ LP, LT and LM



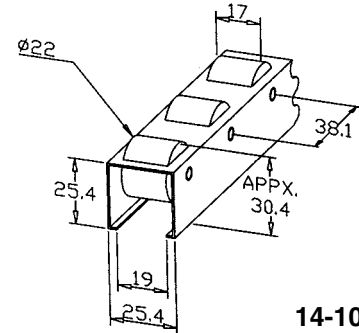
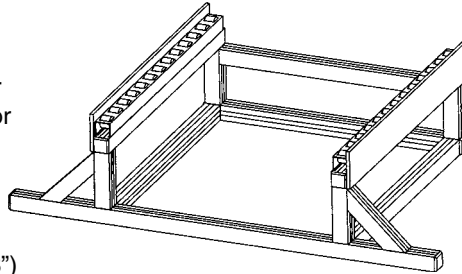
Roller Track

Application

Economical track for flow rack system. Usually use two tracks per runway but three or four may be used with heavy or wide loads. Can be attached to 40, 30 or 28 Series profiles.

Technical Data

Channel: rolled steel, galvanized (0.028")
 Roller: PE, white
 Load: 22 N (5 lbs) per roller



14-100

Ordering Information

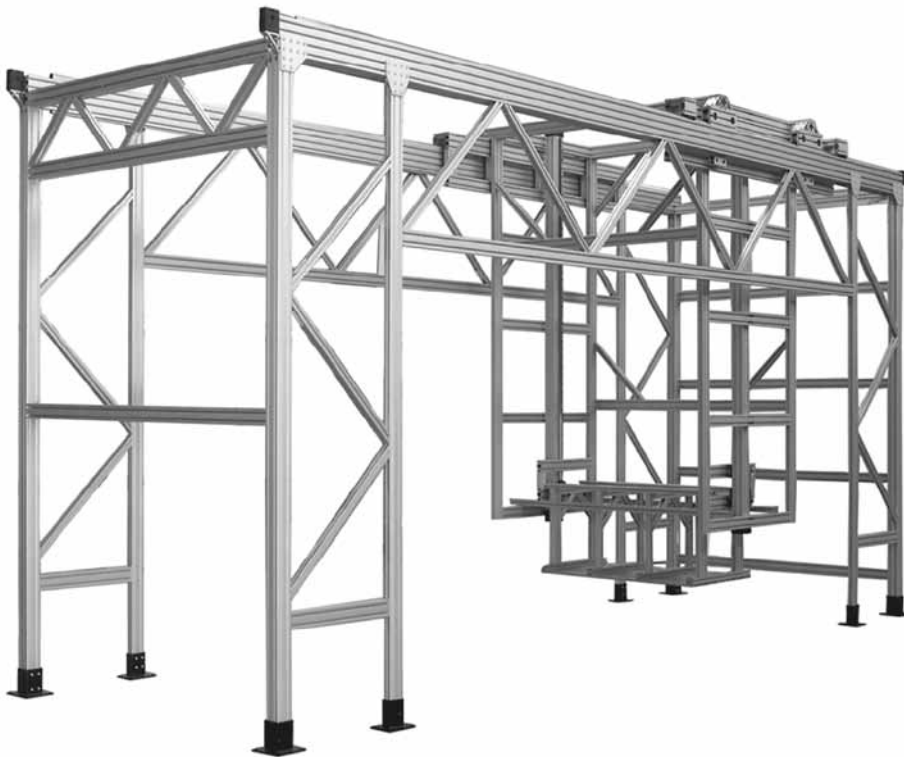
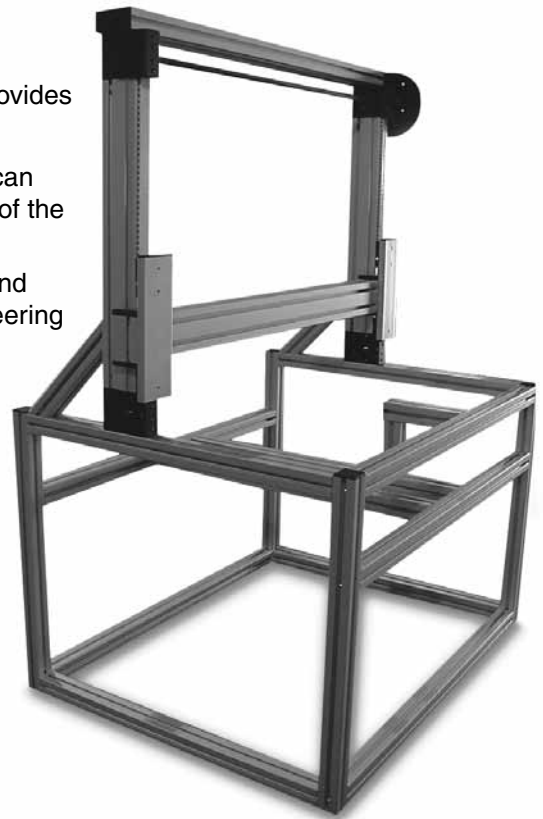
| Description | Unit | Part # |
|-------------------------------------|--------------------|--------|
| Roller Track | per meter, max. 3M | 14-100 |
| Saw cut necessary for cut to length | | 19-007 |

LR Series System Solutions

LR Series provides seamless integration with engineered structures from Parker IPS providing a more complete system solution.

Integrating LR Series products with Parker IPS structural systems provides clear advantages over welded steel construction.

- Welding distortion is eliminated producing a highly accurate finished product
- Anodized aluminum is corrosion resistant and does not require painting or maintenance.
- Shorter delivery lead times than other fabrication techniques
- Modifications and changes can be made through all stages of the project
- Integrating motion, control and structure streamlines engineering and supply chain channels.
- Fast, accurate 3D system drawings



LR Series and Parker IPS provide solutions to a wide variety of industries and applications including:

- Automotive
- Industrial Manufacturing
- Life-Sciences
- Packaging
- Material Handling
- Machine Building
- Aerospace
- Textiles
- Pulp & Paper
- Semi-conductor

The LR Series Belt Drive Roller System from Parker IPS

Linear Roller Series products from Parker IPS provide a high level of accuracy, load-bearing strength, and flexibility in a modular, low-cost package. These products utilize standard components and can adapt to a wide range of applications.

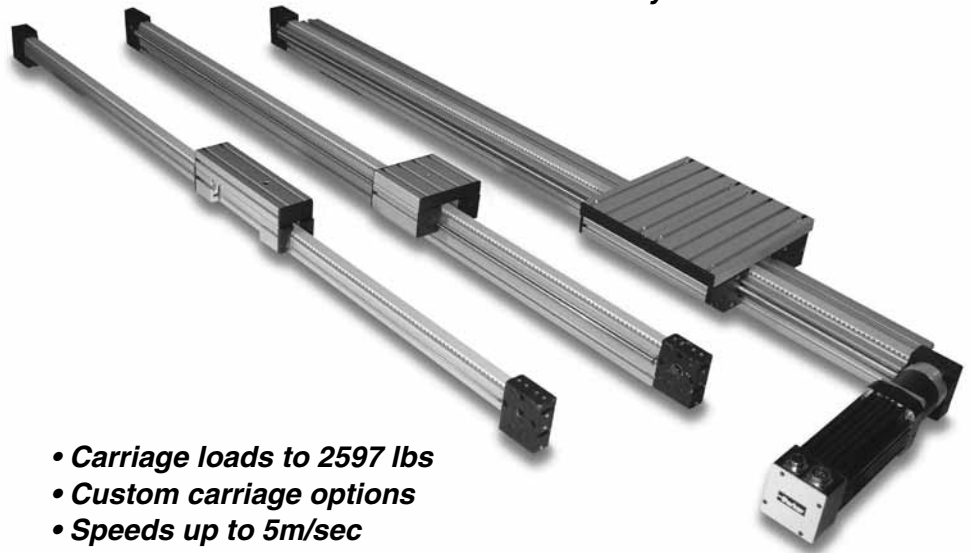
The foundation of the LR product line is the 40 Series of structural profiles that offer numerous mounting configurations. Profiles allowing maximum unsupported spans can be selected, saving valuable space and reducing overall system costs. Standard lengths of 6m and the ability to splice multiple sections allow configuration of nearly infinite stroke.

LR Roller Bearings are made of 100 Cr6, ground and hardened steel, and provide low friction, long life, high speed, and heavy load capabilities. Bearing units are available as single and double roller types. Custom carriage configurations using multiple bearing units can be set up to meet off-the-shelf lead times.

The modular design allows for easy assembly, fast engineering, and a flexible platform capable of meeting even the most demanding application.

Market Applications

- **Material Handling**
- **Gantry Systems**
- **Visual Inspection**
- **Assembly and Transfer Lines**



- **Carriage loads to 2597 lbs**
- **Custom carriage options**
- **Speeds up to 5m/sec**
- **Easy mounting to AC motors**
- **Stroke lengths over 6m**
- **Instant motor/gearbox approval**

Performance Overview

| | LR 6 | LR 14 | LR 14HD | LR 25 |
|-----------------------------------------------------|-----------|-------------|-------------|----------------|
| Maximum Carriage Load N (lbs) | 649 (146) | 2,669 (600) | 3,350 (753) | 11,552 (2,597) |
| Pully Diameter (mm): Reversing Unit 40 | 47.75 | 47.75 | 47.75 | 47.75 |
| Pully Diameter (mm): Reversing Unit 80 | 89.12 | 89.12 | 89.12 | 89.12 |
| Pully Lead (mm/rev): Reversing Unit 40 | 150 | 150 | 150 | 150 |
| Pully Lead (mm/rev): Reversing Unit 80 | 280 | 280 | 280 | 280 |
| Maximum Travel Without Splice (mm)* | 5900 | 5850 | 5840 | 5680 |
| Minimum Travel (mm) | 300 | 250 | 240 | 80 |
| Maximum Drive Torque (Nm): Reversing Unit 40 | 20 | 20 | 20 | 20 |
| Maximum Drive Torque (Nm): Reversing Unit 80 | 37 | 37 | 37 | 37 |
| Maximum Belt Traction (lbs/belt) | 575 | 575 | 575 | 575 |
| Maximum Number of Belts | 1 | 2 | 2 | 4 |
| Maximum Speed (m/s) | 5 | 5 | 5 | 5 |
| Maximum Acceleration at No Load (m/s ²) | 10 | 10 | 10 | 10 |
| Repeatability (mm) | ± .10 | ± .10 | ± .10 | ± .10 |

* Consult factory for long travel lengths.



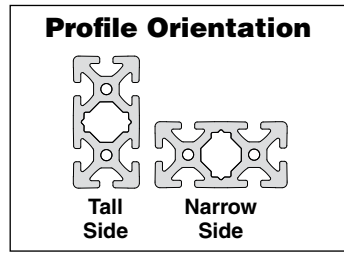
Order Example

LR | B | 5 | 2 | S0150 | B | 2000 | R1 | S1 | F1 | - | A22A34

- ✓ **System Size**
 LR 6..... A
 LR 14..... B
 LR 14HD..... C
 LR 25..... D
- ✓ **Extrusion Selection*****
 40x80 Standard..... 3
 40x80 Heavy..... 4
 80x80 Standard..... 5
 80x80 Heavy..... 6
 80x80 Super Heavy..... 7
 80x160 Standard..... 8
 160x80 Heavy..... 9
 120x80 Heavy..... 0
- ✓ **Profile Orientation**
 Tall Side (see example figures)..... 1
 Narrow Side (see example figures)..... 2
- ✓ **Bearing Configuration**
 Double Bearing
 (xxx is standard carriage length)..... Dxxx
 Single Bearing (see page 200 for min.)
 (enter total carriage length in mm)..... Sxxx
- ✓ **Type**
 Belt Drive..... B
 Manual..... M
- ✓ **Travel**
 Travel Length (mm)..... xxx
- ✓ **Reversing Unit Combinations**
 None (Manual Option Only)..... R1
 Spline/Idler..... R2
 Spline/Spline..... R3
 Spline/8mm Bore..... R4
 Idler/Idler..... R5
 Idler/8mm Bore..... R6
 8mm Bore/8mm Bore..... R7
- ✓ **Adapter Shafts (couplers)†**
 Blank – No Servicing..... S1
 Special Servicing*..... S2
 Shaft Type A, 0.375 in (9.525 mm)..... S3
 Shaft Type B, 0.433 in (11mm)..... S4
 Shaft Type C, 0.5 in (12.7mm)..... S5
 Shaft Type D, 0.551 in (14mm)..... S6
 Shaft Type E, 0.625 in (15.875mm)..... S7
 Shaft Type F, 0.63" (16mm)..... S8

- ✓ **Accessories**
 (Replace # with Quantity Required)
 A1# Bumpers
 A2# Proximity Switch
 A3# Exciter Cam
 A5# Hand Crank Assembly**
 A6# Carriage Locking Mechanism**
 A7 Reversing Unit 80
 A8 Extra Bearing
- ✓ **Adapter Flange†**
 (See Dim. Table)
 F1 Blank, No Servicing
 F2 Universal Adapter Special Servicing*
 F3 Mounting Type A
 F4 Mounting Type B
 F5 Mounting Type C
 F6 Mounting Type D
 F7 Mounting Type E
 F8 Mounting Type F
 F9 Mounting Type G**

* Contact customer service for technical assistance
 **Manual systems only
 † See page 204 for instant motor/gearbox approval selection



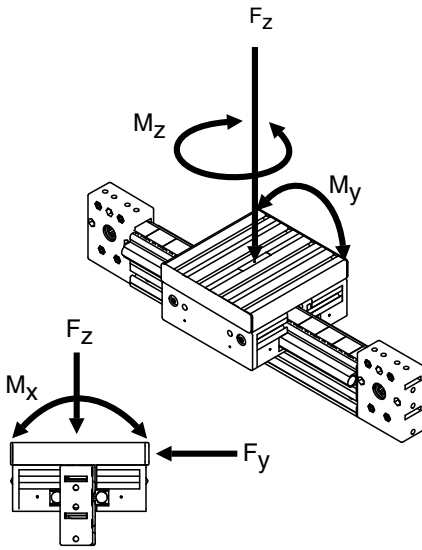
| Adapter Flange Mount Type | Bolt Circle | Bolt Size | Pilot Dia. | Pilot Depth |
|---------------------------|-------------|-----------|------------|-------------|
| A | 98.40 | M5 | 73.02 | 3.5 |
| B | 66.70 | M4 | 38.10 | 2.0 |
| C | 75.00 | M5 | 60.00 | 3.0 |
| D | 98.40 | M6 | 73.02 | 3.5 |
| E | 100.00 | M6 | 80.00 | 4.0 |
| F | 70.00 | M4 | 50.00 | 3.5 |
| G | 90.00 | M5 | 70.00 | 3.5 |

Note: All flange data in mm

*** All profiles do not fit with all system sizes. Contact factory for application assistance.



Loading Capacity



LR6 Series

Static Moment Loads

Determine which moment loads are induced by the static load. Locate the center of gravity of the load and the length of the moment arm.

Moment Arm Lengths

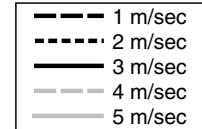
Determine the moment arm lengths associated with each moment load by measuring the distance from the center of the load to the center of the carriage in each moment load direction.

Pitch Moment

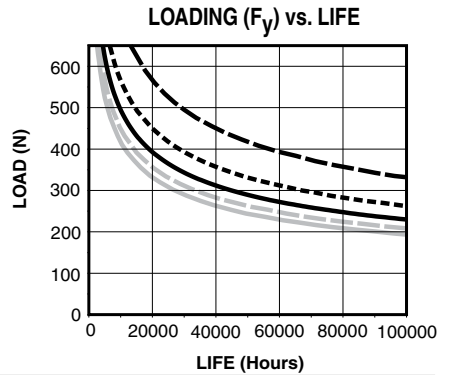
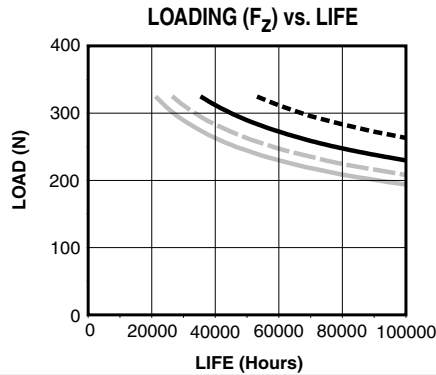
When determining the pitch moment arm, it is necessary to consider the distance from the top of the load attachment plate to the center of the carriage bearings.

| Operating Condition | Load Factor |
|---------------------|-------------|
| Steady Load | 1 |
| Fluctuating Load | - |
| Low | 1.4 |
| Average | 1.7 |
| High | 2 |

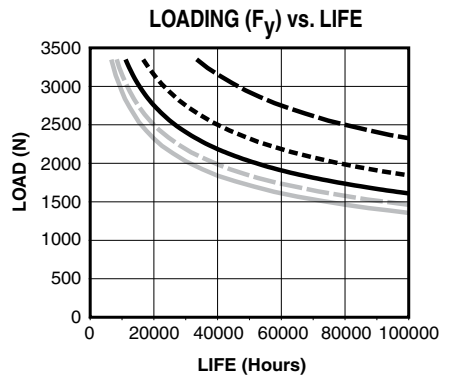
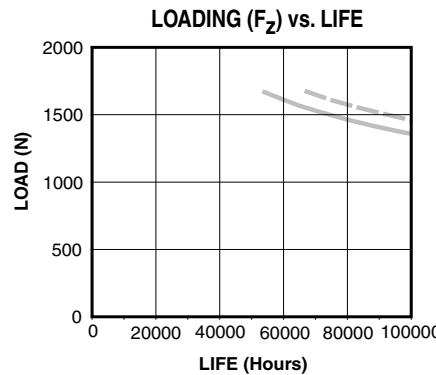
Load Capacity = Load * Load Factor



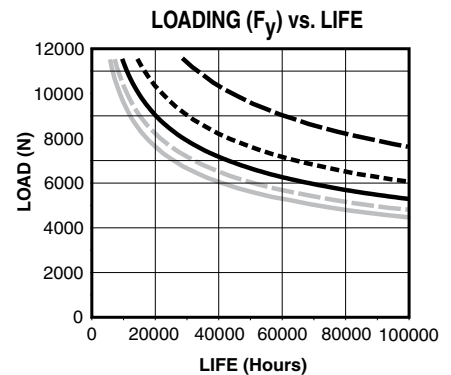
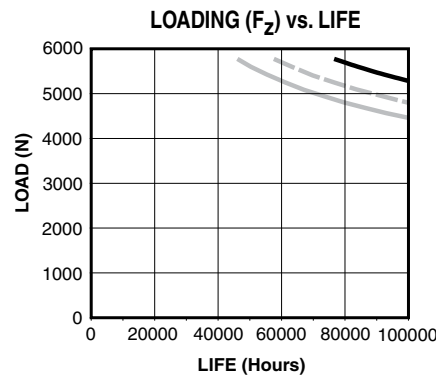
Key for charts on pages 4 and 5



LR14/14HD Series

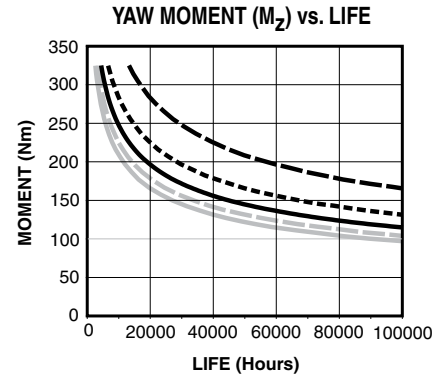
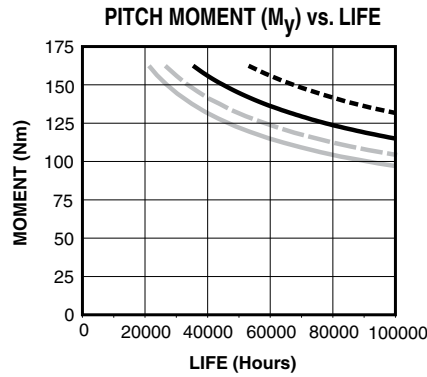
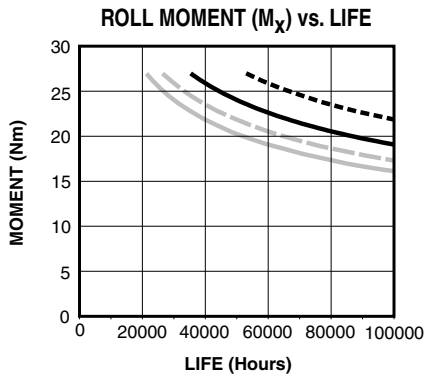


LR25 Series

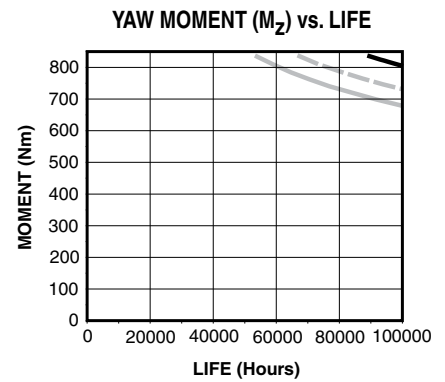
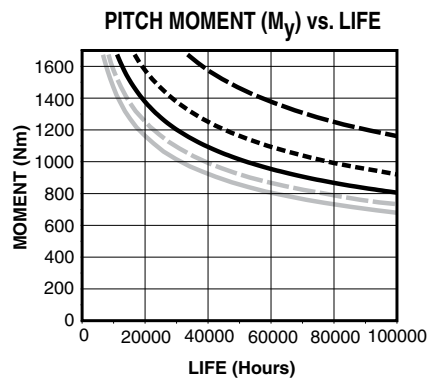
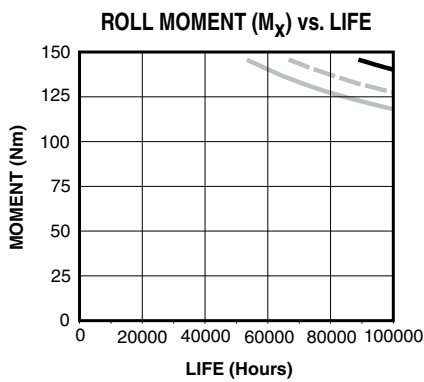


Loading Capacity

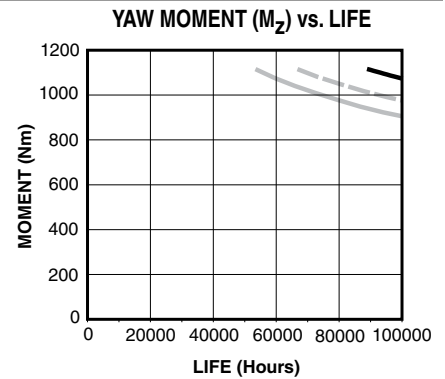
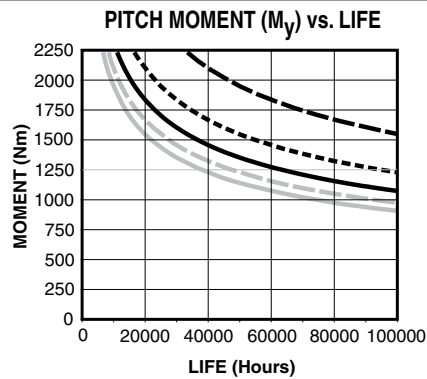
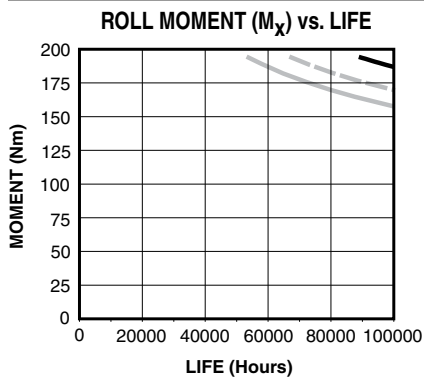
LR6 Series



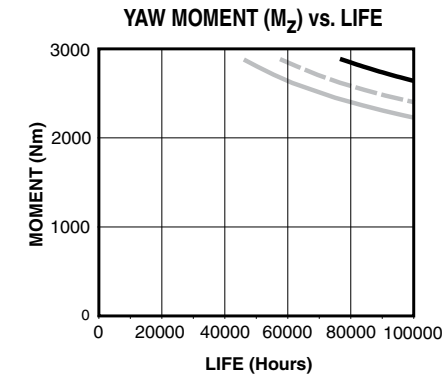
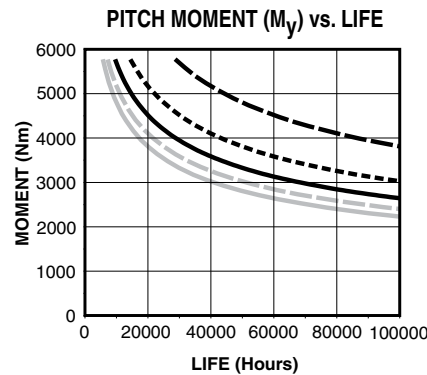
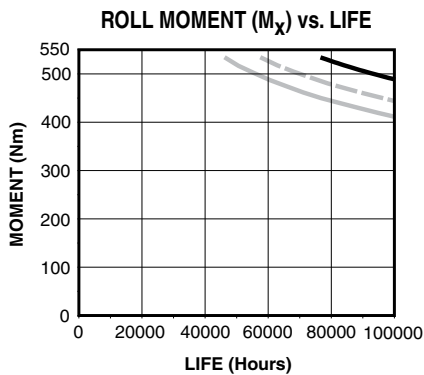
LR14 Series



LR14HD Series



LR25 Series



Carriage Information

Carriage Mounting Detail

LR Series actuators offer unmatched carriage flexibility. Available in fixed length double bearing units or adjustable length single bearing units, the carriage can be tailored to meet specific load requirements.

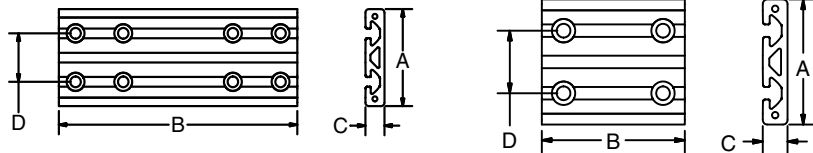
| Series | Carriage | Width A | Length B | Thickness C | T-Slot D | Weight (kg) |
|---------|----------|-----------------|----------|-------------|----------|-------------|
| LR6* | Single | 80 | 300 min. | 16 | 39 | Variable |
| | Double | 80 | 242 | 16 | 39 | 0.8 |
| LR14* | Single | 160 | 140 min. | 28 | 40 | Variable |
| | Double | 160 | 141.6 | 28 | 40 | 3.24 |
| LR14HD* | Single | 159.5 | 160 min. | 28 | 40 | Variable |
| LR25 | Single | Consult Factory | | | | |

* Based on 40 mm Profile Width for LR6, LR14, and LR14HD

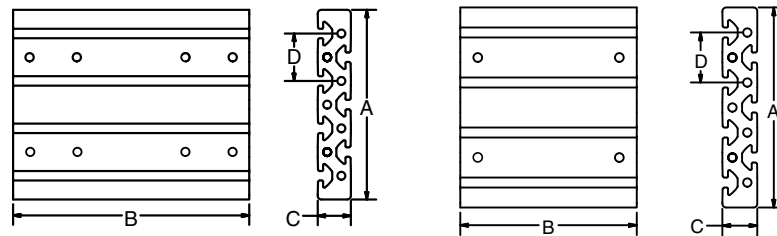
Single Bearing Carriage

Double Bearing Carriage

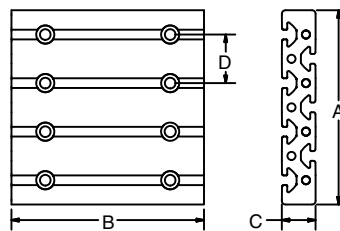
LR6 Series



LR14 Series



LR14HD Series



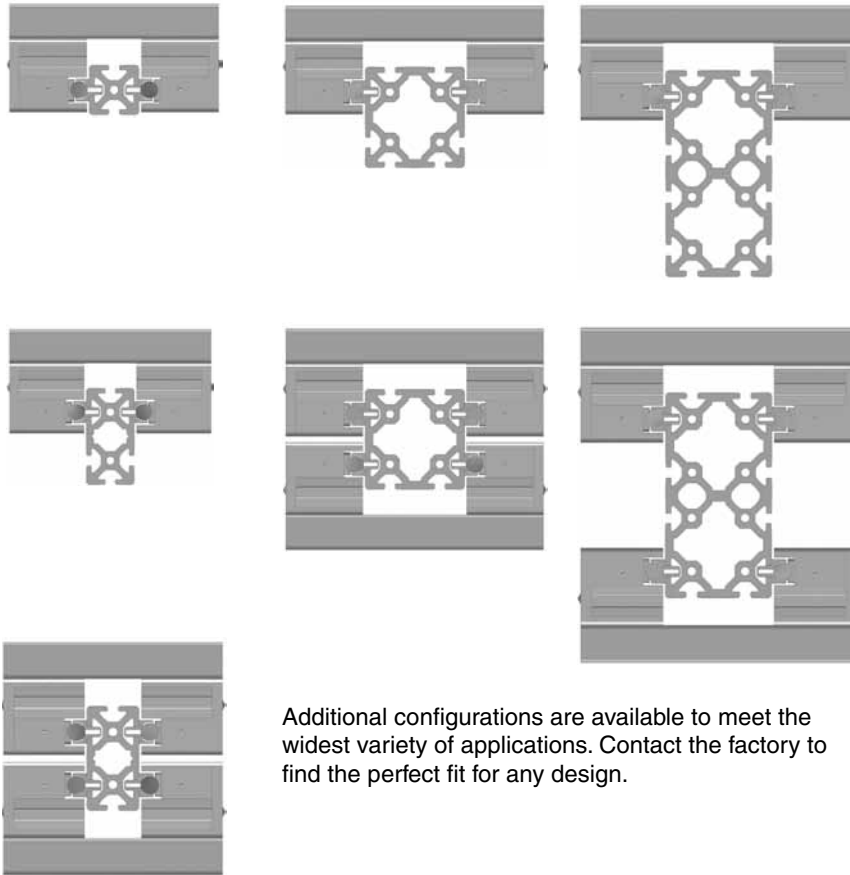
Consult Factory

LR25 Series

Consult Factory

Consult Factory

Carriage Information



Carriage Orientation

A variety of carriage orientations are available due to the LR Series' modular design.

Options include multiple linked and multiple independent carriages on a single actuator and custom carriage lengths.

Selecting the proper profile for load support, and configuring the carriage to suit the specific load and application provides the benefits of a custom product without the additional costs and lead times.

Additional configurations are available to meet the widest variety of applications. Contact the factory to find the perfect fit for any design.

Inertia Values

Linear Inertia (oz-in²) vs Stroke (mm)

| Series | 100 | 200 | 300 | 500 | 750 | 1000 | 1500 | 3000 | 4000 | 6000 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 6 | 25.87 | 26.12 | 26.38 | 26.89 | 27.53 | 28.17 | 29.45 | 33.29 | 35.85 | 40.96 |
| 14 | 63.95 | 64.20 | 64.46 | 64.97 | 65.61 | 66.25 | 67.53 | 71.37 | 73.93 | 79.04 |
| 14HD | 73.09 | 73.35 | 73.60 | 74.12 | 74.76 | 75.40 | 76.68 | 80.51 | 83.07 | 88.19 |
| 25 | 293.45 | 293.71 | 293.96 | 294.48 | 295.12 | 295.76 | 297.04 | 300.87 | 303.43 | 308.55 |

Linear Inertia (kg-cm²) vs Stroke (mm)

| Series | 100 | 200 | 300 | 500 | 750 | 1000 | 1500 | 3000 | 4000 | 6000 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 6 | 4.73 | 4.78 | 4.82 | 4.92 | 5.04 | 5.15 | 5.39 | 6.09 | 6.56 | 7.49 |
| 14 | 11.70 | 11.74 | 11.79 | 11.88 | 12.00 | 12.12 | 12.35 | 13.05 | 13.52 | 14.46 |
| 14HD | 13.37 | 13.42 | 13.46 | 13.56 | 13.67 | 13.79 | 14.02 | 14.73 | 15.19 | 16.13 |
| 25 | 53.67 | 53.72 | 53.77 | 53.86 | 53.98 | 54.09 | 54.33 | 55.03 | 55.50 | 56.43 |

Data calculated using a Reversing Unit 40 & Double Bearing Carriage

Choosing Profiles

Deflection Calculation

Parker IPS structural profiles are the foundation of the LR Series, providing unmatched flexibility and allowing for seamless integration of motion and structure. After selecting the LR Series type for appropriate carriage load capacity, the following formula will identify the profile configuration that is best suited for the application.

Deflection formula for length supported at both ends:

$$f = \frac{F * L^3}{48 E * I * 10^4}$$

Where:

f = deflection in mm

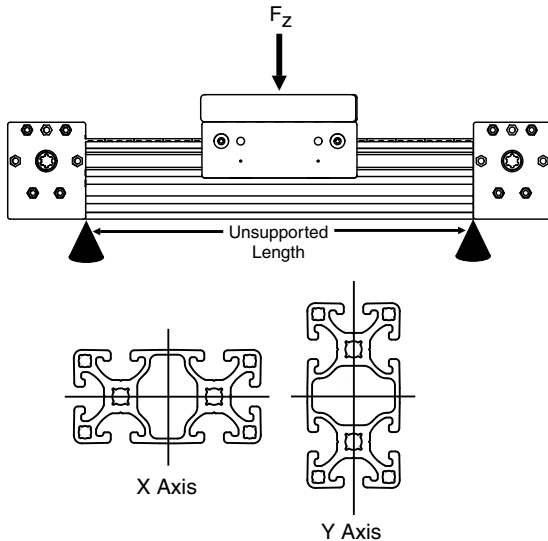
F = load in N

L = free profile length in mm

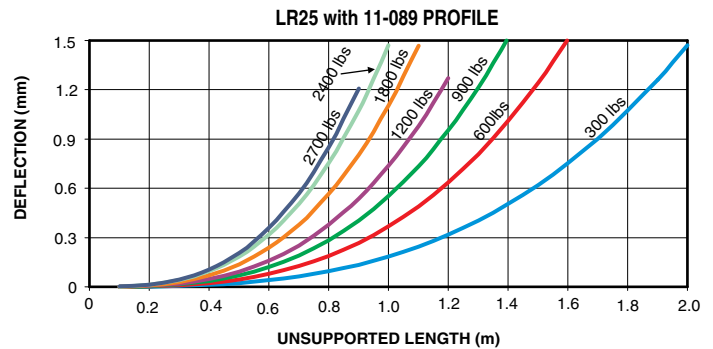
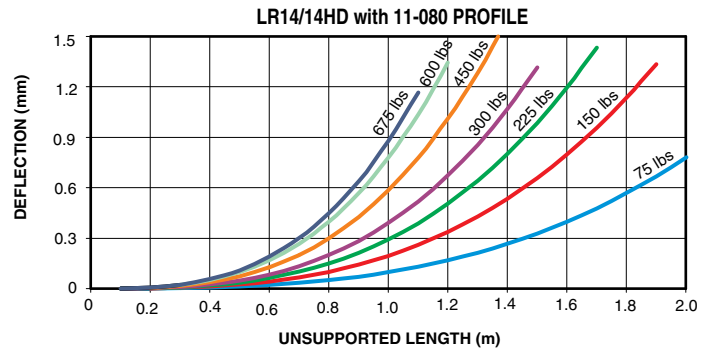
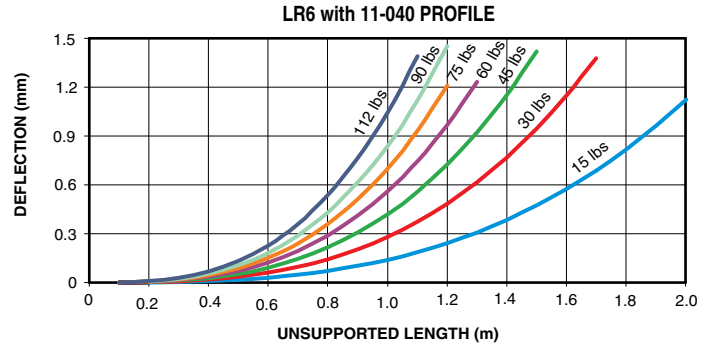
E = Modulus of Elasticity in N/mm²

$$E_{AL} = 70,000 \text{ N/mm}^2$$

I = Moment of inertia in cm⁴



Deflection at Various Loads



| Profile Type | Series Compatibility | | | Moment of Inertia | | Section Modulus | |
|-------------------|----------------------|---------|----|--------------------------|--------------------------|--------------------------|--------------------------|
| | 6 | 14/14hd | 25 | I_x [cm ⁴] | I_y [cm ⁴] | W_x [cm ³] | W_y [cm ³] |
| 40x40 Standard | X | | | 9.46 | 9.46 | 4.73 | 4.73 |
| 40x40 Heavy | X | | | 14.18 | 14.18 | 7.09 | 7.09 |
| 40x80 Standard | X | X | | 71.79 | 17.23 | 17.99 | 8.62 |
| 40x80 Heavy | X | X | | 102 | 26.73 | 25.5 | 13.37 |
| 80x80 Heavy | | X | X | 185.2 | 185.2 | 46.3 | 46.3 |
| 80x80 Extra Heavy | | X | X | 215.85 | 215.85 | 53.96 | 53.96 |
| 80x160 Standard | | X | X | 922.5 | 271.1 | 115.3 | 67.8 |
| 80x160 Heavy | | X | X | 1106.92 | 343.37 | 138.37 | 85.84 |

Additional configurations are available for specific applications.

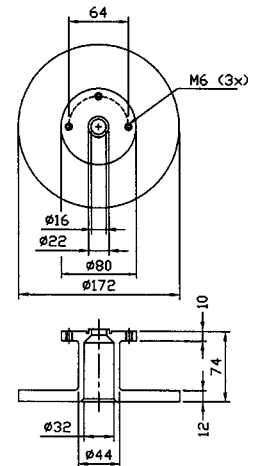
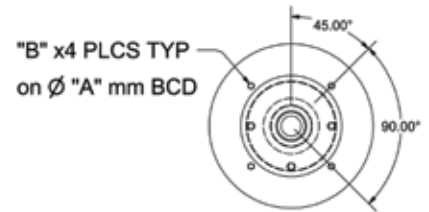
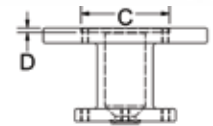


Motor/Gearbox Mounting

LR Series offers effortless motor and gearbox mounting and can accommodate a wide range of Servo and AC motors up to NEMA 56C as well as gearboxes. Connections are made using an Adapter Flange and Shaft.

These coupling components are available in preconfigured styles or as machinable blanks to accommodate connections not listed in the Motor/Gearbox Quick Selector on the following pages.

Motor/Gearbox Mounting

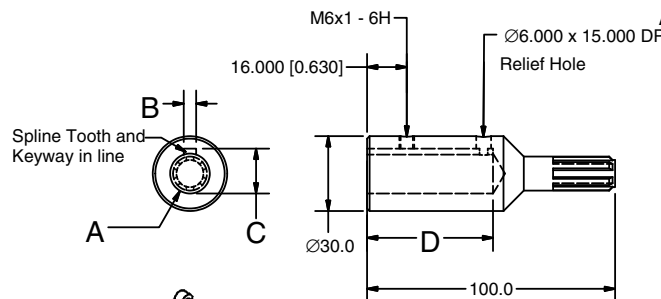


| Flange Part # Code | Bolt Circle "A" | Bolt Size "B" | Pilot Diameter "C" | Pilot Depth "D" | P/N |
|--------------------|-----------------|---------------|--------------------|-----------------|----------|
| A | 98.40 | M5 | 73.02 | 3.5 | 31-014AD |
| B | 66.70 | M4 | 38.10 | 2.0 | 31-014B |
| C | 75.00 | M5 | 60.00 | 3.0 | 31-014C |
| D | 98.40 | M6 | 73.02 | 3.5 | 31-014AD |
| E | 100.00 | M6 | 80.00 | 4.0 | 31-014E |
| F | 70.00 | M4 | 50.00 | 3.5 | 31-014F |
| G | 90.00 | M5 | 70.00 | 3.5 | 31-014G |
| Blank | - | - | - | - | 31-014 |

| Adapter Shaft Type | Shaft Diameter (in/mm) "A" | Key Width (mm) "B" | Shaft Height Over Key (mm) "C" | Shaft Diameter Depth (mm) "D" | P/N |
|--------------------|----------------------------|--------------------|--------------------------------|-------------------------------|--------|
| A | 0.375" (9.525) | 2.39 | 10.60 | 50.80 | 31-001 |
| B | 0.433" (11) | 4 | 12.50 | 50.80 | 31-002 |
| C | 0.500" (12.7) | 3.18 | 14.22 | 50.80 | 31-003 |
| D | 0.551" (14) | 5 | 16.00 | 50.80 | 31-004 |
| E | 0.625" (5.875) | 4.76 | 18.00 | 50.80 | 31-005 |
| F | 0.630" (16) | 5 | 18.00 | 50.80 | 31-006 |
| Blank | - | - | - | - | 31-010 |

Application

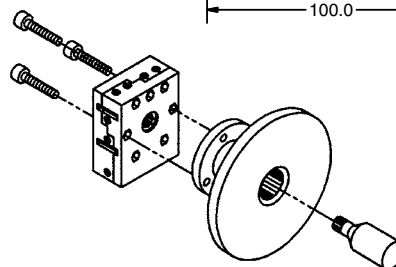
Adapter element between Reversing Unit 40 and various drive motors. Surface hardening permits machining for appropriate adapting configuration. For rigid connection of Reversing Units 40 in parallel, when distance between them exceeds 1m (3 ft).



Adapter Shaft

Application

Transition element for connecting drive motors to the Reversing Unit 40. Can be serviced to customer needs. Design accommodates hole pattern of NEMA motors up to size 56.



Universal Adapter Flange



Motor/Gearbox Quick Selector

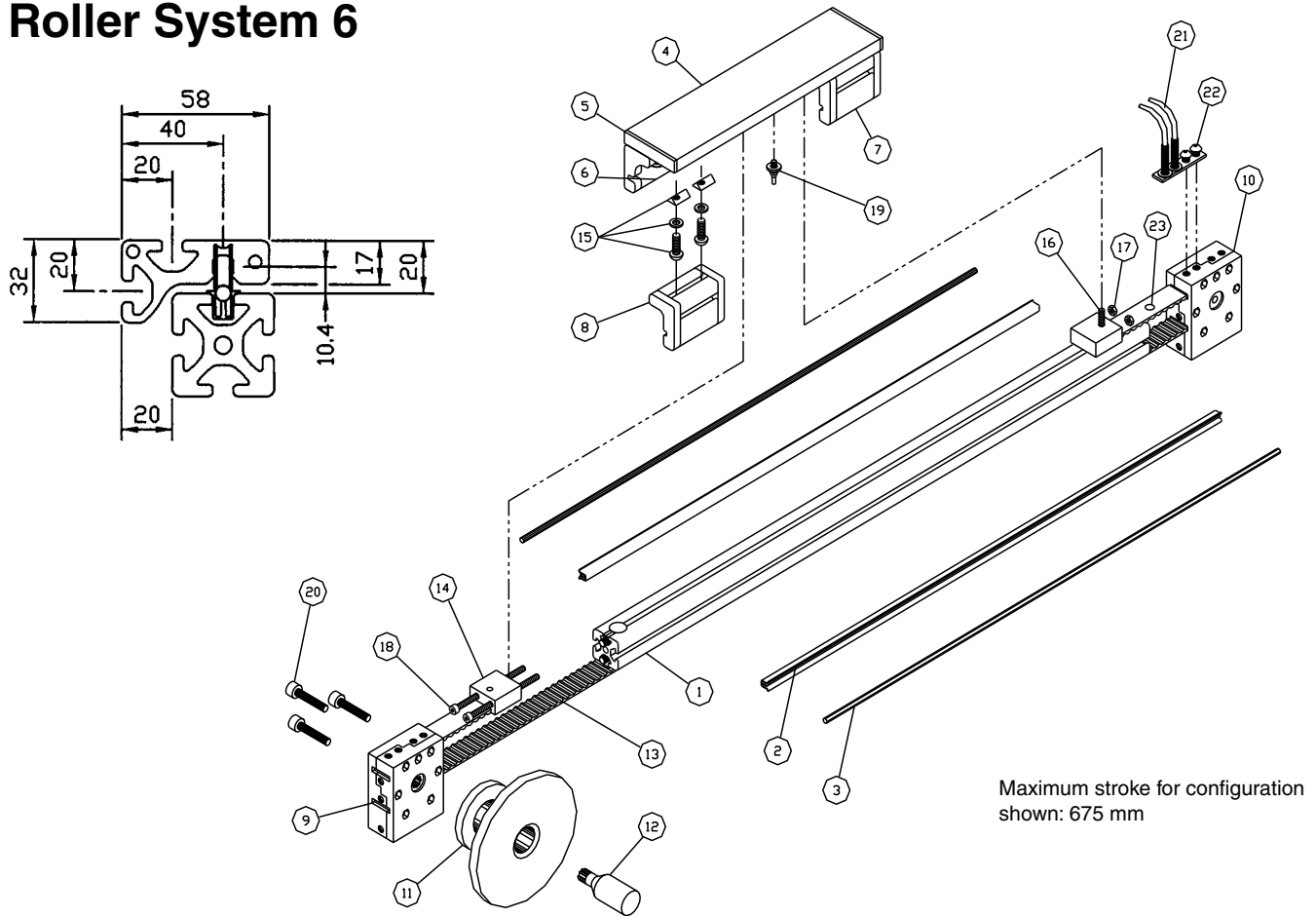
| Manufacturer | Motor/Gearbox Model # | Adapter Flange | |
|------------------|--------------------------|----------------|------|
| | | Code | Code |
| Allen-Bradley | 1326Ax-B3, H-3xxx | D | E |
| | MPL-A45x, MPL-B45x | C | D |
| | MPL-x 310,320,330 | E | E |
| | N-34xx | C | A |
| | Y-2xxx | D | F |
| AMP | HT34-486 | C | A |
| Animatics | SM34xx | A | A |
| Baldor | All NEMA 48 | C | - |
| | All NEMA 56 | E | - |
| Bayside | PX34, RX34, NE34, NR34 | C | A |
| ElectroCraft | N-34xx | C | A |
| | H-3xxx | D | E |
| Emerson | DXE208 | A | B |
| | DXM-316, 340 | D | E |
| | MGE 205, 208, 208CONS | A | B |
| | MGE-316, DXE-316 | C | A |
| | MGM-340 | D | E |
| | NTE-212-x, NTE-207-x | A | B |
| | NTE-3xx | C | A |
| GE Fanuc | STM13xx | C | A |
| Giddings & Lewis | HSM 307, 320 | D | E |
| | NSM34xx | C | A |
| | YSM2xx | D | F |
| IDC | BN 31, 32 | A | A |
| | P33x | E | A |
| Kollmorgen | MT(x)302 (NEMA 34) | A | A |
| | MT(x)304 (NEMA 34) | A | A |
| | MT(x)308 (NEMA 34) | C | A |
| | MTx 306, 308 (NEMA 100) | D | E |
| | MTx306 (NEMA-34) | C | A |
| MCG | AB34x | C | A |
| | ID34004 | C | A |
| Mitsubishi | HC-KFS23(B), MF(S)23(B) | D | F |
| | HC-KFS43(B), MF(S)43(B) | D | F |
| | HC-PQ23, HC-PQ43 | D | F |
| Motion Solutions | SLM075 | E | A |
| MRV | MRV 31, 32, 33 | C | A |
| Omron | R88M-U40030x | D | F |
| | R88M-W20030, R88M-W40030 | D | F |
| | R88M-WP4xxx | D | G |

| Manufacturer | Motor/Gearbox Model # | Adapter Flange | |
|--------------------|----------------------------|----------------|------|
| | | Code | Code |
| Pacific Scientific | H3xNR | A | A |
| | N31HR, N32HR | C | A |
| | N33HR, N33HR | C | A |
| | R30 (English & Metric) | C | A |
| | R30P (Metric) | C | A |
| Parker | APEX 603 ,605 ,606 ,610 | D | E |
| | BE23x | A | B |
| | SM/SE 231, 232, 233 - L | A | B |
| | BE34x | C | A |
| | ES3xB | A | A |
| | J034x, N034x | C | A |
| | J092x, N092x, HDY92, HDX92 | D | E |
| | MPM89x***6*** | C | A |
| | MPM89x***7*** | D | E |
| | MPP092x | E | E |
| | OEM-83-xxx, QM83 | A | A |
| | PTN060 | D | H |
| | RS 31, 32, 33 | A | A |
| | S, SX, SXF 83 | A | A |
| | SMN082 | D | E |
| QuickSilver | TS 31, 32 | C | A |
| | TS33 | E | A |
| | VS31, VS32 | C | D |
| | ZETA83 | A | A |
| Slo-Syn | QCI-34H-1, -2 | C | A |
| | QCI-34H-3, -4 | E | A |
| | QCI-34N-x | C | A |
| Superior Electric | KML-09x, KMT-09x | C | A |
| Warner Electric | HIS35xx | C | A |
| | KML-09x, KMT-09x | C | A |
| Yaskawa | SGM-02, -03, -04 | D | F |
| | SGMAH-02**F** | D | F |
| | SGMAH-04A**F** | D | F |
| | SGML-04A | D | F |
| | SGMP-02, -03, -04 | D | G |
| | SGMPH-02, SGMP-02 | D | G |
| | SGMPH-04A(B) | D | G |

The adapter flange will accommodate motors through NEMA size 56. Additional mounting configurations are available. Contact Customer Service if your Motor or Gearbox is not listed.



Roller System 6



Maximum stroke for configuration shown: 675 mm

Note

Configuration shown: 80x16 plate with smooth top surface; bottom surface is tapped M8 for the limit stop and M6 for clamping block mount.

Alternative option: 80x16 plate with T-slots on top counterbored for M8 screws for attaching bearing units and clamping block; bottom of the plate is tapped M8 for the limit stop.

| # | Description | Part # | Qty |
|----|-------------------------------------|-----------|-----|
| 1 | 40x40 Heavy Profile @ 1000mm | 11-040 | 1 |
| 2 | Shaft Clamp 6 @ 998mm | 13-106 | 2 |
| 3 | Linear Shaft 6 @ 998mm | 13-505 | 2 |
| 4 | 80x16 Profile @ 300mm | 10-081 | 1 |
| 5 | End Cap 80x16 | 18-812 | 2 |
| 6 | Single Bearing Unit 6 Centric | 30-401 | 2 |
| 7 | Single Bearing Unit 6 Eccentric | 30-403 | 2 |
| 8 | End Cap/Lubricating System 6 | 30-407 | 4 |
| 9 | Reversing Unit 40 Spline | 31-122 | 1 |
| 10 | Reversing Unit 40 w/8mm Bore | 31-124 | 1 |
| 11 | Universal Adapter Flange | 31-014 | 1 |
| 12 | Adapter Shaft, Blank | 31-010 | 1 |
| 13 | Timing Belt 25T10 @ 2300mm | 31-052-1 | 1 |
| 14 | Clamping Block for Belt 25T10 | 31-030 | 2 |
| 15 | Fastening Set for Bearing Units 6 | 20-007 | 4 |
| 16 | M6x20 Socket Head Cap Screw | 24-320-6 | 1 |
| 17 | M6 Lock Nut | 24-716-6 | 2 |
| 18 | M6x120 Socket Head Cap Screw | 24-3120-6 | 2 |
| 19 | Limit Stop, Bi-Directional | 31-038 | 1 |
| 20 | M6x45 Socket Head Cap Screw | 24-345-6 | 3 |
| 21 | Proximity Switch | 31-035 | 2 |
| 22 | Mounting Plate for Proximity Switch | 31-036 | 1 |
| 23 | Exciter Cam | 31-033 | 2 |



Application

Components for constructing Roller System 6 for light duty applications

Technical Data

Linear Shaft: Cf53 high grade carbon steel (AISI 1050)
 Precision ground to ISO h6 tolerance $^{+0}_{-8}\mu\text{m}$
 Roundness: 4 μm
 Parallelism: 5 $\mu\text{m}/1000\text{mm}$
 Surface quality: Ra 0.3 μm (Rz 1.6 μm)
 Hardness depth: minimum 0.4 mm
 Surface hardness: 670 to 840 HV (RC 59 to 65)

Shaft clamp: Al, anodized

Bearing Units: Aluminum anodized housing, Roller 6 (30-008), Bolt 6 Centric (30-006) or Eccentric (30-007), and M6x8 cone point set screw

Preload range for eccentric bearing units ± 0.45 mm

End Cap/ Lubricating System (set of left and right): glass-filled nylon, black; includes felt, spring and M4x10 SHCS

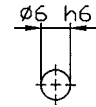
Fastening Set (one required per bearing unit): two M8x16 BHCS, two M8 T-slot nuts, and two M8 flat washers

Ordering Information

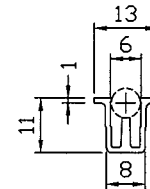
| Description | Unit | Weight | Part # |
|------------------------------------|------------|-----------|----------|
| Linear Shaft 6, Hard Chrome Coated | per meter* | 0.22 kg/m | 13-505 |
| Saw Cut for Linear Shaft | | | 19-007 |
| Shaft Clamp 6 | per meter | 0.12 kg/m | 13-106 |
| Saw Cut for Shaft Clamp | | | 19-001 |
| Single Bearing Unit 6, Centric | 1 pc | 0.18 kg | 30-401 |
| Single Bearing Unit 6, Eccentric | 1 pc | 0.18 kg | 30-403 |
| Double Bearing Unit 6, Centric | 1 pc | 0.22 kg | 30-402 |
| Double Bearing Unit 6, Eccentric | 1 pc | 0.22 kg | 30-404 |
| End Cap/ Lubricating System 6 | 1 set | 20 g | 30-407 |
| Replacement Felt 6 | 1 pc | | 30-407Z5 |
| Fastening Set for Bearing Unit 6 | 1 set | 40 g | 20-007 |

* Call for standard lengths in stock

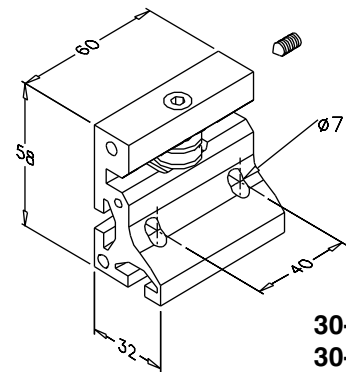
Roller System 6



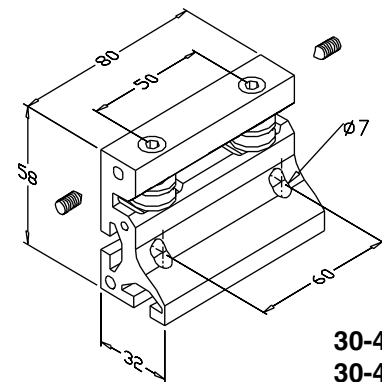
13-505



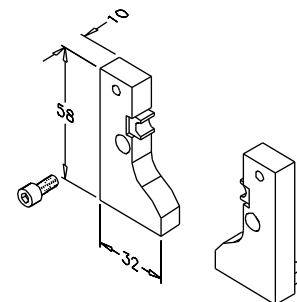
13-106



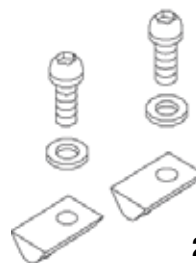
30-401
30-403



30-402
30-404

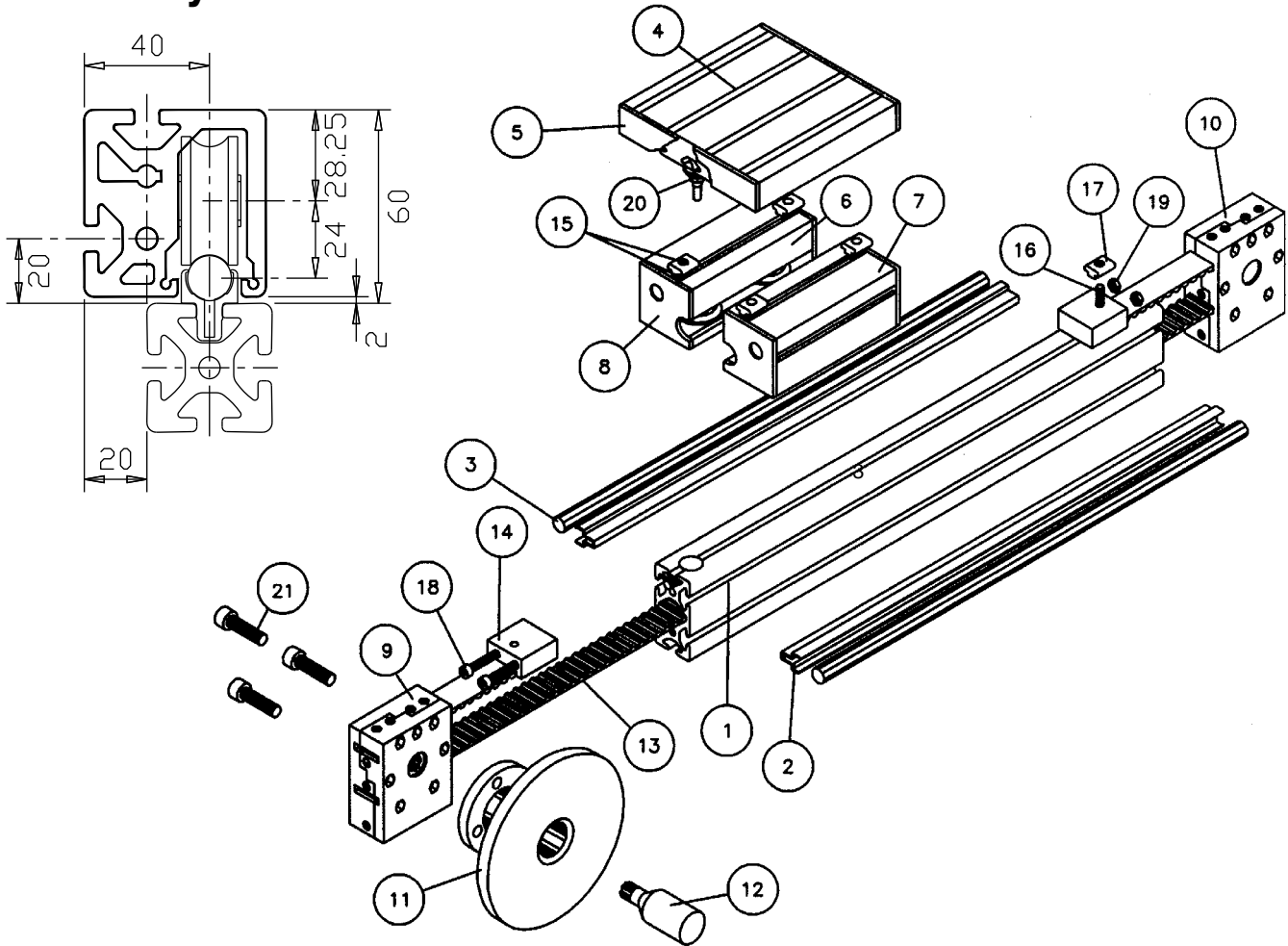


30-407



20-007

Roller System 14



Maximum stroke for configuration shown:
 with limit stop (31-038) - 765 mm
 without limit stop - 850 mm

| # | Description | Part # | Qty |
|----|------------------------------------|-----------|-----|
| 1 | 80x40 Heavy Profile @ 1000mm | 11-080 | 1 |
| 2 | Shaft Clamp 14 @ 998mm | 13-114 | 2 |
| 3 | Linear Shaft 14 @ 998mm | 13-514 | 2 |
| 4 | 160x28 Profile @ 140mm | 11-128 | 1 |
| 5 | End Cap 160x28 | 18-816 | 2 |
| 6 | Double Bearing Unit 14 Eccentric | 30-104 | 1 |
| 7 | Double Bearing Unit 14 Centric | 30-102 | 1 |
| 8 | End Cap/Lubricating System 14 | 30-107 | 2 |
| 9 | Reversing Unit 40 Spline | 31-122 | 1 |
| 10 | Reversing Unit 40 Idler | 31-126 | 1 |
| 11 | Universal Adapter Flange | 31-014 | 1 |
| 12 | Adapter Shaft, Blank | 31-010 | 1 |
| 13 | Timing Belt 25T10 @ 2300mm | 31-052-1 | 1 |
| 14 | Clamping Block for Belt 25T10 | 31-030 | 2 |
| 15 | Fastening Set HD for Bearing Units | 20-030 | 2 |
| 16 | M6x20 Socket Head Cap Screw | 24-320-6 | 1 |
| 17 | HD T-Slot Nut St, M6 | 20-060 | 1 |
| 18 | M6x120 Socket Head Cap Screw | 24-3120-6 | 2 |
| 19 | M6 Lock Nut | 24-716-6 | 2 |
| 20 | Limit Stop, Bi-Directional | 31-038 | 1 |
| 21 | M6x45 Socket Head Cap Screw | 24-345-6 | 3 |

Roller System 14

Application

Components for constructing Roller System 14 for medium duty applications

Technical Data

Linear Shaft: Cf53 high grade carbon steel (AISI 1050)
 Precision ground to ISO h6 tolerance $^{+0}_{-11} \mu\text{m}$
 Roundness: 5 μm
 Parallelism: 8 $\mu\text{m}/1000\text{mm}$
 Surface quality: Ra 0.3 μm (Rz 1.6 μm)
 Hardness depth: minimum 0.6 mm
 Surface hardness: 670 to 840 HV (RC 59 to 65)

Shaft Clamp: Al, anodized

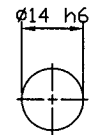
Bearing Units:

Al, anodized housing, Roller 14 (30-108),
 Bolt 14 Centric (30-105) or Eccentric (30-106), and spacer (30-108z1)

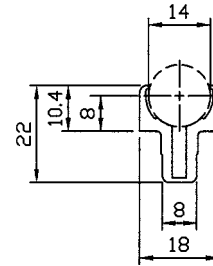
Preload range for eccentric bearing units $\pm 1.0 \text{ mm}$

End Cap/ Lubricating System (set of left and right):
 glass-filled nylon, black; includes felt, spring, M8x10 BHCS

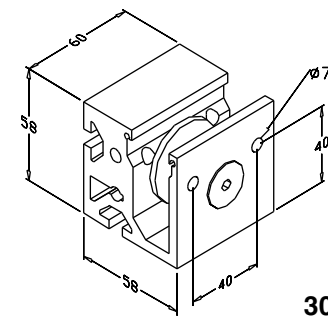
Fastening set (one required per bearing unit):
 two M8x18 BHCS, two M8 T-slot nuts HD, and two M8 safety spring washers



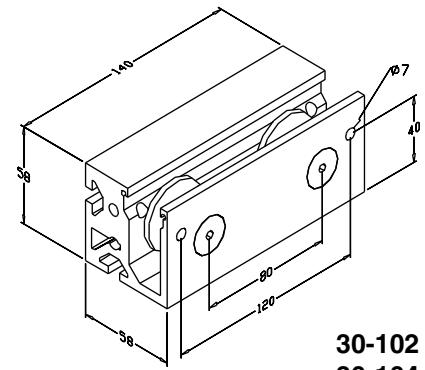
13-513



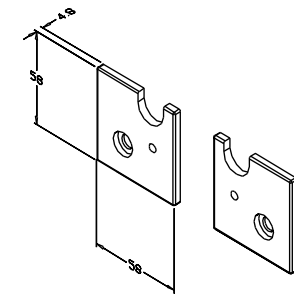
13-114



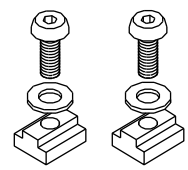
30-101
30-103



30-102
30-104



30-107



20-030

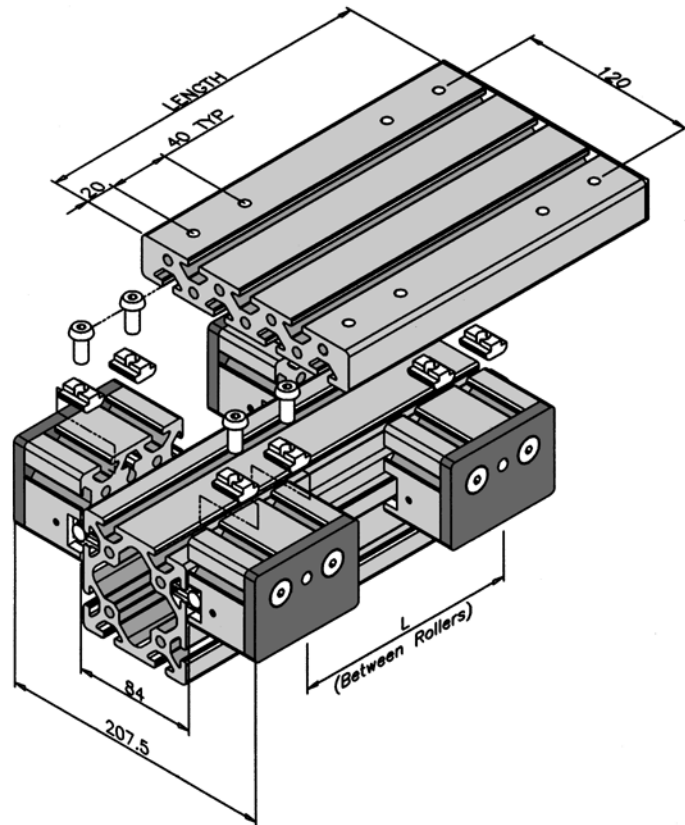
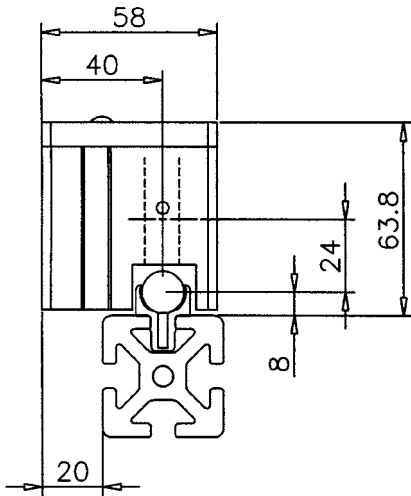
Ordering Information

| Description | Unit | Weight | Part # |
|---------------------------------------|------------|-----------|----------|
| Linear Shaft 14, (Hard chrome coated) | per meter* | 1.21 kg/m | 13-513 |
| Saw Cut for Linear Shaft | | | 19-007 |
| Shaft Clamp 14 | per meter | 0.26 kg/m | 13-114 |
| Saw Cut for Shaft Clamp | | | 19-001 |
| Single Bearing Unit 14, Centric | 1 pc | 0.40 kg | 30-101 |
| Single Bearing Unit 14, Eccentric | 1 pc | 0.40 kg | 30-103 |
| Double Bearing Unit 14, Centric | 1 pc | 0.88 kg | 30-102 |
| Double Bearing Unit 14, Eccentric | 1 pc | 0.88 kg | 30-104 |
| End Cap/ Lubricating System 14 | 1 set | 50 g | 30-107 |
| Replacement Felt 14 | 1 pc | | 30-107z1 |
| Fastening Set HD for Bearing Unit | 1 set | 40 g | 20-030 |

* Call for standard lengths in stock



Roller System 14 HD



Single Bearing Units 14HD on 80x80 Profile

Carriage Plate: Length = L + 80

(T-slots parallel to 80x80 rail)

Recommended hardware: four fastening sets HD for bearing units (20-030). Required machining - eight access holes through 160x28 profile.

Required tools for assembly of Roller System 14HD:
 5mm hexagon wrench (40-014), spanner wrench (40-032-14)

Roller System 14 HD

Application

Components for constructing Roller System 14 HD for medium and heavy duty applications

Technical Data

Linear Shaft: Cf53 high grade carbon steel (AISI 1050)

Precision ground to ISO h6 tolerance $^{+0}_{-11} \mu\text{m}$

Roundness: $5 \mu\text{m}$

Parallelism: $8 \mu\text{m}/1000\text{mm}$

Surface quality: Ra $0.3 \mu\text{m}$ (Rz $1.6 \mu\text{m}$)

Hardness depth: minimum 0.6 mm

Surface hardness: 670 to 840 HV (RC 59 to 65)

Shaft Clamp: Al, anodized

Bearing Units:

Al, anodized housing, Roller 14 (30-108),

Bolt 14 Centric (30-105) or Eccentric (30-106),

one spacer per roller (30-114z3), M8x12 nylon tipped set screw (24-689) for eccentric only, End Cap/ Lubricating System

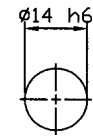
Preload range for eccentric bearing units $\pm 1.0 \text{ mm}$

End Cap/ Lubricating System: Trespa cap with pin, felt, spring, M8x10 BHCS, M4x10 set screw, and access plug

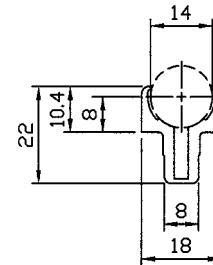
Ordering Information

| Description | Unit | Weight | Part # |
|--------------------------------------|------------|-----------|----------|
| Linear Shaft 14, Hard Chrome Coated | per meter* | 1.21 kg/m | 13-513 |
| Saw Cut for Linear Shaft | | | 19-007 |
| Shaft Clamp 14 | per meter | 0.25 kg/m | 13-114 |
| Saw Cut for Shaft Clamp | | | 19-001 |
| Single Bearing Unit 14 HD, Centric | 1 pc | 0.58 kg | 30-111 |
| Single Bearing Unit 14 HD, Eccentric | 1 pc | 0.58 kg | 30-113 |
| End Cap, LR14 HD, Single | 1 pc | | 30-503z6 |
| Replacement Felt 14HD | 1 pc | | 30-114z5 |

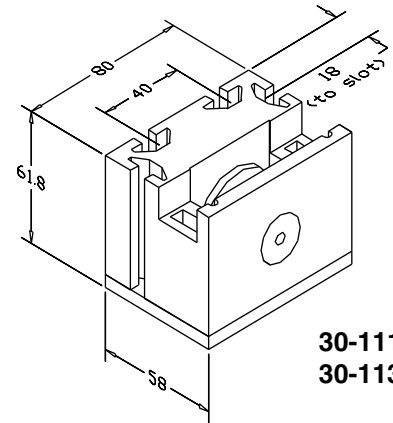
* Call for standard lengths in stock



13-513

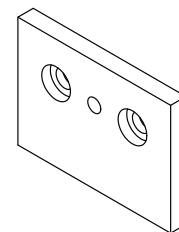


13-114



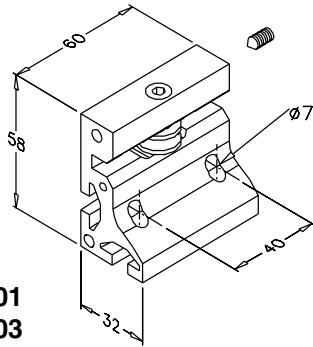
30-111
30-113

Note: T-slot on top are 40 series, on two sides are 28 series

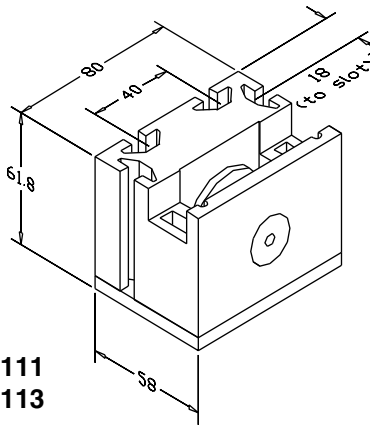


30-503z6

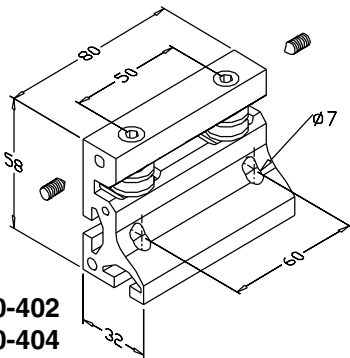
Bearing Unit



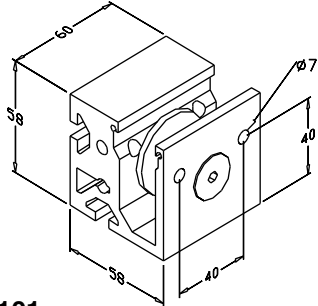
30-401
30-403



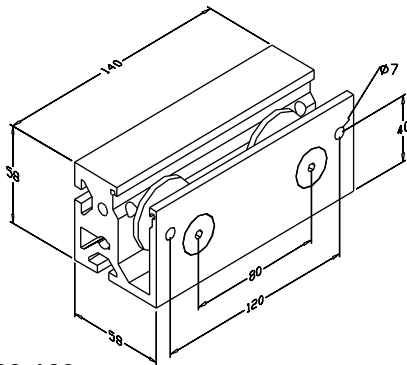
30-111
30-113



30-402
30-404



30-101
30-103



30-102
30-104

Ordering Information

| Description | Unit | Weight (kg) | Part # |
|--------------------------------------|------|-------------|--------|
| Bearing Unit, Double 6, Centric | each | 0.22 | 30-402 |
| Bearing Unit, Double 6, Eccentric | each | 0.22 | 30-404 |
| Bearing Unit, Single 6, Centric | each | 0.18 | 30-401 |
| Bearing Unit, Single 6, Eccentric | each | 0.18 | 30-403 |
| Bearing Unit, Double 14, Centric | each | 0.88 | 30-102 |
| Bearing Unit, Double 14, Eccentric | each | 0.88 | 30-104 |
| Bearing Unit, Single 14, Centric | each | 0.40 | 30-101 |
| Bearing Unit, Single 14, Eccentric | each | 0.40 | 30-103 |
| Bearing Unit, Single 14HD, Centric | each | 0.58 | 30-111 |
| Bearing Unit, Single 14HD, Eccentric | each | 0.58 | 30-113 |

Technical Data

St, 100 Cr6, ground and hardened, double ball bearing with two shields, maintenance free

Ordering Information

| Dimensions (mm) | | | | | Load (N) | | Maximum RPM | Weight (g) | Part # |
|-----------------|----|------|----|----|----------|--------|-------------|------------|---------------|
| Shaft Dia | d2 | a | b1 | b2 | Dynamic | Static | | | |
| 6 | 5 | 10.5 | 8 | 7 | 1600 | 900 | 5000 | 7 | 30-008 |
| 14 | 12 | 24 | 20 | 18 | 10800 | 6400 | 2500 | 88 | 30-108 |

Technical Data

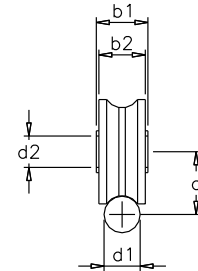
St, black oxide

Ordering Information

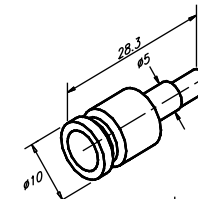
| Type | Eccentricity (mm) | Used in Bearing Units | Weight (g) | Part # |
|--------------|-------------------|------------------------|------------|---------------|
| 6-Centric | N/A | 30-401, 30-402 | 6 | 30-006 |
| 6-Eccentric | 0.45 | 30-403, 30-404 | 6 | 30-007 |
| 14-Centric | N/A | 30-101, 30-102, 30-111 | 48 | 30-105 |
| 14-Eccentric | 1.0 | 30-103, 30-104, 30-113 | 46 | 30-106 |

Components for Bearing Units

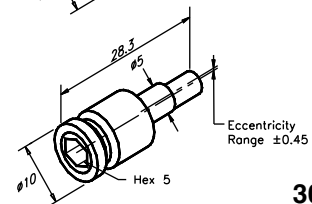
Track Rollers



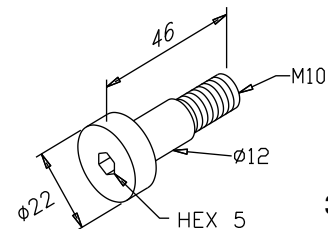
Bolts



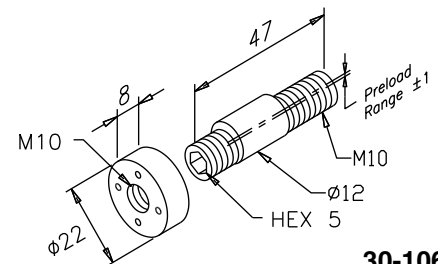
30-006



30-007



30-105



30-106

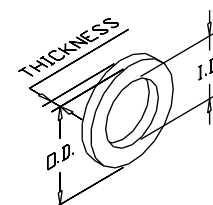
Technical Data

St, black oxide

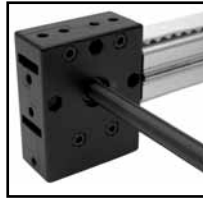
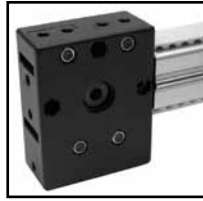
Ordering Information

| Dimensions (mm) | | | Used with | Qty Required per Roller | Part # |
|-----------------|------|-----------|--------------------------------|-------------------------|-----------------|
| I.D. | O.D. | Thickness | | | |
| 12 | 18 | 1.0 | Bolt 14 Centric & Eccentric | 1 | 30-108Z1 |
| 10.2 | 19 | 1.1 | Bolt 14 HD Centric & Eccentric | 1 | 30-114Z3 |

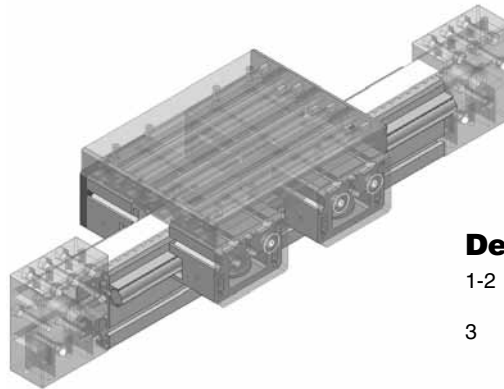
Spacers



Linear Drive Components



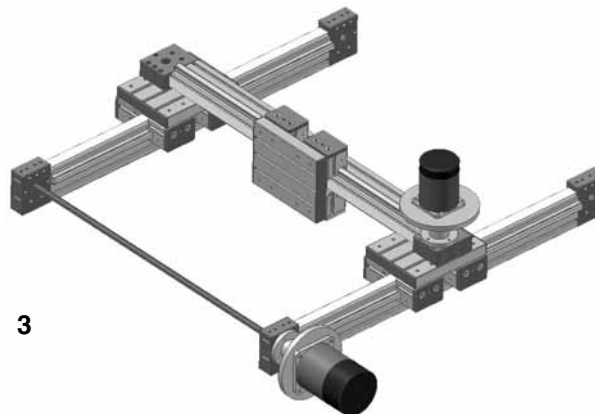
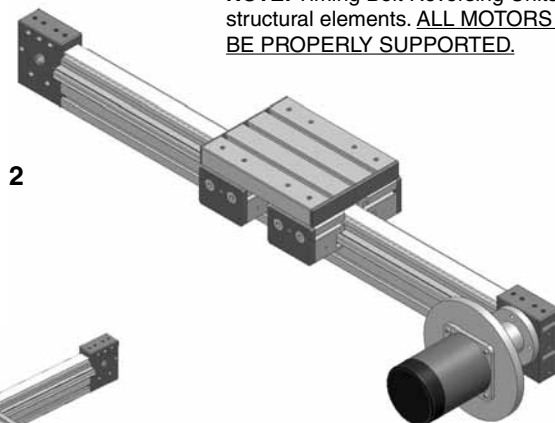
- 1 Timing Belt Reversing Unit 40 for driving or reversing the timing belt
- 2 Timing Belt Clamp and Tensioner
- 3 Multi-Spline Shaft



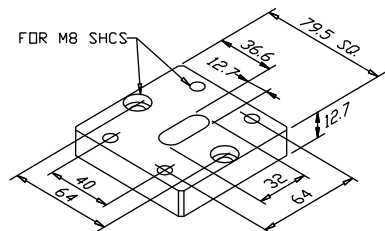
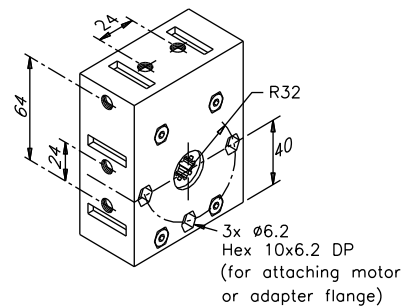
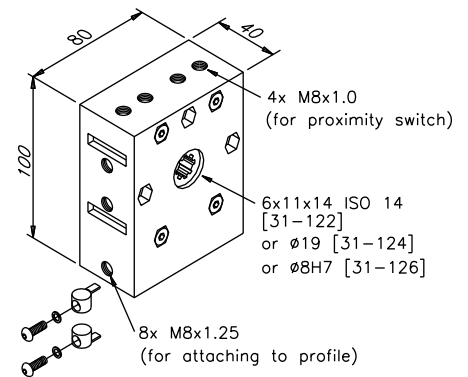
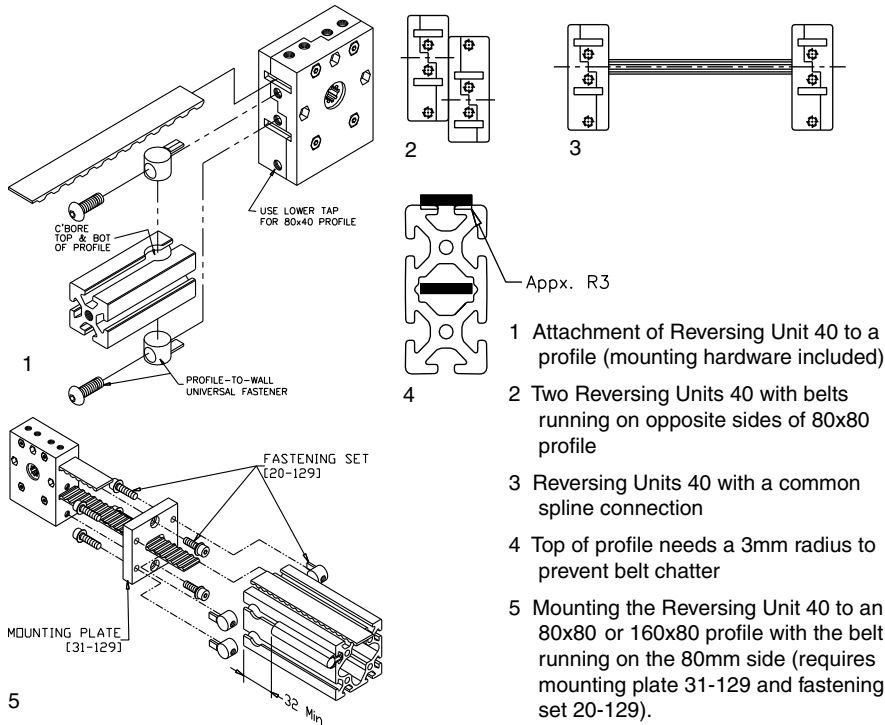
Design Examples

- 1-2 Construction with one axis of movement
- 3 Construction with two axes of movement.

NOTE: Timing Belt Reversing Units are not structural elements. ALL MOTORS MUST BE PROPERLY SUPPORTED.



Reversing Unit 40



Application

To drive and reverse timing belt 25T10 for precise linear motion using profiles and linear guides. Choice of drive pulleys with spline 6x11x14mm ISO14 with Ø8^{H7} or Ø19. Pulley with 8mm bore can be drilled to max. Ø15mm. Housing accommodates attachment of drive motor adapter flange or serial connection of multiple reversing units. Reversing Unit 40 can be mounted to the end of profile directly or with Mounting Plate [31-129]. Mounting Plate is designed for center mount of Reversing Units 40 to end of 80x80 or 160x80 Profile with belt running on 80mm side.

Technical Data

Die cast zinc, black coated
 Pulley: St, black oxide, Pitch - 10 mm,
 Teeth - 15 (one revolution corresponds to 150mm), Pitch Dia. 47.75 mm
 Maximum load $M_D = 20 \text{ Nm}$ (14.7 ft-lb)
 Belt length inside reversing unit depends on type of connection:
 90° connection - 140 mm
 180° connection - 160 mm
 Complete with two Profile-to-Wall fasteners and ten access hole plugs.

Mounting Plate 31-129:
 Al, anodized

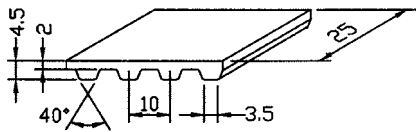
31-129

Ordering Information

| Description | Pulley | Unit | Weight | Part # |
|---------------------------------------|----------|-------|---------|--------|
| Reversing Unit 40 | Spline | 1 set | 1.85 kg | 31-122 |
| | 8mm Bore | 1 set | 1.85 kg | 31-124 |
| | Idler | 1 set | 1.85 kg | 31-126 |
| Mounting Plate, Rev. Unit 40 | | 1 pc | 0.40 kg | 31-129 |
| Fastening Set for Mounting Plate RU40 | | 1 set | | 20-129 |
| Pulley, 8mm Bore Reversing Unit 40 | | each | | 31-125 |
| Pulley, Idler Reversing Unit 40 | | each | | 31-127 |
| Pulley, Spline Reversing Unit 40 | | each | | 31-123 |



Hi-Flex Timing Belt



31-052-1

Application

Flexible, heavy duty transmission belt to convert the rotation of a drive motor into linear motion. Total length depends on profile length and amount of belt contained inside reversing unit. Pretensioning is determined by a the maximum operating peripheral force.

Technical Data

Polyurethane, steel reinforced
 Maximum tensile load: 2,400 N
 Temperature range: 0°C to +80°C

For two pulley drives pre-tension force:

$$F_v/0.5 F_u \text{ (} F_u \text{ - peripheral force)}$$

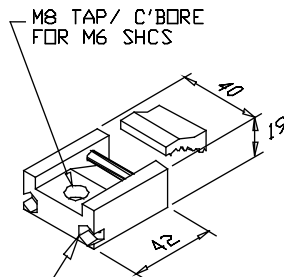
Pre-tension elongation (Δl) in mm per meter (L):

$$\frac{\Delta l}{L} = \frac{F_v}{600}$$

Ordering Information

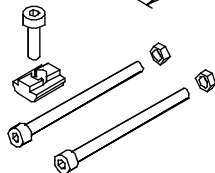
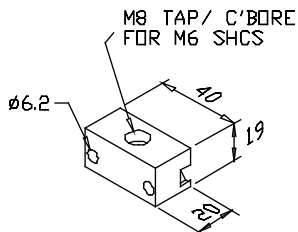
| Description | Unit | Part # |
|---------------------------|---------------------|----------|
| Hi-Flex Timing Belt 25T10 | per meter, max. 50m | 31-052-1 |

Clamping and Tensioning Blocks

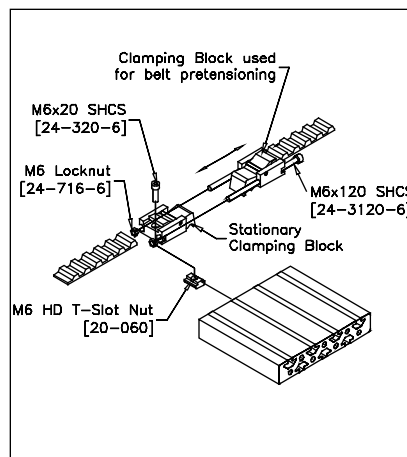


For M6 Hex Nut

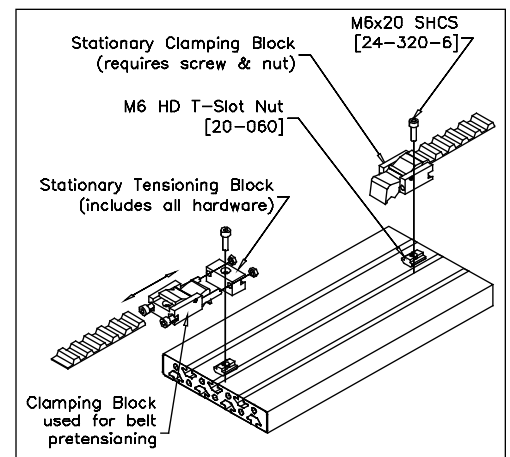
31-030



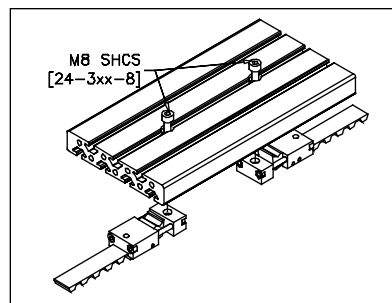
31-031



1



2



3

- Two Clamping Blocks used for belt clamping and tensioning. Order all hardware separately.
- Two Clamping Blocks and one Tensioner used for belt tensioning. Used when design does not permit the belt ends to come close. Tensioning block includes all hardware. Order screw and T-nut separately for attaching stationary clamping block (on the right).
- Using two Clamping Blocks and two Tensioners is recommended for long linears (over 3.5 M) to allow proper belt tensioning. Order M8 screws separately.

Application

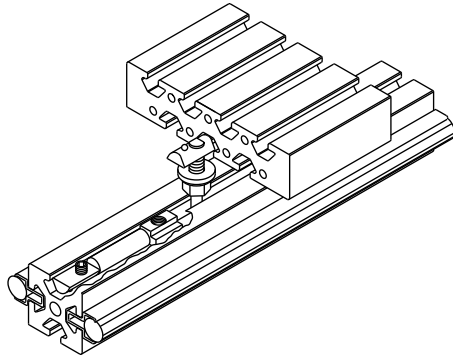
For attaching timing belt to a carriage slide and providing tensioning adjustment. Each end of belt requires clamping block. Tensioning block may be used on one or both ends of the belt.

Technical Data

Al, black anodized
 Tensioner includes: one M6x25 SHCS and one M6 T-slot Nut HD for attachment to base plate, two M6 lock nuts and two M6x80 SHCS.

Ordering Information

| Description | Unit | Weight | Part # |
|----------------------------|-------|--------|--------|
| Clamping Block, Belt 25T10 | 1 set | 62 g | 31-030 |
| Tensioning Block | 1 set | 92 g | 31-031 |



Limit Stop

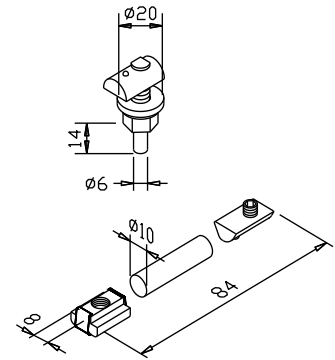
Application

To define mechanically the limits of travel. The rubber shock absorber provides for a cushioned end stop.

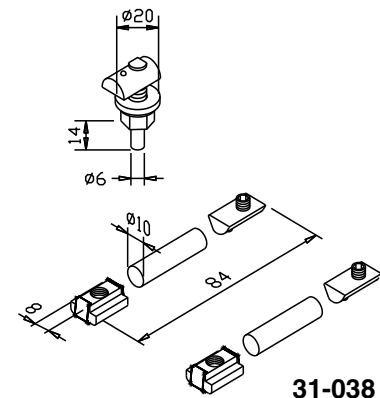
Technical Data

31-037:
M8 T-slot nut HD w/retainer spring, M8x8 cup point set screw, rubber shock absorber, two M8 T-slot nuts, M8x44 set screw, M8 washer, M8 flange nut

31-038:
two M8 T-slot nuts HD w/retainer spring, two M8x8 cup point set screws, two rubber shock absorbers, three M8 T-slot nuts, M8x44 set screw, M8 washer, M8 flange nut



31-037



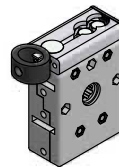
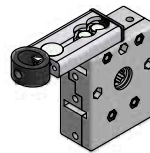
31-038

Ordering Information

| Description | Unit | Weight | Part # |
|------------------------------------------------|-------|--------|--------|
| Limit Stop - One Direction | 1 set | 65 g | 31-037 |
| Limit Stop Bi-Directional | 1 set | 93 g | 31-038 |
| Rubber Shock Absorber (40mm long) 31-037Z3A | each | | |

Application

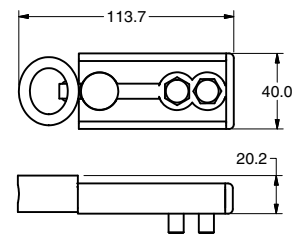
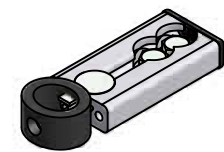
To mechanically limit the travel of a carriage. The rubber shock absorber provides for a cushioned end stop.



Bumpers

Technical Data

Bumper kit complete with all mounting hardware. Mounts directly to reversing unit.

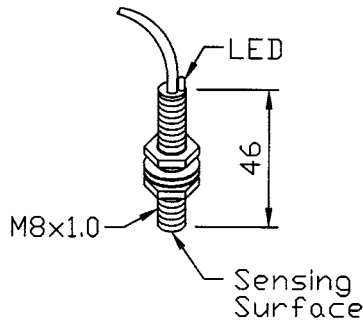


31-808

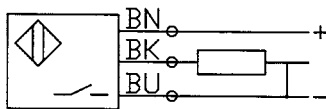
Ordering Information

| Description | Unit | Weight | Part # |
|-------------|-------|---------|--------|
| Bumper | 1 Set | 0.15 kg | 31-808 |

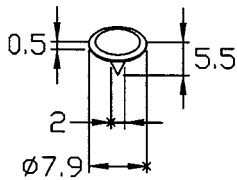
Proximity Switch



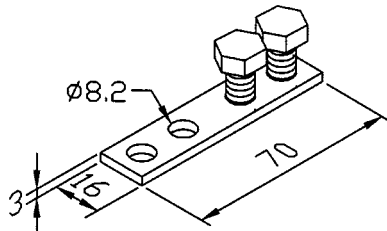
31-035



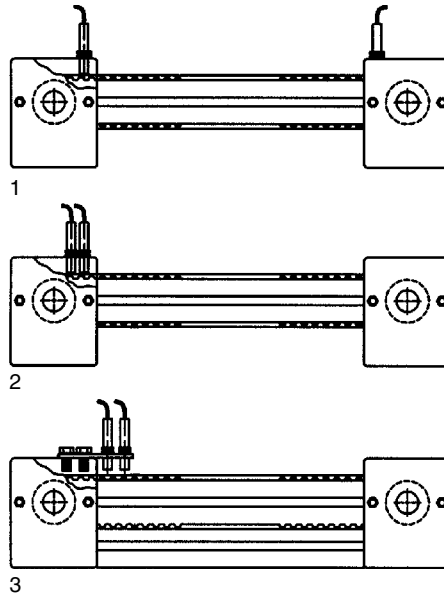
PNP Normally Open



31-033



31-036



- 1 Attachment of proximity switches when exciter does not run through reversing unit.
- 2 Attachment of both proximity switches for simplified control wiring installation on drive side of platform.
- 3 Attachment of both proximity switches on drive side of platform using mounting element [31-036].

Application

Proximity switches determine the limits of travel or provide reference positions. Exciter cams actuate inductive proximity switch, pressed into the flat surface of the timing belt. Mounting element provides attachment of proximity switches on reversing unit 40.

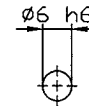
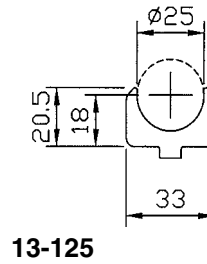
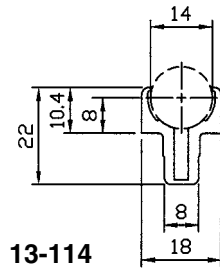
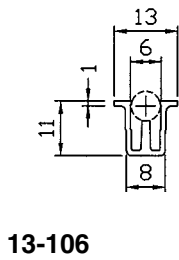
Technical Data

Inductive proximity switch in PNP sequence with LED indicator.
 Maximum sensing distance: 1.5 mm
 Output function: Normally Open
 Supply voltage: 10-30 VDC
 Includes two lock washers (must be used) and two hex nuts
 Exciter Cam: St, black
 Mounting Element: St, zinc plated
 Includes two hex bolts M8x1x16 [31-036z2]

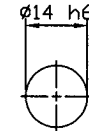
Ordering Information

| Description | Unit | Weight | Part # |
|---------------------------------------|-------|--------|--------|
| Proximity Switch | 1 pc | 65 g | 31-035 |
| Exciter Cam | 1 pc | 1 g | 31-033 |
| Mounting Element for Proximity Switch | 1 set | 43 g | 31-036 |

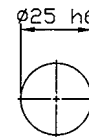
Shafts & Clamp



13-505



13-513



13-524

Ordering Information

| Description | Unit | Weight | Part # |
|-------------------------------|-------|---------|----------|
| Shaft Clamp Profile 6 | meter | 0.12 kg | 13-106* |
| Shaft Clamp Profile 14 | meter | 0.26 kg | 13-114* |
| Shaft Clamp Profile 25 | meter | 1.01 kg | 13-125* |
| Shaft Clamp Saw Cut To Length | each | | 19-001 |
| Shaft Size 6 | meter | 0.22 kg | 13-505** |
| Shaft Size 14 | meter | 1.21 kg | 13-513** |
| Shaft Size 25 | meter | 3.83 kg | 13-524** |
| Shaft Cut To Length | each | | 19-007 |

* Max Length = 3m
 ** Max Length = 6m

Application

To connect multiple reversing units 40 for generation of synchronous motion cycles such as required for gantry applications.

Technical Data

Cold drawn steel, 1045,
 6x11x14 ISO 14, DIN 5463
 Max. recommended length without bearing support: 500mm horiz.

Ordering Information

| Description | Unit | Weight | Part # |
|--------------------------------|------------|----------|--------|
| LR Spline Shaft | per meter* | 0.92kg/m | 13-566 |
| Saw cut necessary for cutt off | | | 19-007 |

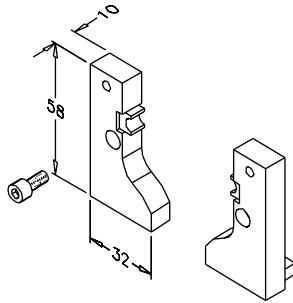
*Call for maximum lengths in stock

Spline Shaft

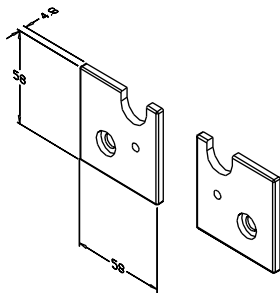


13-566

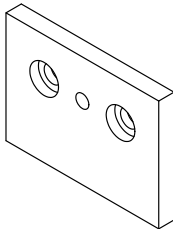
End Caps



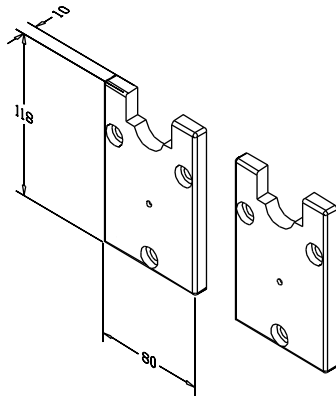
30-407



30-107



30-503z6



30-207

Ordering Information

| Description | Unit | Weight | Part # |
|-----------------------------------|-----------|---------|----------|
| End Cap, Lubricating System 6 | set (R&L) | 0.02 kg | 30-407 |
| End Cap, Lubricating System 14 | set (R&L) | 0.05 kg | 30-107 |
| End Cap, Lubricating System 14 HD | | | 30-503z6 |
| End Cap, Lubricating System 25 | set (R&L) | | 30-207 |
| Replacement Felt Insert 6 | each | | 30-407z5 |
| Replacement Felt Insert 14 | each | | 30-107z1 |
| Replacement Felt Insert 14HD | each | | 30-114z5 |
| Replacement Felt Insert 25 | each | | 30-207z1 |

Section 9

Services, Assembly Tips & Tools

Processing Services

| Description | Unit | Part # |
|------------------------------------------------------------------------|----------------|--------|
| Saw cut up to 80x40mm or 3" x 1.5" size profiles | per cut | 19-001 |
| Saw cut up to 80x80mm or 3" x 3" size profiles | per cut | 19-002 |
| Saw cut, 160x28 thru 160x80 or 6" x 1.5" profiles | per cut | 19-003 |
| Drill and Counter Bore for BHCS or SHCS..... | each | 19-004 |
| Drill and Counter Sink for FHCS..... | each | 19-006 |
| Saw cut for Linear Shafts..... | each | 19-007 |
| Tap Profile End 5/16-18..... | each | 19-009 |
| Tap Profile End M8 | each | 19-010 |
| Drill 7mm (0.277") Access Hole..... | each | 19-011 |
| Drill & Tap for M5, M6, M8, M10, #10-32, 1/4-20, 5/16-18, 3/8-16 | each | 19-012 |
| Drill & Tap for M3 or M4 | each | 19-013 |
| Drill and Tap M12, M16, 1/2-13, or 5/8-18 | each | 19-014 |
| Step Drill for Universal Fastener (all profiles) | each | 19-015 |
| Drill and Tap M8 (5/16-18 x 1.5") for Knuckle Foot | each | 19-016 |
| Drill and Tap M10 (3/8-16 x 2") for Knuckle Foot | each | 19-017 |
| Service for dowel (securing Linear Shaft)..... | each | 19-019 |
| Drill 22.5mm hole for 1/4-turn Handle..... | each | 19-018 |
| Drill 20mmx6mm (3/4" x 1/4") for Pneu. Universal Fastener | each | 19-020 |
| Drill 0.375" or 0.500" hole for Ball Plunger | each | 19-022 |
| Drill Through Hole for Side Mounting Knuckle Foot..... | each | 19-023 |
| Drill 7mm (0.277") Access Hole through 160mm (6") side | each | 19-025 |
| Panel – Packaging for secure transport..... | 1 package..... | 19-026 |
| Panel – Drill thru panel up to 10mm (3/8") for screws | each | 19-027 |
| Panel – Chamfer Corner..... | each | 19-029 |
| Panel – Notch Corner..... | each | 19-030 |
| Panel – Special Service Cut..... | each | 19-031 |
| Panel – Cut to Size | each | 19-032 |
| Mill Square up to 80x40 (3" x 1.5") | per end..... | 19-100 |
| Mill Square up to 80x80 (3" x 3")..... | per end..... | 19-101 |
| Mill Square up to 160x80 (6" x 1.5")..... | per end..... | 19-102 |
| Drill/Tap/Mill for Roller PA | each | 19-103 |
| Special Miter Cut | per cut | 19-104 |
| 45° Miter Cut up to 80x80 (3" x 3")..... | per cut | 19-105 |
| 45° Miter Cut, 6" x 1.5" Profile..... | per cut | 19-106 |
| Miter Connection Counter Bore | each | 19-211 |
| Drill hole 8.4mm for Slide Block Brake | each | 19-140 |



Saw Profile to Length

A cut to length extrusion profile can be ordered by specifying this machining service.

Tolerances: Length = ± 0.04 mm (± 0.015 in)
Squareness = ± 0.004 cm/cm (± 0.003 in/in)

Maximum Length*: 6000 mm (240 in) for all profiles,
except as noted otherwise

Ordering Note:

Saw cut requirements should be described by specifying the machining service number and length of cut required, in millimeters or inches.

Example:

A project requires 4 pieces of the 80 x 80 profile, saw cut to a length of 1500 mm each. These profiles would be ordered as follows:

Line 1 – Specify the total quantity required:

Part No. = 10-088, Quantity = 4@1500mm

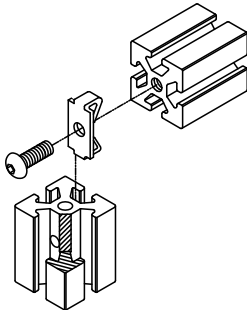
Line 2 – Specify machining services required:

Machining Service No. = 19-002

Quantity = 4

Tap Profile End

This machining service provides one or more tapped holes (M8, M10 or 5/16-18) at the end of an extrusion profile.



Ordering Note:

Profile end tapping requirements should be described by specifying the machining service number and the end(s) at which the tapped hole is required. See pages 233-234 for locator drawings of the extrusion ends.

Example:

A length of 11-040 profile requires tapping at each end for attachment of the M8 End Fastener Assembly. This machining service would be ordered as follows:

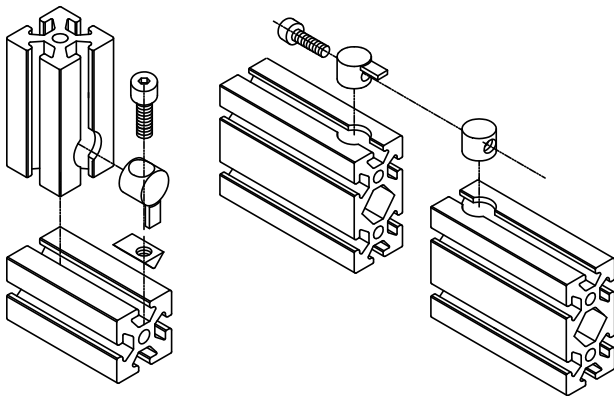
Machining Service No. = 19-010@A1, 19-010@A2

In this example, there would be charges for two profile end tapping services:

19-010, Quantity = 2

Step Drill

This service provides one or more blind holes on the profile T-slot. These holes can accommodate the Universal or Butt Fasteners for both metric or inch extrusions.



Ordering Note:

Profile step drill requirements should be described by specifying the machining service number and the end(s) at which the drill is required. See pages 233-234 for locator drawings of the extrusion ends.

Example:

Two lengths of 11-080 profile require Butt Fasteners to connect to each other. This machining service would be ordered as follows:

Machining Service No. = 19-015@A3, A6

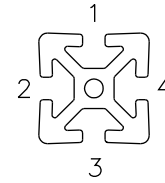
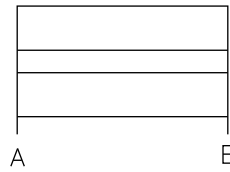
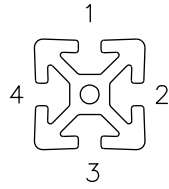
19-015@B3, B6

In this example, there would be charges for step drill services:

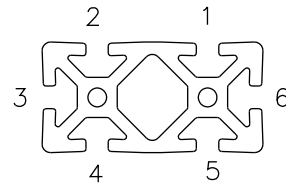
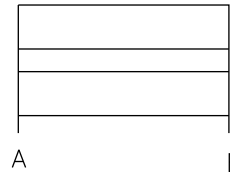
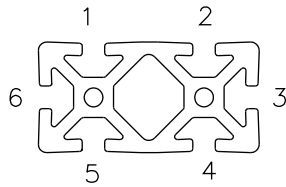
19-015, Quantity = 4

Surface Locations

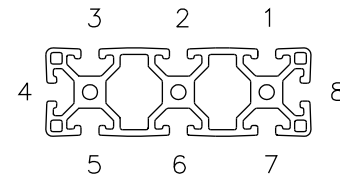
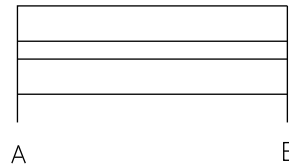
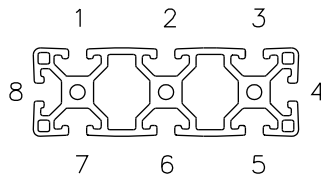
28 x 28 Profiles
 40 x 40 Profiles



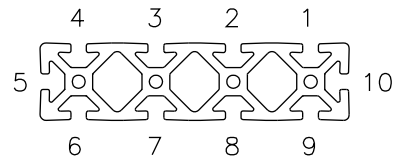
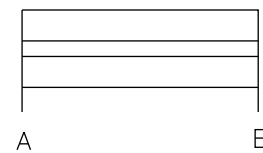
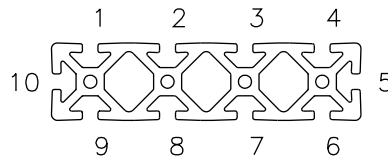
28 x 56 Profiles
 40 x 80 Profiles



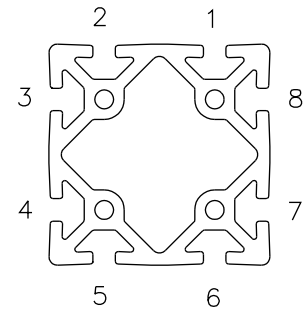
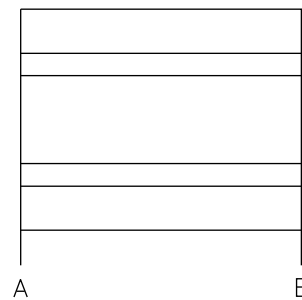
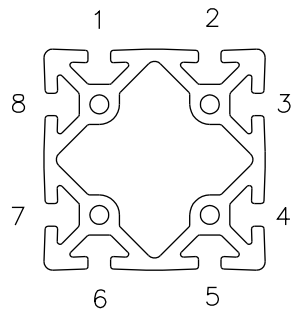
40 x 120 Profiles



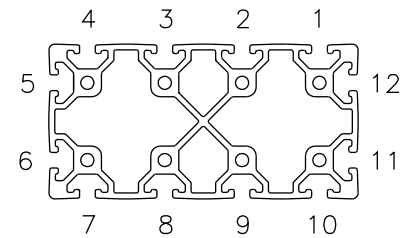
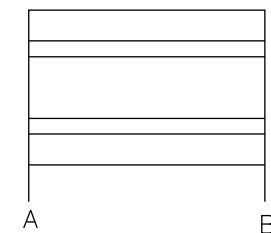
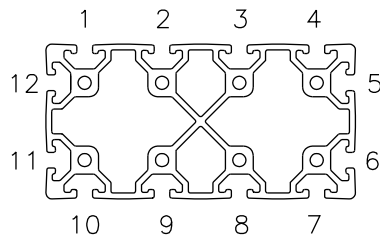
40 x 160 Profiles



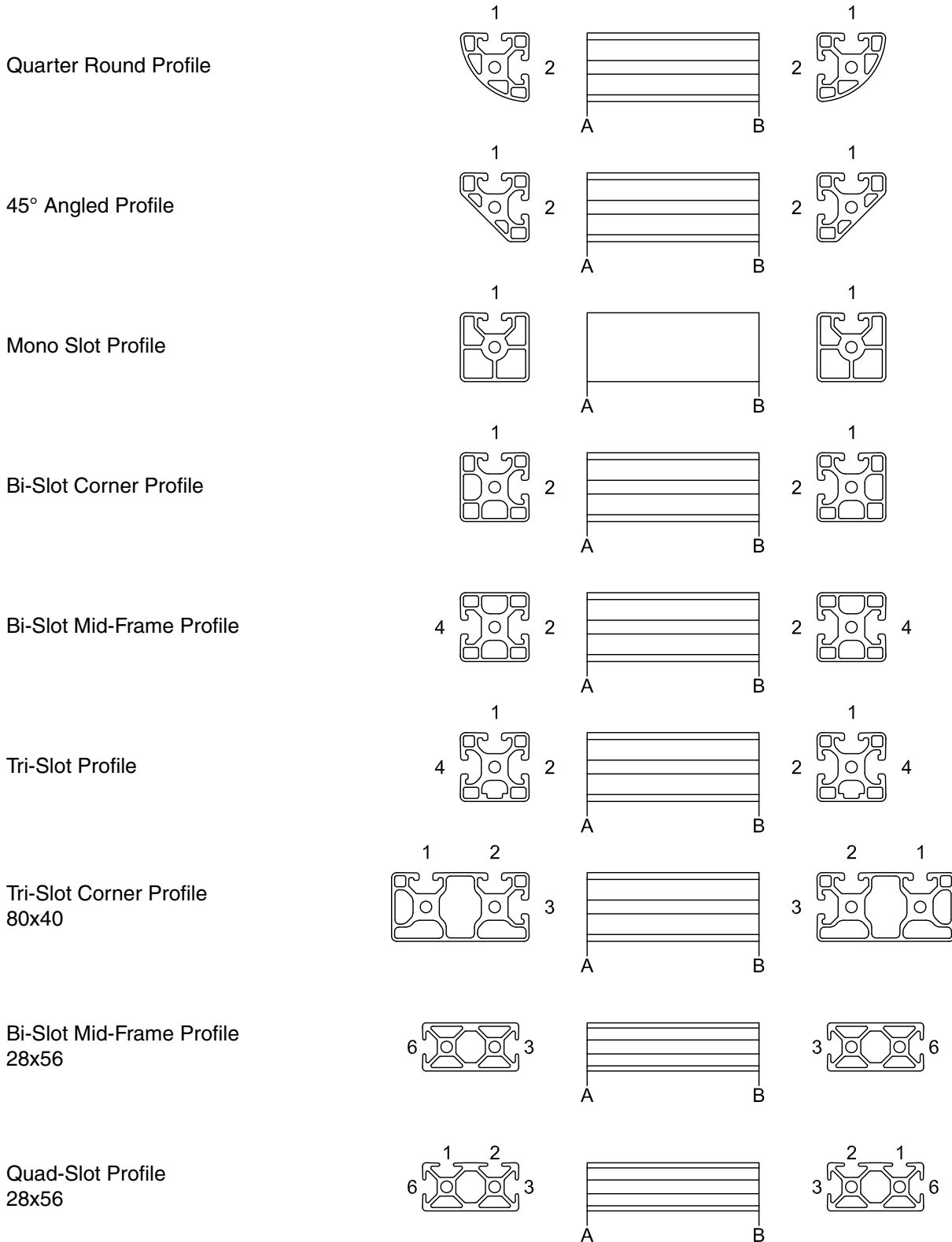
56 x 56 Profiles
 80 x 80 Profiles



80 x 160 Profiles



Surface Locations



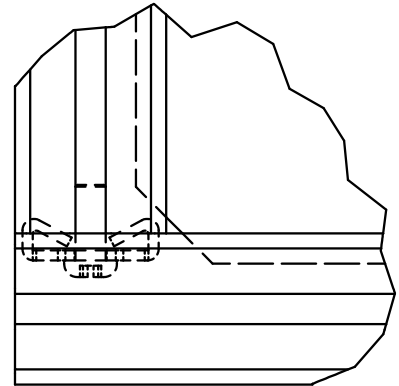
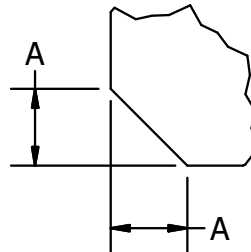
Chamfer Corner for End Fastener Clearance

Chamfer gives clearance for end fastener. This service is needed only when panels are installed in T-slots. Profiles 20 and 1" use 3mm thick panel with 3mm panel gasket.

Service 19-029

Dimensions

| Profile | A |
|---------|---------------|
| 40 | 10.2 (0.400") |
| 30 | 10.2 (0.400") |
| 28 | 6.40 (0.250") |
| 20 | 6.40 (0.250") |
| 1.5" | 10.2 (0.400") |
| 1" | 8.2 (0.325") |



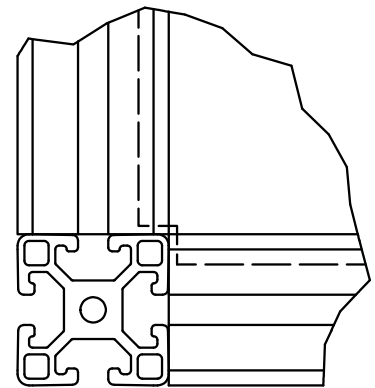
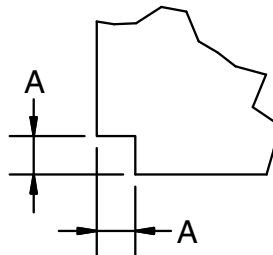
Notch Corner for Extrusion Clearance

Notch gives clearance for perpendicularly mounted extrusions. This service is needed only when panels are installed in T-slots. Profiles 20 and 1" use 3mm thick panel with 3mm panel gasket.

Service 19-030

Dimensions

| Profile | A |
|---------|---------------|
| 40 | 10.2 (0.400") |
| 30 | 10.2 (0.400") |
| 28 | 6.40 (0.250") |
| 20 | 6.40 (0.250") |
| 1.5" | 10.2 (0.400") |
| 1" | 8.2 (0.325") |



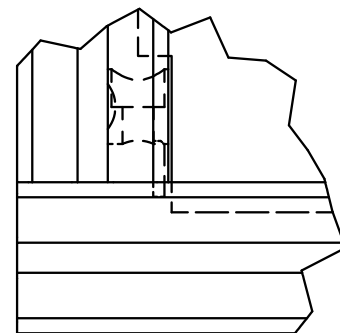
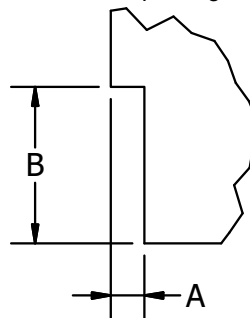
Notch Corner for Anchor Fastener Clearance

Notch gives clearance for anchor fastener. This service is needed only when panels are installed in T-slots. Profiles 1" use 3mm thick panel with 3mm panel gasket.

Service 19-031

Dimensions

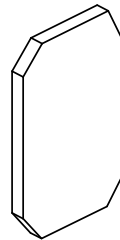
| Profile | A | B |
|---------|---------------|----------------|
| 40 | 12.7 (0.500") | 44.50 (1.750") |
| 30 | 12.7 (0.500") | 44.50 (1.750") |
| 28 | 8.90 (0.350") | 41.40 (1.630") |
| 1.5" | 12.7 (0.500") | 44.50 (1.750") |
| 1" | 8.20 (0.325") | 25.40 (1.000") |



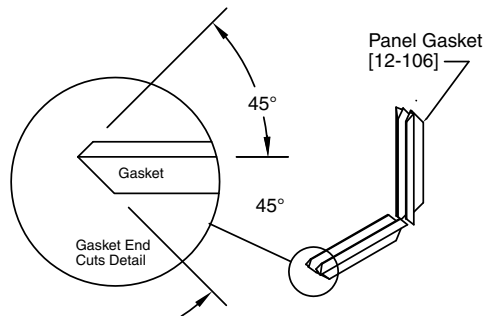
Pre-Assembly Instructions and Tips

1. Upon receipt of your order, check to see that you have received a complete kit with numbered components. All extrusions are clearly marked with a number designation. Sort all the extrusions according to these designations. If a drawing was supplied, these numbers will correspond with the numbers shown on the drawing and also with those on the bill of materials.
2. Assembly should be performed on a flat surface as this helps insure proper alignment and perpendicularity of the frame.
3. Thread all end fasteners into tapped ends of extrusions but do not tighten the bolts.
4. Pre-assemble all joiner plates, gussets, brackets, wire mesh clamps and anchor fastener assemblies but do not tighten the bolts.
5. If economy T-nuts are being used on joiner plates, gussets, brackets and any accessories which are to be mounted between end fastenings of the main assembly, then these systems of the T-nut should be installed in the proper T-slot at this time.
6. Install all wheels, leveling feet, hinges, handles and end caps after the main frame is constructed.
7. If solid panels are part of the installation, they should be installed in the T-slot after three sides of its frame have been formed. If panel gasket [12-106] is being used, it should be wrapped around the panel, notched at each corner and then slid into the extrusion's "u-shaped" frame.
8. Use a rubber mallet when installing panels and tap panels evenly to insure that they seat to depth within the T-slot.

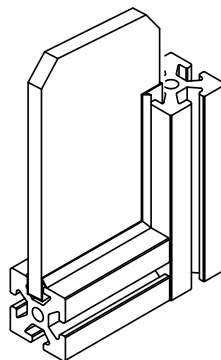
Panel and Gasket Cutting and Installation



Cut chamfers at panel corners that are adjacent to standard fasteners. Chamfer should be at 45° angle (approx.) and should be cut according to detail on page 235.



Measure the length of each side of the panel and cut the gasket to those lengths. Then cut each end of the gasket as shown above. Two 45° angle cuts will insure proper fit. Then slide the cut gasketing onto the side of the panel.



With the gasketing mounted on the panel, insert the panel into the slot of the extrusion. By loosening the standard fasteners that hold the extrusions together, the panel will be allowed to slide more freely into place. Gently tapping the extrusion into place and tightening the extrusions back together will insure a tight fitting panel.

Application

For precise location of 7mm access hole for standard connections.

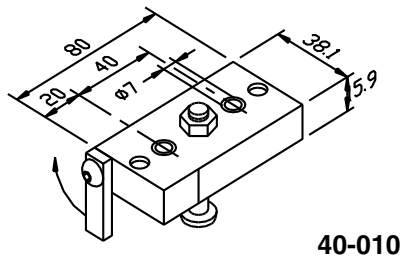
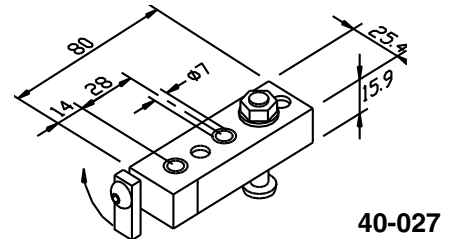
Technical Data

Al, anodized
Ground and hardened drill bushings with locations 28, 30 and 40mm between access holes. Clamping "T" bolt for firm attachment.

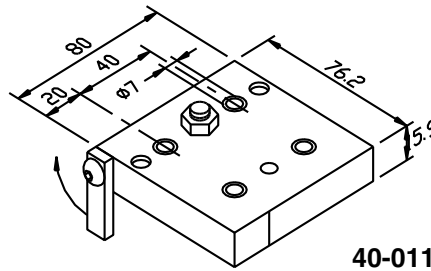
**Drilling Jigs
Std. Connection**

Ordering Information

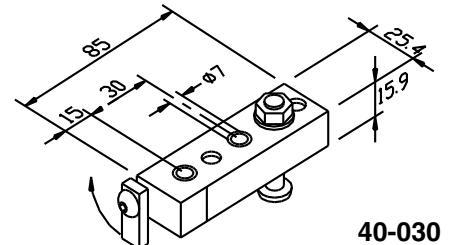
| Description | Unit | Weight | Part # |
|----------------------------------|------|---------|--------|
| Drilling Jig 40, Std. Connection | 1 pc | 0.19 kg | 40-010 |
| Drilling Jig 80, Std. Connection | 1 pc | 0.36 kg | 40-011 |
| Drilling Jig 28, Std. Connection | 1 pc | 0.12 kg | 40-027 |
| Drilling Jig 30, Std. Connection | 1 pc | | 40-030 |



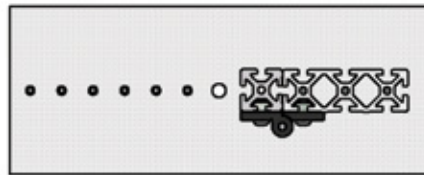
40-010



40-011



40-030



TOP VIEW



SIDE VIEW

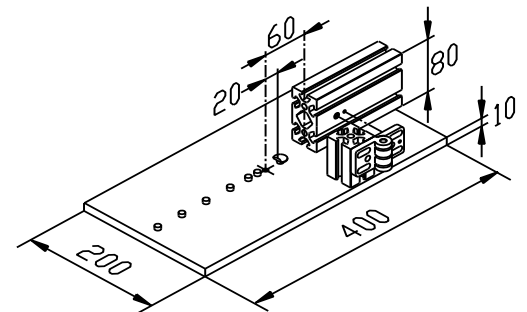
**Drilling Jig
Universal
Connection**

Application

For precise location of 20mm dia. step bore for the universal connection, and the 7mm access hole for the standard connection on a drill press.

Technical Data

Plastic base plate
Al, anodized stop block
Zn cast, black hinge



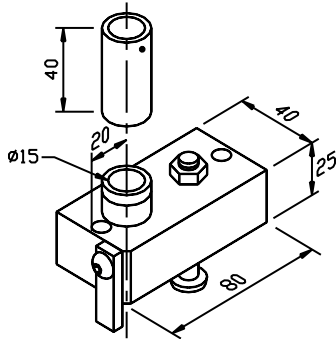
40-015

Ordering Information

| Description | Unit | Weight | Part # |
|-----------------------------------|------|---------|--------|
| Drilling Jig 40, Univ. Connection | 1 pc | 2.35 kg | 40-015 |



Drilling Jig Clamp Profile 40x40



40-026

Application

For precise location clearance hole and counter bore for M8 or 5/16-18" BHCS or SHCS on Clamp Profile 40x40.

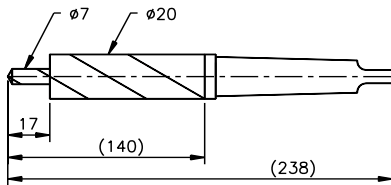
Technical Data

Al, anodized
Drill bushing hardened and polished.
Includes depth limit for step drill (40-025).

Ordering Information

| Description | Unit | Weight | Part # |
|-----------------------------------|------|---------|--------|
| Drilling Jig, Clamp Profile 40x40 | 1 pc | 0.49 kg | 40-026 |

Step Drill 7x20 Univ. Connection



40-023

Application

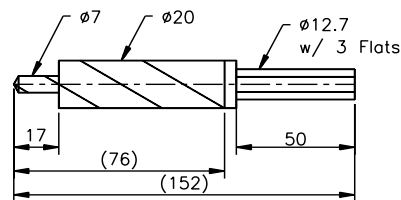
Used for drilling 20 mm diameter step bore for universal or butt fastener with 40, 30 or 28 series profiles.

Technical Data

High performance, high speed steel, nitrated. #2 Morse Taper or 0.5" dia. with three flats.

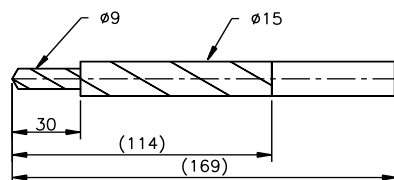
Ordering Information

| Description | Unit | Weight | Part # |
|---------------------------------|------|---------|--------|
| Step Drill 7x20, #2 Morse Taper | 1 pc | 0.26 kg | 40-023 |
| Step Drill 7x20 with 3 Flats | 1 pc | 0.19 kg | 40-024 |



40-024

Step Drill 9x15



40-025

Application

Used for drilling and counter boring profile for M8 or 5/16-18" BHCS or SHCS.

Technical Data

High performance, high speed steel, nitrated. Straight shank.

Ordering Information

| Description | Unit | Weight | Part # |
|-----------------|------|---------|--------|
| Step Drill 9x15 | 1 pc | 0.15 kg | 40-025 |

Application

Tap drill size for M8x1.25 and drill size for standard fastener access hole.

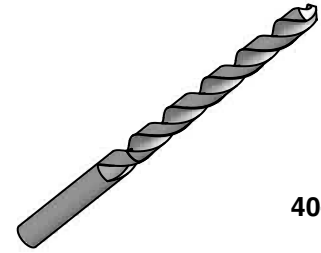
Technical Data

6.8mm drill, right hand, jobbers length
High speed steel

Ordering Information

| Description | Unit | Weight | Part # |
|-----------------|------|--------|--------|
| 6.8mm Drill Bit | 1 pc | 20 g | 40-018 |

6.8mm Drill Bit



40-018

Application

Tooling to provide M8 tap in profile face holes for standard fastening set.

Technical Data

M8x1.25 tap, right hand
High speed steel

Ordering Information

| Description | Unit | Weight | Part # |
|-------------|------|--------|--------|
| M8x1.25 Tap | 1 pc | 25 g | 40-016 |
| 5/16-18 Tap | 1 Pc | 25 g | 40-516 |

Tap



40-016

40-516

Application

For tightening of standard and universal connections.

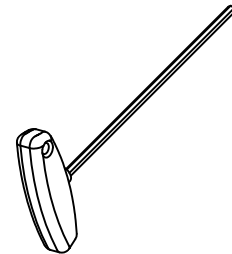
Technical Data

Chrome vanadium steel, nickel plated
Acetate handle

Ordering Information

| Description | Unit | Weight | Part # |
|----------------------------|------|--------|--------|
| Hex 5 Wrench with T-Handle | 1 pc | 26 g | 40-012 |
| 3/16" Wrench with T-Handle | 1 pc | 26 g | 40-044 |
| 1/4" Wrench with T-Handle | 1 pc | 26 g | 40-046 |

T-Handle Wrench



40-012

40-044

40-046

Application

For tightening of standard and universal connections.

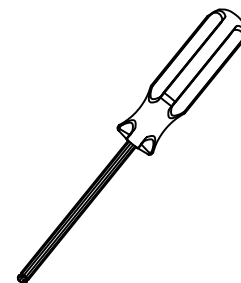
Technical Data

Chrome vanadium steel, nickel plated
Plastic handle

Ordering Information

| Description | Unit | Weight | Part # |
|-----------------------------|------|--------|--------|
| 5mm Wrench with Ball Head | 1 pc | 50 g | 40-013 |
| 6mm Wrench with Ball Head | 1 pc | 50 g | 40-022 |
| 3/16" Wrench with Ball Head | 1 pc | 50 g | 40-047 |
| 1/4" Wrench with Ball Head | 1 pc | 50 g | 40-048 |

Ball-Headed Wrench



40-013

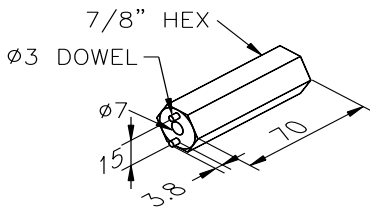
40-022

40-047

40-048



Spanner Wrenches



Application

Designed for tightening spanner nuts on linear guide systems 14 and 25.

Technical Data

St, black or brown finish tempered with spot welded pins

40-029: Al, black anodized

Steel pins

40-029



40-017



40-032-14



40-032-25

Description

Adj. Spanner Wrench for Linear 14

Pin Socket Wrench

Spanner Wrench for Linear 14

Spanner Wrench for Linear 25

Unit

1 pc

1 pc

1 pc

1 pc

Weight

0.11 kg

0.08 kg

0.04 kg

0.10 kg

Part

40-017

40-029

40-032-14

40-032-25

| Part # | Description | Page # | Part # | Description | Page # |
|---------------|----------------------------------------|---------------|---------------|----------------------------------------|---------------|
| 10-016 | 16X40 | 24 | 12-032 | 18X32 Bi-Slot | 54 |
| 10-036 | Post 36X36 | 31 | 12-033 | 30X30 Quarter Round | 34 |
| 10-040 | 40X40 Standard | 19 | 12-034 | 30X30 Bi-Slot Corner | 33 |
| 10-040B | 40X40 Standard (Black) | 19 | 12-040 | 40X40 20 Series | 43 |
| 10-043 | 40X40 Quarter Round ST | 21 | 12-044 | 28X28 45 Deg. | 39 |
| 10-044 | 40x40-45 Deg. Standard | 22 | 12-056 | 56X56 | 37 |
| 10-045 | 40X45 Deg. Standard | 22 | 12-060 | 30X60 | 35 |
| 10-080 | 80X40 Standard | 26 | 12-101 | Cover/Gasket Strip 40 Series (Clear) | 62 |
| 10-080B | 80X40 Standard (Black) | 26 | 12-1010 | 1.0"X1.0" | 52 |
| 10-081 | 16X80 | 24 | 12-101B | Cover/Gasket Strip 40 Series (Black) | 62 |
| 10-083 | R40X80 30 Deg. Standard | 23 | 12-101G | Cover/Gasket Strip 40 Series (Gray) | 62 |
| 10-085 | R40X80 45 Deg. Standard | 23 | 12-101Y | Cover/Gasket Strip 40 Series (Yellow) | 62 |
| 10-086 | R40X80 60 Deg. Standard | 23 | 12-102 | Cover Strip 40 Series (Aluminum) | 62 |
| 10-088 | 80X80 Standard | 27 | 12-1020 | 1.0"X2.0" | 52 |
| 10-088B | 80X80 Standard (Black) | 27 | 12-103B | Cover/Gasket Strip 28 Series (Black) | 62 |
| 10-089 | R40X80 90 Deg. Standard | 23 | 12-105 | Profile Clamp Bar | 58 |
| 10-120 | 120x40 Standard | 28 | 12-106 | Panel Gasket 8 | 61 |
| 10-140 | 40X40 Bi-Slot Corner | 20 | 12-107 | Mesh Gasket 8 | 61 |
| 10-1515 | 1.5"X1.5" | 45 | 12-108 | Panel Gasket 10 | 61 |
| 10-1530 | 1.5"X3.0" | 48 | 12-109 | Profile Rack Angle with Holes | 59 |
| 10-1543 | 1.5"X1.5" Quarter Round | 47 | 12-110 | Profile Rack Angle no Holes | 59 |
| 10-1560 | 1.5"X6.0" | 50 | 12-111 | Cover Strip 40 Series (PVC Clear) | 62 |
| 10-1591 | 1.5"X1.5" Mono-Slot | 46 | 12-111B | Cover Strip 40 Series (PVC Black) | 62 |
| 10-1592 | 1.5"X1.5" Bi-Slot Corner | 46 | 12-111BL | Cover Strip 40 Series (PVC Blue) | 62 |
| 10-1593 | 1.5"X1.5" Tri-Slot | 46 | 12-111Y | Cover Strip 40 Series (PVC Yellow) | 62 |
| 10-1594 | 1.5"X1.5" Bi-Slot Mid-Frame | 46 | 12-113 | Safety Cover Strip | 62 |
| 10-160 | 160x80 Standard | 29 | 12-114 | Anti-Skid Cover 40 Series | 60 |
| 10-161 | 16X160 | 24 | 12-115 | Cover/Gasket Strip 20 Series (Clear) | 62 |
| 10-164 | 160x40 Standard | 28 | 12-115B | Cover/Gasket Strip 20 Series (Black) | 62 |
| 10-180 | 80X40 Tri-Slot Corner | 26 | 12-116 | Cover Strip 30/28 Series (Clear) | 62 |
| 10-240 | 40X40 Bi-Slot Mid-Frame | 20 | 12-116B | Cover Strip 30/28 Series (Black) | 62 |
| 10-3030 | 3.0"X3.0" | 49 | 12-117-3 | Push-In Panel Seal (3mm) | 62 |
| 10-340 | 40X40 Tri-Slot | 20 | 12-117-6 | Push-In Panel Seal (6mm) | 62 |
| 10-380 | 40X80 Quad-Slot | 26 | 12-120 | 20X10 | 42 |
| 10-440 | 40X40 Mono-Slot | 20 | 12-124 | 20X40 | 42 |
| 10-540 | 40X40 Light | 19 | 12-128 | 28X28 Tri-Slot | 38 |
| 10-540B | 40X40 Light (Black) | 19 | 12-1515 | 1.5"X1.5" Light | 45 |
| 10-680 | 80X40 Light | 26 | 12-1530 | 1.5"X3.0" Light | 48 |
| 11-040 | 40X40 Heavy | 19 | 12-2020 | 2.0"X2.0" | 52 |
| 11-056 | Post 56X56 | 31 | 12-228 | 28X28 Bi-Slot | 38 |
| 11-080 | 80X40 Heavy | 26 | 12-328 | 28X28 Bi-Slot Mid-Frame | 38 |
| 11-084 | 80X80X40 Corner Heavy | 30 | 12-400 | Slide Bar UHMW | 60 |
| 11-088 | 80X80 Heavy | 27 | 12-410 | Slide Strip UHMW | 60 |
| 11-089 | 80X80 Extra Heavy | 27 | 12-420 | Slide Bar UHMW 40X10 | 60 |
| 11-100 | 40X100 Heavy | 25 | 12-421 | Guide Profile UHMW | 55 |
| 11-122 | 80x120 Heavy | 27 | 12-428 | 28X56 Open Slot | 37 |
| 11-128 | 28X160 | 25 | 12-430 | Slide Bar UHMW 28/30X8 | 60 |
| 11-140 | 160x40 Heavy | 28 | 12-628 | 28X56 Bi-Slot | 40 |
| 11-1515 | 1.5"X1.5" Heavy | 45 | 12-728 | 28X56 Quad-Slot | 40 |
| 11-1530 | 1.5"X3.0" Heavy | 48 | 13-012 | Handle, Tube Style Coated Steel Tubing | 133 |
| 11-160 | 160x80 Heavy | 29 | 13-106 | Roller System 6, Shaft Clamp | 229 |
| 11-3030 | 3.0"X3.0" Heavy | 49 | 13-114 | Roller System 14, Shaft Clamp | 229 |
| 11-540 | 40X40 Heavy Square | 31 | 13-125 | Roller System 25, Shaft Clamp | 229 |
| 12-010 | Profile Mesh Clamp | 58 | 13-505 | Roller System 6, Linear Shaft | 229 |
| 12-011 | Profile Stiffener / Handle | 57 | 13-513 | Roller System 14, Linear Shaft | 229 |
| 12-012 | Profile Sliding Door Guide 40 Upper | 56 | 13-524 | Roller System 25, Linear Shaft | 229 |
| 12-013 | Profile Sliding Door Guide 40 Lower | 56 | 13-566 | Spline Shaft, LR | 229 |
| 12-014 | Profile Sliding Door Guide 30/28 Upper | 56 | 14-100 | Conv Roller Track 7/8" Dia | 203 |
| 12-015 | Profile Sliding Door Guide 30/28 Lower | 56 | 14-248 | Profile Rail 40X80, Clear | 128 |
| 12-016B | Profile Panel Holder (Black) | 57 | 15-040 | Conduit Support 40 | 70 |
| 12-020 | 20X20 | 42 | 15-041 | Conduit Support 40 with T-Slots | 70 |
| 12-022 | Profile Rolling Door Guide | 55 | 15-042 | Conduit Wall Duct 40 | 71 |
| 12-028 | 28X28 Quad-Slot | 37 | 15-080 | Conduit Support 80 | 70 |
| 12-028B | 28X28 Quad-Slot (Black) | 37 | 15-082 | Conduit Wall Duct 80 | 71 |
| 12-030 | 30X30 | 33 | 15-120 | Conduit Support 120 | 70 |



| Part # | Description | Page # | Part # | Description | Page # |
|---------|----------------------------------|--------|----------|---------------------------------------------------|--------|
| 15-122 | Conduit Wall Duct 120 | 71 | 18-902 | Corner Connector 30, 2-Way | 99 |
| 15-160 | Conduit Support 160 | 70 | 18-903 | Corner Connector 30, 3-Way | 99 |
| 15-161 | Conduit Support 160 with T-Slots | 70 | 18-911 | End Cap 28x28, Secure | 65 |
| 15-803 | Conduit Cap 40x40 | 72 | 18-912 | End Cap 28X56, Secure | 65 |
| 15-804 | Conduit Cap 40x80 | 72 | 18-913 | End Cap 40x40, Secure | 65 |
| 15-805 | Conduit Cap 80x80 | 72 | 18-914 | End Cap 40x80, Secure | 65 |
| 15-806 | Conduit Cap 40x160 | 72 | 18-915 | End Cap 80x80, Secure w/ Stud | 65 |
| 15-807 | Conduit Cap 80x160 | 72 | 18-916 | End Cap 40x40, Secure w/ Stud | 65 |
| 15-810 | Conduit Cap 40x120 | 72 | 18-917 | End Cap 40x80, Secure w/ Stud | 65 |
| 15-811 | Conduit Cap 80x120 | 72 | 18-918 | End Cap 80x80, Secure | 65 |
| 15-812 | Conduit Cap 120x120 | 72 | 18-919 | End Cap 30x30, Secure | 65 |
| 15-813 | Conduit Cap 120x160 | 72 | 18-920 | End Cap 30x60, Secure | 65 |
| 18-1010 | End Cap 1.0"x1.0" | 64 | 19-001 | Service, Saw Cut to 80x40mm | 231 |
| 18-1020 | End Cap 1.0"x2.0" | 64 | 19-002 | Service, Saw Cut to 80x80mm | 231 |
| 18-1515 | End Cap 1.5"x1.5" | 64 | 19-003 | Service, Saw Cut to 160x80mm | 231 |
| 18-1530 | End Cap 1.5"x3.0" | 64 | 19-004 | Drill and Counter Bore for BHCS or SHCS | 231 |
| 18-1543 | End Cap 1.5"x1.5" Quarter Round | 64 | 19-006 | Drill and Counter Bore for FHCS | 231 |
| 18-2020 | End Cap 2.0"x2.0" | 64 | 19-007 | Saw Cut For Linear Shafts | 231 |
| 18-3030 | End Cap 3.0"x3.0" | 64 | 19-009 | Tap Profile End 5/16-18 | 231 |
| 18-710 | Access Hole Plug, 7mm Plastic | 63 | 19-010 | Tap profile End M8 | 231 |
| 18-712 | Corner Connector Plug 28 | 99 | 19-011 | Drill 7mm Access Hole | 231 |
| 18-713 | Access Hole Plug, 7mm Nickel | 63 | 19-012 | Drill & Tap for M5, M6, M8 or M10 | 231 |
| 18-715 | End Cap Push-in Fastener | 65 | 19-013 | Drill & Tap for M3 or M4 | 231 |
| 18-802 | End Cap 20x20 | 63 | 19-014 | Drill & Tap M12 or M16 (Knuckle Foot 80) | 231 |
| 18-803 | End Cap 30x30 | 63 | 19-015 | Step Drill for Universal Fastener 40 or 28 | 231 |
| 18-805 | End Cap 40x40 Heavy Square | 63 | 19-016 | Drill and Tap M8 (Knuckle Foot 40) | 231 |
| 18-806 | End Cap 160x16 | 63 | 19-017 | Drill and Tap M10 (Knuckle foot 80) | 231 |
| 18-807 | End Cap 32x18 | 63 | 19-018 | Service for Quarter Turn Handles (22.5mm Dia) | 231 |
| 18-808 | End Cap 28x28 | 63 | 19-019 | Service for Dowel (Securing Linear Shaft) | 231 |
| 18-809 | End Cap 28x56 | 63 | 19-020 | Drill 20mm x 6mm for Pneumatic Universal Fastener | 231 |
| 18-811 | End Cap 40x16 | 63 | 19-022 | Drill 0.375" or 0.500" hole for Ball Plunger | 231 |
| 18-812 | End Cap 80x16 | 63 | 19-023 | Drill through hole for Side Mounting Knuckle Foot | 231 |
| 18-813 | End Cap 40x40 | 63 | 19-025 | Drill 7mm Access Hole through 160mm Side | 231 |
| 18-814 | End Cap 40x80 | 63 | 19-026 | Panel Packaging for secure transport | 231 |
| 18-815 | End Cap 80x80 | 63 | 19-027 | Drill thru panel up to 10mm for screws | 231 |
| 18-816 | End Cap 160x28 | 63 | 19-029 | Chamfer Panel Corner | 231 |
| 18-817 | End Cap 40x160 | 63 | 19-030 | Notch Panel Corner | 231 |
| 18-818 | End Cap 80x160 | 63 | 19-031 | Special Service Cut | 231 |
| 18-819 | End Cap 56x56 (Post Profile) | 63 | 19-032 | Panel cut to size | 231 |
| 18-820 | End Cap 40x40-45 Degree | 63 | 19-100 | Mill Square up to 80x40 | 231 |
| 18-821 | Connector Cap 40, Radius | 98 | 19-101 | Mill square up to 80x80 | 231 |
| 18-822 | Connector Cap 40, 3x45 Degree | 98 | 19-102 | Mill Square up to 160x80 | 231 |
| 18-826 | Corner Connector 40, 2-Way | 99 | 19-103 | Drill/Tap/Mill for Roller PA | 231 |
| 18-827 | Corner Connector 40, 3-Way | 99 | 19-104 | Special Miter Cut | 231 |
| 18-829 | Corner Connector 28, 3-Way | 99 | 19-105 | 45o Miter Cut up to 80x80 (3"x3") | 231 |
| 18-830 | End Cap 20x10 | 63 | 19-106 | 45o Miter Cut, 6"x1.5" | 231 |
| 18-831 | End Cap 20x40 | 63 | 19-140 | Drill hole 0.323" for 40 & 80 profiles | 231 |
| 18-832 | End Cap 40x40 (20 Series) | 63 | 19-211 | Miter Connection Counter Bore | 231 |
| 18-838 | End Cap 30x30, Quarter Round | 63 | 20-002 | Standard Fastener 40, M8 | 76 |
| 18-840 | End Cap 40x120 | 63 | 20-002SS | Standard Fastener 40, M8 (SS) | 76 |
| 18-841 | End Cap 80x120 | 63 | 20-003 | Standard Fastener 30/28, M8 | 76 |
| 18-842 | Connector Cap 40, Square | 98 | 20-003SS | Standard Fastener 30/28, M8 (SS) | 76 |
| 18-843 | End Cap 40x40 Quarter Round | 63 | 20-004 | Universal Fastener 40, M8 | 78 |
| 18-844 | End Cap 28x28x45 Degree | 63 | 20-004Z1 | Universal Fastener 40 Zinc Casting | 78 |
| 18-845 | End Cap 40-45o | 63 | 20-005 | Universal Fastener 28, M6 | 78 |
| 18-852 | Corner Connector 20, 2-Way | 99 | 20-005Z1 | Universal Fastener 28 Zinc Casting | 78 |
| 18-853 | Corner Connector 20, 3-Way | 99 | 20-006 | Butt Fastener 40, M8 | 77 |
| 18-863 | End Cap 30x60 | 63 | 20-007 | Fastening Set for Bearing Unit 6 | 217 |
| 18-872 | Corner Connector 1.0", 2-Way | 99 | 20-008 | Universal Fastener 30, M6 | 78 |
| 18-873 | Corner Connector 1.0", 3-Way | 99 | 20-011 | Pneumatic Fastener, Universal | 178 |
| 18-883 | End Cap R40/80-30 Degree | 63 | 20-011 | Universal Fastener 28 to 40 M6 | 78 |
| 18-885 | End Cap R40/80-45 Degree | 63 | 20-012 | Butt Fastener 30/28, M6 | 77 |
| 18-886 | End Cap R40/80-60 Degree | 63 | 20-012 | Pneumatic Fastener, Butt-Fastening Set | 178 |
| 18-892 | Corner Connector 1.5", 2-Way | 99 | 20-015 | Profile to Wall Fastener 40, M8 | 80 |
| 18-893 | Corner Connector 1.5", 3-Way | 99 | 20-018-1 | Clamp Block 1, 40 Series, 1 Hole | 101 |



| Part # | Description | Page # | Part # | Description | Page # |
|---------------|--------------------------------------|---------------|---------------|---------------------------------------|---------------|
| 20-018-2 | Clamp Block 2, 40 Series, 2 Hole | 101 | 20-116 | Connecting Angle 20, Double | 105 |
| 20-018-4 | Clamp Block 3, 40 Series, 4 Hole | 101 | 20-117 | Connecting Plate 20 | 102 |
| 20-019 | Self Tapping Connector 40 | 80 | 20-118 | Connecting Plate 20, Double | 102 |
| 20-021 | Standard Fastener 20, M5 | 76 | 20-127 | Miter Bracket | 81 |
| 20-022 | Miter Connector 40, Variable | 81 | 20-128 | Miter Connector 30/28 Fixed 90 Deg | 81 |
| 20-028 | Flat Plate Fastener 40 | 77 | 20-128Z1 | Miter Connector 30/28 Fixed Only | 81 |
| 20-028Z1 | Flat Plate Only | 77 | 20-129 | Fastening Set for Mounting Plate RU40 | 225 |
| 20-030 | Fastening Set HD for Bearing Unit 14 | 219 | 20-132 | 18x32 Bi-Slot Fastener | 54 |
| 20-033 | Z-Nut 40, M3 | 87 | 20-143 | Standard Fastener 30/28, S End, M8x18 | 76 |
| 20-034 | Z-Nut 40, M4 | 87 | 20-144 | Standard Fastener 40, S End, M8 | 76 |
| 20-035 | Z-Nut 40, M5 | 87 | 20-181 | Economy Offset 40, M8 | 86 |
| 20-036 | Z-Nut 30/28, M3 | 87 | 20-182 | Economy Offset 40, 5/16-18 | 86 |
| 20-037 | Z-Nut 30/28, M4 | 87 | 20-190 | Economy Offset 30/28, M6 | 86 |
| 20-038 | Z-Nut 30/28, M5 | 87 | 20-193 | Economy Offset 30/28, 1/4-20 | 86 |
| 20-044 | Standard 20, M4 | 83 | 20-200 | Wire Mesh Retainer 20 | 119 |
| 20-045 | Standard 20, M5 | 83 | 20-200P | Panel Retainer 20 | 119 |
| 20-049 | Double Standard 30/40, M8, 24mm | 84 | 20-202 | Wire Mesh Retainer 40 | 119 |
| 20-050 | Double Standard 30/40, M8, 40mm | 84 | 20-202P | Panel Retainer 40 | 119 |
| 20-051 | Standard 30/40, M4 | 83 | 20-2828M | Machined Gusset 28 | 109 |
| 20-052 | Standard 30/40, M5 | 83 | 20-2856M | Machined Gusset 28X56 | 109 |
| 20-055 | Standard 28, M6 | 83 | 20-300 | Connecting Plate 1.5" | 102 |
| 20-056 | Standard 30/40, M6 | 83 | 20-301 | Joining Plate 1, 1.5" | 102 |
| 20-056SS | Standard 30/40, M6 (SS) | 83 | 20-302 | Joining Plate 2, 1.5" | 102 |
| 20-057 | Standard 28, M8 | 83 | 20-303 | Joining Plate 2, 3.0" | 102 |
| 20-058 | Standard 30/40, M8 | 83 | 20-304 | Joining Plate 1.5", Corner | 103 |
| 20-058SS | Standard 30/40, M8 (SS) | 83 | 20-305 | Joining Plate 1.5", T | 103 |
| 20-059 | T-Slot Bar 40/30 Standard | 85 | 20-306 | Joining Plate 3.0", T | 103 |
| 20-060 | Heavy Duty Single 40, M6 | 85 | 20-307 | Joining Plate 3.0", Corner | 103 |
| 20-0614 | Heavy Duty Retainer Spring | 85 | 20-310 | Connecting Plate 1.0" | 102 |
| 20-062 | T-Slot Bar 40, Heavy Duty | 85 | 20-311 | Joining Plate 1, 1.0" | 102 |
| 20-063 | Heavy Duty Double 40, M8 | 85 | 20-312 | Joining Plate 2, 1.0" | 102 |
| 20-064 | Heavy Duty Single 40, M8 | 85 | 20-313 | Joining Plate 2, 2.0" | 102 |
| 20-065 | Self Aligning 28/30/40, M5 | 84 | 20-314 | Joining Plate 1.0", Corner | 103 |
| 20-066 | Self Aligning 28/30/40, M6 | 84 | 20-315 | Joining Plate 1.0", T | 103 |
| 20-067 | Heavy Duty Single 40, M5 | 85 | 20-4040 | Gusset 40 | 107 |
| 20-068 | Self Aligning 28/30/40, M8 | 84 | 20-4040M | Machined Gusset 40 | 109 |
| 20-070 | Anodize Breaker | 88 | 20-4080M | Machined Gusset 40X80 | 109 |
| 20-075 | Rack Angle Clip Nut M5 | 94 | 20-440 | Gusset Bracket 1.5" | 106 |
| 20-076 | Rack Angle Clip Nut M6 | 94 | 20-441 | Gusset Bracket 3.0" | 106 |
| 20-080 | Economy Standard 40, M6 | 86 | 20-442 | Gusset Bracket 1.0" | 106 |
| 20-081 | Economy Standard 40, M8 | 86 | 20-506 | Machined Gusset 1.0" | 109 |
| 20-082 | Economy Standard 40, 5/16-18 | 86 | 20-507 | Machined Gusset 1.0"X2.0" | 109 |
| 20-083 | Economy Standard 40, 1/4-20 | 86 | 20-508 | Machined Gusset 1.5" | 109 |
| 20-085 | Economy Standard 20, M5 | 86 | 20-509 | Machined Gusset 1.5"X3.0" | 109 |
| 20-086 | Economy Standard 20, #10-24 | 86 | 20-704 | Central Connector Perpendicular | 79 |
| 20-088 | Economy Standard 1.5", #10-32 | 86 | 20-705 | Central Connector Parallel | 79 |
| 20-090 | Economy Standard 30/28, M6 | 86 | 20-8040 | Gusset 40x80 | 107 |
| 20-090SS | Economy Standard 30/28, M6 (SS) | 86 | 21-001 | Leveling Foot 40, M8X16 | 156 |
| 20-091 | Economy Standard 30/28, M8 | 86 | 21-001-30 | Leveling Foot 30, M8X9 | 156 |
| 20-092 | Economy Standard 30/28, 5/16-18 | 86 | 21-004 | Base Plate 28, M8, 54x25.4 | 171 |
| 20-093 | Economy Standard 30/28, 1/4-20 | 86 | 21-005 | Base Plate 28, M10, 54x25.4 | 171 |
| 20-101 | Gusset Bracket 30/28, 80x28 | 106 | 21-006 | Base Plate 28, M12, 54x25.4 | 171 |
| 20-1010 | Gusset 20 | 107 | 21-007 | Leveling Foot 20, M5X25 | 156 |
| 20-102 | Gusset Bracket 40, 40x40 | 106 | 21-008 | Knuckle Foot 40 M8x80 | 159 |
| 20-103 | Gusset Bracket 40, 80x80 | 106 | 21-009 | Knuckle Foot 40 M8x60 | 159 |
| 20-104 | Joining Plate 28-40 | 102 | 21-010 | Knuckle Foot 30/28 M8 | 159 |
| 20-105 | Joining Plate 28, Corner | 103 | 21-012 | Knuckle Foot 40 M10x80 | 159 |
| 20-106 | Joining Plate 28, T | 103 | 21-013 | Knuckle Foot 80, M12x100 | 160 |
| 20-108 | Joining Plate 1, 80 | 102 | 21-014 | Knuckle Foot 80, M12x160 | 160 |
| 20-109 | Joining Plate 40, Corner | 103 | 21-015 | Knuckle Foot HD, M20 ANTISKID | 157 |
| 20-110 | Joining Plate 40, T | 103 | 21-016 | Knuckle Foot 80, M16x100 | 160 |
| 20-111 | Joining Plate 2, 40 | 102 | 21-018 | Knuckle Foot 80, M16x160 | 160 |
| 20-112 | Joining Plate 2, 80 | 102 | 21-020 | Knuckle Foot 80 Rubber Insert | 161 |
| 20-113 | Joining Plate 80, Corner | 103 | 21-021 | Knuckle Foot 80 Clamping Shoe | 161 |
| 20-114 | Joining Plate 80, T | 103 | 21-022 | Leveling Foot L-Base 40 | 162 |



| Part # | Description | Page # | Part # | Description | Page # |
|---------------|-----------------------------------------------|---------------|---------------|---------------------------------------------|---------------|
| 21-022-28 | Leveling Foot L-Base 28 | 162 | 21-327 | Caster, M12 Threaded Leveler, 1200kg/set | 168 |
| 21-022-30 | Leveling Foot L-Base 30 | 162 | 21-328 | Caster, Plate Type Leveler, 1200kg/set | 169 |
| 21-023 | Floor Anchor 40 | 162 | 21-400Z1 | Blank Plate 40X80 | 178 |
| 21-023-28 | Floor Anchor 28 | 162 | 21-401 | Knuckle Foot 1.5" 5/16-18 x 2.00" | 159 |
| 21-023-30 | Floor Anchor 30 | 162 | 21-402 | Knuckle Foot 1.5" 5/16-18 x 2.50" | 159 |
| 21-029-10 | Base Plate 30, M10, 60x30 | 171 | 21-403 | Knuckle Foot 1.0" 3/8-16 x 2.50" | 159 |
| 21-029-12 | Base Plate 30, M12, 60x30 | 171 | 21-404 | Knuckle Foot 1.5" 1/2-13 x 3.15" | 160 |
| 21-029-8 | Base Plate 30, M8, 60x30 | 171 | 21-405 | Knuckle Foot 1.5" 1/2-13 x 5.50" | 160 |
| 21-031E | Corner Mounting Plate Fastening Set (English) | 161 | 21-406 | Knuckle Foot 1.5" 5/8-11 x 3.15" | 160 |
| 21-031M | Corner Mounting Plate Fastening Set (Metric) | 161 | 21-407 | Knuckle Foot 1.5" 5/8-11 x 5.50" | 160 |
| 21-032 | Floor Fastening Set | 161 | 21-410 | Knuckle Foot 1.0" 1/4-20 x 1.44" | 157 |
| 21-035 | Corner Element 1, 40 | 108 | 21-411 | Knuckle Foot 1.5" 3/8-16 x 2.38" | 157 |
| 21-036 | Corner Element 1, 80 | 108 | 21-412 | Knuckle Foot 1.0" Steel 1/4-20 x 1.44" | 157 |
| 21-037 | Corner Element 2, 40 | 108 | 21-413 | Knuckle Foot 1.5" Steel 3/8-16 x 2.38" | 157 |
| 21-038 | Corner Element 2, 80 | 108 | 21-414 | Knuckle Foot 1.5" Steel 1/2-13 x 2.63" | 157 |
| 21-040ZX | Pneumatic Connector Plate 40x80 | 176 | 21-415 | Leveling Foot L-Base 1.5" | 162 |
| 21-041 | Pneumatic Seal 80x40 | 179 | 21-416 | Leveling Foot L-Base 1.0" | 162 |
| 21-042 | Pneumatic Seal 80x80 | 179 | 21-420 | Knuckle Foot 1/2-13 Bolt Down | 158 |
| 21-043ZX | Pneumatic Connector Plate 80x80 | 176 | 21-421 | Knuckle Foot 5/8-11 Bolt Down | 158 |
| 21-044 | Pneumatic Joining Plate, T, 80x80 | 177 | 21-422 | Knuckle Foot Anti-Vibe 1/2-13 Light | 158 |
| 21-045 | Pneumatic Joining Plate, Inline, 80x127 | 177 | 21-423 | Knuckle Foot Anti-Vibe 1/2-13 Medium | 158 |
| 21-046 | Pneumatic Seal 80x80 T-Joining | 179 | 21-424 | Knuckle Foot Anti-Vibe 1/2-13 Heavy | 158 |
| 21-060 | Floor Anchor 1.5" | 162 | 21-500 | Adapter Plate, Leveling Foot 21-324 5/16-18 | 170 |
| 21-061 | Floor Anchor 1.0" | 162 | 21-501 | Adapter Plate, Leveling Foot 21-324 1/4-20 | 170 |
| 21-065 | Roller Insert 25 | 127 | 21-502 | Adapter Plate, Leveling Foot 21-328 | 170 |
| 21-067 | Guide Insert Set, Metric | 55 | 21-504 | Adapter Plate, Leveling Foot | 170 |
| 21-068 | Roller Insert Set, Metric | 55 | 21-800Z1 | Blank Plate 80X80 | 178 |
| 21-069 | Roller 40 | 126 | 22-100 | Multiblock PA 40, M6 | 116 |
| 21-073 | Guide Insert Set, Inch | 55 | 22-103 | Multiblock PA 30/28, M6 | 116 |
| 21-075 | Roller Insert Set, Inch | 55 | 22-104 | Multiblock PA 20, M4 | 118 |
| 21-080 | Bifold Door Glide Set, 28S | 121 | 22-105 | Multiblock Aluminum, M5 | 117 |
| 21-081 | Bifold Door Glide Set, 40S | 121 | 22-106 | Multiblock Aluminum, M6 | 117 |
| 21-1020-04 | Base Plate 1.0", 1/4-20, 1.0"x2.0" | 172 | 22-107 | Uniblock PA 20, M4 | 118 |
| 21-1020-05 | Base Plate 1.0", 5/16-18, 1.0"x2.0" | 172 | 22-108 | Multiblock Aluminum, M8 | 117 |
| 21-135 | Corner Element 3, 40 | 108 | 22-110 | Wire Mesh Retainer Economy 40 (M6) | 120 |
| 21-136 | Corner Element 3, 80 | 108 | 22-111 | Wire Mesh Retainer Economy 40 (1/4-20) | 120 |
| 21-144 | Pneumatic Seal 120x40 | 179 | 22-112 | Multiblock, Clamp Style 40 | 117 |
| 21-155 | Closure Plate 80x80 | 125 | 22-113 | Multiblock, Clamp Style 30/28 | 117 |
| 21-156 | Closure Plate 160x80 | 125 | 22-115 | Multiblock PA Universal, 1/4-20 | 116 |
| 21-2020-05 | Base Plate 1.0", 5/16-18, 2.0"x2.0" | 172 | 22-116 | Multiblock PA 1.0", 1/4-20 | 118 |
| 21-2020-06 | Base Plate 1.0", 3/8-16, 2.0"x2.0" | 172 | 22-117 | Multiblock 25 CS | 118 |
| 21-2020-08 | Base Plate 1.0", 1/2-13, 2.0"x2.0" | 172 | 22-121 | Drawer 6.75" H | 183 |
| 21-204 | Base Plate 28, M8, 56x56 | 171 | 22-122 | Drawer 13.5" H | 183 |
| 21-205 | Base Plate 28, M10, 56x56 | 171 | 22-126 | Parts Bin, Polypropylene | 181 |
| 21-206 | Base Plate 28, M12, 56x56 | 171 | 22-127 | Parts Bin, Polypropylene | 181 |
| 21-220-10 | Base Plate 20, M10, 20x40 | 171 | 22-128 | Parts Bin, Polypropylene | 181 |
| 21-220-12 | Base Plate 20, M12, 20x40 | 171 | 22-128Z2 | Parts Bin Mounting Bracket, Flat | 181 |
| 21-220-8 | Base Plate 20, M8, 20x40 | 171 | 22-128Z3 | Parts Bin Mounting Bracket, Angled | 181 |
| 21-224 | Knuckle Foot HD, M20 HEAVY DUTY | 157 | 22-128Z4 | Parts Bin Mounting Bracket, Double Angle | 181 |
| 21-300 | Caster, Hollow King Pin 50mm No Lock | 167 | 22-129 | Parts Bin, Polypropylene | 181 |
| 21-301 | Caster, Hollow King Pin 50mm Wheel Lock | 167 | 22-130 | Parts Bin Mounting Slide Rail | 182 |
| 21-302 | Caster, Plate Type Rigid, 102kg, No Lock | 169 | 22-134 | Parts Bin Slide Collar | 182 |
| 21-303 | Caster, Plate Type Swivel, 102kg, No Lock | 169 | 22-136 | Tool Runner, Straight | 183 |
| 21-304 | Caster, Plate Type Swivel, 102kg, Total Lock | 169 | 22-139 | Mounting Plate for 16X40 | 101 |
| 21-310 | Caster, Hollow King Pin 75mm Total Lock | 167 | 22-140 | Connecting Element 40, Flat | 102 |
| 21-311 | Caster, Plate Type Rigid, 136kg, No Lock | 169 | 22-145 | Connecting Element 28, Flat | 102 |
| 21-312 | Caster, Plate Type Swivel, 136kg, No Lock | 169 | 22-146 | Corner Bracket 40 | 98 |
| 21-313 | Caster, Plate Type Swivel, 136kg, Total Lock | 169 | 22-150 | Corner Bracket 30 | 98 |
| 21-314 | Caster, M10 Threaded 125mm No Lock | 168 | 22-151 | Connector Cap 30, Radius | 98 |
| 21-315 | Caster, M10 Threaded 125mm Total Lock | 168 | 22-152 | Connector Cap 30, Square | 98 |
| 21-318 | Caster, Plate Type Swivel, 410kg, No Lock | 169 | 22-153 | Corner Bracket 1.5" | 98 |
| 21-319 | Caster, Plate Type Swivel, 410kg, Total Lock | 169 | 22-154 | Connector Cap 1.5" | 98 |
| 21-323 | Caster, M12 Threaded Leveler, 600kg/set | 168 | 22-200 | Cable/Hose Holder, 40 | 96 |
| 21-324 | Caster, Plate Type Leveler, 600kg/set | 169 | 22-201 | Cable Tie Holder 30/28 | 95 |
| 21-325 | Caster, Floor Lock | 169 | 22-202 | Cable Tie Holder 40 | 95 |



| Part # | Description | Page # | Part # | Description | Page # |
|---------------|---------------------------------------------|---------------|---------------|----------------------------------------------------|---------------|
| 22-203 | Cable/Hose Holder, Qtr Turn Connection | 96 | 23-143 | Handle, Qtr Turn Pnl Mount, T-Handle, Non-Locking | 147 |
| 22-206 | T-Clip 40, 6-8mm | 95 | 23-144 | Handle, Qtr Turn Pnl Mount, Wing Knob, Locking | 147 |
| 22-208 | T-Clip 40, 8-10mm | 95 | 23-145 | Handle, Qtr Turn Pnl Mount, Square Insert, Locking | 147 |
| 22-210 | T-Clip 40, 10-13mm | 95 | 23-155 | Slam Latch - Locking | 149 |
| 22-212 | T-Clip 40, 13-16mm | 95 | 23-156 | Slam Latch - Non-Locking | 149 |
| 22-215 | T-Clip 40, 16-19mm | 95 | 23-158 | Velcro Plate | 153 |
| 22-230 | Cable/Hose Holder, 1.5" | 96 | 23-159 | Handle, Qtr Turn Inside Mount | 147 |
| 23-004 | Ball Catch, 3-Way (small) | 152 | 23-160 | Deadbolt Latch | 149 |
| 23-010 | Pivot Joint 40 (Clear) | 145 | 23-200 | Rail Cart, 8 Roller | 128 |
| 23-010B | Pivot Joint 40 (Black) | 145 | 23-201 | Rail Cart, 4 Roller | 128 |
| 23-011 | Hinge, 40 Steel Heavy Duty (Clear) | 144 | 23-202 | Rail Cart, 4 Roller w/ Fastening Set | 128 |
| 23-011B | Hinge, 40 Steel Heavy Duty (Black) | 144 | 23-220 | Hinge, Adjustable 28 | 141 |
| 23-012 | Ball Catch, 3-Way (medium) | 152 | 23-222 | Hinge, Adjustable 40 | 141 |
| 23-013 | Pivot Joint 30/28 (Clear) | 145 | 23-225 | Concealed Hinge 40 | 142 |
| 23-013B | Pivot Joint 30/28 (Black) | 145 | 23-225Z1 | Concealed Hinge, Half Hinge | 142 |
| 23-014 | Pivot Joint 40with Clamp Handle (Clear) | 145 | 23-225Z2 | Concealed Hinge, Hinge Pin | 142 |
| 23-014B | Pivot Joint 40 with Clamp Handle (Black) | 145 | 23-226 | Hinge, Positioning, 120o | 142 |
| 23-015 | Pivot Joint 30/28 with Clamp Handle (Clear) | 145 | 23-233 | Handle, 20 | 132 |
| 23-015B | Pivot Joint 30/28 with Clamp Handle (Black) | 145 | 23-242 | Hinge, 30/28 Medium Duty | 134 |
| 23-016 | Hinge, Multi-Series | 143 | 23-250 | Hinge, Medium Duty Steel Non-Removable 28-28 | 139 |
| 23-018 | Hinge, 28 Light Duty, Right Side | 135 | 23-250L | Hinge, Medium Duty Steel Lift Off Left 28-28 | 139 |
| 23-019 | Hinge, 28 Light Duty, Left Side | 135 | 23-250R | Hinge, Medium Duty Steel Lift Off Right 28-28 | 139 |
| 23-020 | Hinge, 20 Light Duty | 134 | 23-251 | Hinge, Medium Duty Steel Non-Removable 28-40 | 139 |
| 23-021 | Hinge, 40 Light Duty, Right Side | 136 | 23-251L | Hinge, Medium Duty Steel Lift Off Left 28-40 | 139 |
| 23-023 | Hinge, 40 Light Duty, Left Side | 136 | 23-251R | Hinge, Medium Duty Steel Lift Off Right 28-40 | 139 |
| 23-024 | Hinge, 30 Medium Duty | 140 | 23-252 | Hinge, Medium Duty Steel Non-Removable 40-40 | 139 |
| 23-025 | Hinge, 40 Medium Duty | 140 | 23-252L | Hinge, Medium Duty Steel Lift Off Left 40-40 | 139 |
| 23-025L | Hinge, 40 Medium Duty (Locking) | 140 | 23-252R | Hinge, Medium Duty Steel Lift Off Right 40-40 | 139 |
| 23-028 | Handle, Multipurpose Plastic, 170mm | 132 | 23-260 | Pivot Joint 1.0" | 145 |
| 23-030 | Handle, Light Duty Aluminum | 130 | 23-261 | Pivot Joint 1.0" with Clamp Handle | 145 |
| 23-033 | Handle, Multipurpose Plastic, 112mm | 132 | 23-262 | Pivot Joint 1.5" | 145 |
| 23-034 | Handle, Light Duty Aluminum, Angled | 130 | 23-263 | Pivot Joint 1.5" with Clamp Handle | 145 |
| 23-038 | Handle, Qtr Turn 40, L Handle, Locking | 146 | 23-316 | Ratchet Lever M8x16 | 201 |
| 23-038Z1 | Qtr Turn Backing Plate | 148 | 23-320 | Ratchet Lever M8x20 | 201 |
| 23-039 | Handle, Qtr Turn 40, L Handle, Non-Locking | 146 | 23-325 | Ratchet Lever M8x25 | 201 |
| 23-040 | Handle, Qtr Turn 28, L Handle, Locking | 146 | 23-340 | Ratchet Lever M8x40 | 201 |
| 23-041 | Handle, Qtr Turn 28, L Handle, Non-Locking | 146 | 23-350 | Ratchet Lever M8x50 | 201 |
| 23-043 | Ball Catch 40 (M8) | 151 | 23-363 | Ratchet Lever M8x63 | 201 |
| 23-045 | Magnetic Catch 20/1.0" | 150 | 23-440L | Hinge, 40 Lift Off Left | 144 |
| 23-046 | Magnetic Catch 28/30/40/1.5" | 150 | 23-440R | Hinge, 40 Lift Off Right | 144 |
| 23-051 | Magnetic Catch Strike Plate | 150 | 23-535 | Hinge, Med. Duty Plastic Non-Removable 28/30-40 | 137 |
| 23-054 | Sliding Door Guides | 124 | 23-535L | Hinge, Medium Duty Plastic Lift Off Left 28/30-40 | 137 |
| 23-055 | Door Guide | 125 | 23-535R | Hinge, Medium Duty Plastic Lift Off Right 28/30-40 | 137 |
| 23-065 | Sliding Door Set | 123 | 23-545 | Hinge, Medium Duty Plastic Non-Removable 40-40 | 137 |
| 23-072 | Handle, Tube Style Ends | 133 | 23-545L | Hinge, Medium Duty Plastic Lift Off Left 40-40 | 137 |
| 23-073 | Handle, Tube Style Center Support | 133 | 23-545R | Hinge, Medium Duty Plastic Lift Off Right 40-40 | 137 |
| 23-074 | Handle, Large Angled | 131 | 23-550 | Hinge, Medium Duty Plastic Non-Removable 1.0" | 137 |
| 23-075 | Handle, Medium Open Angled | 131 | 23-550L | Hinge, Medium Duty Plastic Lift Off Left 1.0" | 137 |
| 23-076 | Handle, Medium Open Caps | 131 | 23-550R | Hinge, Medium Duty Plastic Lift Off Right 1.0" | 137 |
| 23-121 | Ball Catch 40 (1/4-20) | 151 | 23-551 | Hinge, Medium Duty Plastic Non-Removable 1.5" | 138 |
| 23-124 | Door Stop, Straight | 153 | 23-551L | Hinge, Medium Duty Plastic Lift Off Left 1.5" | 138 |
| 23-125 | Door Stop 30/40, Angled | 153 | 23-551R | Hinge, Medium Duty Plastic Lift Off Right 1.5" | 138 |
| 23-128 | Ball Plunger 28, 3/8" x 18mm | 152 | 23-552 | Hinge, Med. Duty Plastic Non-Removable 1.5" to1" | 138 |
| 23-129 | Ball Plunger 40/40, 1/2" x 28mm | 152 | 24-1XX-X | Screws, Button Head (Metric) | 90 |
| 23-133 | Handle, Qtr Turn 40, T Handle, Non-Locking | 146 | 24-210-4 | End Cap (Secure w/ Stud) Screw | 65 |
| 23-134 | Handle, Qtr Turn 40, Wing Knob, Locking | 146 | 24-2XX-X | Screws, Flat Head (Metric) | 90 |
| 23-135 | Handle, Qtr Turn 40, Square Insert | 146 | 24-3XX-X | Screws, Socket Head (Metric) | 90 |
| 23-140Z1 | Qtr Turn Spare Key | 148 | 24-4XX-X | Screws, T-Bolt (Metric) | 88 |
| 23-140Z2 | Qtr Turn Spare Key | 148 | 24-5XX-XX | Screws, Set Screws w/ Hexagon Socket (Metric) | 94 |
| 23-140Z3 | Qtr Turn Cam, Offset 8 | 148 | 24-695 | Conduit Locking Screw 4.2x9.5 | 72 |
| 23-140Z4 | Qtr Turn Cam, Offset 16 | 148 | 24-719-6 | Economy Compression Spring, M6 | 86 |
| 23-140Z5 | Qtr Turn Cam, Offset 10 | 148 | 24-719-8 | Economy Compression Spring, M8 | 86 |
| 23-140Z6 | Qtr Turn Cam, Offset -2 | 148 | 24-7XX-X | Metric Nuts | 89 |
| 23-140Z7 | Qtr Turn Keeper Bracket | 148 | 24-7XX-X | Washers | 89 |
| 23-142Z1 | Qtr Turn Cam, Hooked | 148 | 25-001 | Standard, 30/40, 1/4-20 | 83 |



| Part # | Description | Page # | Part # | Description | Page # |
|-----------|------------------------------------------------|--------|-----------|----------------------------------------------------|--------|
| 25-002 | Standard, 30/40, 5/16-18 | 83 | 27-058 | Floor Mounting Bracket 80/3.0" | 163 |
| 25-003 | Standard Fastener 1.5", 5/16-18 | 76 | 27-059 | Floor Mounting Bracket 28/30/1.0" | 163 |
| 25-003SS | Standard Fastener 1.5", 5/16-18 (SS) | 76 | 27-060 | Floor Mounting Bracket 56/60/2.0" | 163 |
| 25-004 | Universal Fastener 1.5", 5/16-18 | 78 | 27-146 | Catch Bracket Universal | 150 |
| 25-009 | Standard, 30/40, #10-32 | 83 | 27-202 | Cross Cable Tie Holder 40/1.5" | 95 |
| 25-014 | Standard Fastener 1.5", S End, 5/16-18 | 76 | 27-203 | Cross Cable Tie Holder 1.0" | 95 |
| 25-016 | Butt Fastener 1.5", 5/16-18 | 77 | 27-600 | Angle Connector 40/1.5", 45o | 100 |
| 25-017 | Butt Fastener 1.0", 1/4-20 | 77 | 28-004 | Milling Connector 40/1.5" | 79 |
| 25-022 | Standard Fastener 1", 1/4-20 | 76 | 28-005 | Milling Connector 30 | 79 |
| 25-023 | Universal Fastener 1.0", 1/4-20 | 78 | 28-501 | Economy Floor Mounting Bracket 20 | 164 |
| 25-024 | Miter Connector 1.5", Variable | 81 | 28-502 | Economy Floor Mounting Bracket 1" | 164 |
| 25-026 | Miter Connector 1.0", Fixed | 81 | 28-503 | Economy Floor Mounting Bracket 30 | 164 |
| 25-027 | Cross Connector 1.5", Double Tab | 100 | 28-504 | Economy Floor Mounting Bracket 1.5" | 164 |
| 25-028 | Flat Plate Fastener 1.5" | 77 | 28-505 | Economy Floor Mounting Bracket 40 | 164 |
| 25-030 | Standard, 1.0", #10-32 | 83 | 28-506 | Economy Floor Mounting Bracket 20X20 | 164 |
| 25-031 | Standard, 1.0", 1/4-20 | 83 | 28-507 | Economy Floor Mounting Bracket 2" | 164 |
| 25-041 | Double Standard 1.5", 5/16-18, 1.5" | 84 | 28-508 | Economy Floor Mounting Bracket 60 | 164 |
| 25-045 | Economy Offset 1.5", #8-32 | 86 | 28-509 | Economy Floor Mounting Bracket 3.0" | 164 |
| 25-046 | Double Economy 1.5", 5/16-18, 0.5" | 87 | 28-510 | Economy Floor Mounting Bracket 80 | 164 |
| 25-047 | Double Economy 1.5", 5/16-18, 0.88" | 87 | 28-600 | Economy Gusset 20/1" | 104 |
| 25-048 | Double Economy 1.5", 5/16-18, 1.0" | 87 | 28-601 | Economy Gusset 28/30 | 104 |
| 25-050 | Heavy Duty Single 1.5", 1/4-20 | 85 | 28-602 | Economy Gusset 40/1.5" | 104 |
| 25-051 | Heavy Duty Single 1.5", 5/16-18 | 85 | 28-603 | Economy Gusset 28x56/30x60/1"x2" | 105 |
| 25-052 | Heavy Duty Double 1.5", 1/4-20, 1.0" | 85 | 28-604 | Economy Gusset 80/3" | 105 |
| 25-053 | Heavy Duty Double 1.5", 5/16-18, 1.5" | 85 | 28-605 | Economy Gusset 56/60 | 104 |
| 25-055 | Standard 28, 1/4-20 | 83 | 28-606 | Economy Gusset 80/3" | 104 |
| 25-057 | Standard 28, 5/16-18 | 83 | 28-607 | Economy Gusset 56x56/60x60 | 105 |
| 25-075 | Rack Angle Clip Nut #10-32 | 94 | 28-608 | Economy Gusset 80x80/3"x3" | 105 |
| 25-076 | Rack Angle Clip Nut 1/4-20 | 94 | 30-0001 | Slide Block 28 Ratcheting L-Handle | 201 |
| 25-080 | Bi-fold Door Guide, 40 to 40 | 121 | 30-0005 | Slide Block 28 Star Handle | 201 |
| 25-082 | Bi-fold Door Guide, 30/28 to 30/28 | 121 | 30-0011 | Slide Block 40 Ratcheting L-Handle | 201 |
| 25-1XX-X | Screws, Button Head (English) | 92 | 30-0015 | Slide Block 40 Star Handle | 201 |
| 25-2XX-X | Screws, Flat Head (English) | 92 | 30-006 | Roller System Components, Bolt, 6-Centric | 223 |
| 25-3XX-X | Screws, Socket Head (English) | 92 | 30-007 | Roller System Components, Bolt, 6-Eccentric | 223 |
| 25-5XX-XX | Screws, Set Screws w/ Hexagon Socket (English) | 94 | 30-008 | Roller System Comp., Track Roller, Track Dia. 6 | 223 |
| 25-705-2 | High Cycle Nut #10-32 | 94 | 30-1000 | Slide Pad 1.0"x2.0", Tapped | 200 |
| 25-7XX-XX | Inch Nuts | 89 | 30-1001 | Slide Pad 1.0"x2.0" Top, Tapped | 200 |
| 25-7XX-XX | Washers | 89 | 30-1002 | Slide Block 1.0" Double Flange, 2.00" | 192 |
| 26-110-6 | Panel, Aluminum Veneer, 6mm, Black | 114 | 30-1004 | Slide Block 1.0" Double Flange, 4.00" | 192 |
| 26-170-6 | Panel, Aluminum Veneer, 6mm, Clear | 114 | 30-101 | Roller System 14, Single Bearing Unit Centric | 222 |
| 26-180-6 | Panel, Aluminum Veneer, 6mm, White | 114 | 30-1012 | Slide Block 1.0" Side Flange, 2.00" | 194 |
| 26-210-05 | Panel, Wire Mesh .5"x.5" Black | 113 | 30-1014 | Slide Block 1.0" Side Flange, 4.00" | 194 |
| 26-210-10 | Panel, Wire Mesh 1"x1" Black | 113 | 30-102 | Roller System 14, Double Bearing Unit Centric | 222 |
| 26-210-15 | Panel, Wire Mesh 1.5"x1.5" Black | 113 | 30-1024 | Slide Block 1.0" Side Flange Extended, 4.00" | 195 |
| 26-210-20 | Panel, Wire Mesh 2"x2" Black | 113 | 30-103 | Roller System 14, Single Bearing Unit Eccentric | 222 |
| 26-250-10 | Panel, Wire Mesh 1"x1" Yellow | 113 | 30-104 | Roller System 14, Double Bearing Unit Eccentric | 222 |
| 26-410-6 | Panel, 6mm TRESPA - Black | 113 | 30-105 | Roller System Components, Bolt, 14-Centric | 223 |
| 26-410-8 | Panel, 8mm TRESPA - Black | 113 | 30-106 | Roller System Components, Bolt, 14-Eccentric | 223 |
| 26-420-6 | Panel, 6mm TRESPA - Grey | 113 | 30-107 | Roller System 14, End Cap/Lubricating System | 230 |
| 26-430-10 | Panel, 10mm TRESPA - Blue (CA Stock Only) | 113 | 30-107Z1 | Roller System 14, Replacement Felt | 230 |
| 26-430-6 | Panel, 6mm TRESPA - Blue | 113 | 30-108 | Roller System Comp., Track Roller, Track Dia. 14 | 223 |
| 26-480-6 | Panel, 6mm TRESPA - White | 113 | 30-108Z1 | Roller System Components, Spacer Shim, LR14 | 223 |
| 26-510-6 | Panel, Expanded PVC, 6mm, Black | 114 | 30-111 | Roller System 14 HD, Single Bearing Unit Centric | 222 |
| 26-530-6 | Panel, Expanded PVC, 6mm, Blue | 114 | 30-113 | Roller System 14 HD, Single Bearing Unit Eccentric | 222 |
| 26-580-6 | Panel, Expanded PVC, 6mm, White | 114 | 30-114Z3 | Roller System Comp., Spacer Shim, LR14HD | 223 |
| 26-790-3 | Panel, Polycarbonate 3mm, Clear | 113 | 30-114Z5 | Roller System 14 HD, Replacement Felt | 230 |
| 26-790-6 | Panel, Polycarbonate, Clear | 113 | 30-1500 | Slide Pad 1.5"x3.0", Tapped | 200 |
| 26-795-6 | Panel, Polycarbonate, Light Smoked | 113 | 30-1501 | Slide Pad 1.5"x3.0", High Cycle | 200 |
| 27-002-XX | SMART Base Plate 40x80/1.5"x3.0" | 172 | 30-1503 | Slide Block 1.5" Double Flange, 3.00" | 196 |
| 27-003-XX | SMART Base Plate 80x80/3.0"x3.0" | 172 | 30-1503HC | Slide Block 1.5" High Cycle Single | 196 |
| 27-030 | Corner Mounting Plate | 161 | 30-1506 | Slide Block 1.5" Double Flange, 6.00" | 196 |
| 27-050 | Flange Foot 40/1.5" | 165 | 30-1506HC | Slide Block 1.5" High Cycle Double | 196 |
| 27-055 | Flange Foot 40X80/1.5"X3" | 165 | 30-1513 | Slide Block 1.5" Side Flange, 3.00" | 198 |
| 27-056 | Flange Foot 80/3" | 165 | 30-1513HC | Slide Block 1.5" High Cycle Flush, Single | 198 |
| 27-057 | Floor Mounting Bracket 40/1.5" | 163 | 30-1516 | Slide Block 1.5" Side Flange Extended, 4.50" | 199 |



| Part # | Description | Page # | Part # | Description | Page # |
|---------------|-------------------------------------------------|---------------|---------------|---------------------------------------------------|---------------|
| 30-1516HC | Slide Block 1.5" High Cycle Extended, Single | 199 | 31-030 | Roller System Belt 25T10 Clamping Block | 226 |
| 30-1523 | Slide Block 1.5" Side Flange, 6.00" | 198 | 31-031 | Roller System Tensioning Block | 226 |
| 30-1523HC | Slide Block 1.5" High Cycle Flush, Single | 198 | 31-033 | Roller System Exciter Cam | 228 |
| 30-2000 | Slide Pad 1.0"x2.0" Top, Tapped | 200 | 31-035 | Roller System Proximity Switch | 228 |
| 30-2002 | Slide Block 2.0" Double Flange, 2.00" | 193 | 31-036 | Roller System Proximity Switch Mounting Element | 228 |
| 30-2004 | Slide Block 2.0" Double Flange, 4.00" | 193 | 31-037 | Roller System Limit Stop - Single Direction | 227 |
| 30-207 | Roller System 25, End Cap/Lubricating System | 230 | 31-037Z3A | Rubber Shock Absorber | 227 |
| 30-207Z1 | Roller System 25, Replacement Felt | 230 | 31-038 | Roller System Limit Stop - Bi-Directional | 227 |
| 30-2800-2 | Slide Pad 28, 80mm | 200 | 31-052-1 | Roller System Hi-Flex Timing Belt | 226 |
| 30-2801 | Slide Block 28 Double Flange, 50mm | 192 | 31-122 | Roller System Reversing Unit 40, Spline Pulley | 225 |
| 30-2808 | Slide Block 28 Double Flange, 100mm | 192 | 31-123 | Pulley, Spline Reversing Unit 40 | 225 |
| 30-2821 | Slide Block 28 Side Flange, 50mm | 194 | 31-124 | Roller System Reversing Unit 40, 8mm Bore | 225 |
| 30-2822 | Slide Block 28 Side Flange Extended, 90mm | 195 | 31-125 | Pulley, 8mm Bore Reversing Unit 40 | 225 |
| 30-2828 | Slide Block 28 Side Flange, 100mm | 194 | 31-126 | Roller System Reversing Unit 40, Idler | 225 |
| 30-2829 | Slide Block 28 Side Flange Extended, 140mm | 195 | 31-127 | Pulley, Idler Reversing Unit 40 | 225 |
| 30-3000 | Slide Pad 1.5"x3.0", Tapped | 200 | 31-129 | Roller System Reversing Unit 40 Mounting Plate | 225 |
| 30-3001 | Slide Pad 1.5"x3.0", High Cycle | 200 | 31-808 | LR Bumper | 227 |
| 30-3003 | Slide Block 3.0" Double Flange, 3.00" | 197 | 40-010 | Drilling Jig 40, Standard Connection | 237 |
| 30-3003HC | Slide Block 3.0" High Cycle Single | 197 | 40-011 | Drilling Jig 80, Standard Connection | 237 |
| 30-3006 | Slide Block 3.0" Double Flange, 6.00" | 197 | 40-012 | Wrench with T-Handle, Hex 5 | 239 |
| 30-3006HC | Slide Block 3.0" High Cycle Double | 197 | 40-013 | Wrench, Ball Headed Hex 5 | 239 |
| 30-4000-2 | Slide Pad 40, 80mm | 200 | 40-015 | Drilling Jig 40, Universal Connection | 237 |
| 30-4000-3 | Slide Pad 40, 300mm | 200 | 40-016 | Tap M8x1.25 | 239 |
| 30-4000-6 | Slide Pad 40, 80mm High-Cycle | 200 | 40-017 | Spanner Wrench, Adjustable for LR14 | 240 |
| 30-4001 | Slide Block 40 Double Flange, 80mm | 196 | 40-018 | Drill Bit 6.8mm | 239 |
| 30-4001HC | Slide Block 40 High Cycle Single | 196 | 40-022 | Wrench, Ball Headed Hex 6 | 239 |
| 30-4008 | Slide Block 40 Double Flange, 160mm | 196 | 40-023 | Step Drill 7x20, #2 Morse Taper | 238 |
| 30-4008HC | Slide Block 40 High Cycle Double | 196 | 40-024 | Step Drill 7x20 with 3 Flats | 238 |
| 30-401 | Roller System 6, Single Bearing Unit Centric | 222 | 40-025 | Step Drill 9x15 | 238 |
| 30-402 | Roller System 6, Double Bearing Unit Centric | 222 | 40-026 | Drilling Jig, Clamp Profile 40x40 | 238 |
| 30-4021 | Slide Block 40 Side Flange, 80mm | 198 | 40-027 | Drilling Jig 28, Standard Connection | 237 |
| 30-4021HC | Slide Block 40 High Cycle Flush, Single | 198 | 40-029 | Spanner Wrench, Pin Socket for LR14 | 240 |
| 30-4022 | Slide Block 40 Side Flange Extended, 120mm | 199 | 40-030 | Drilling Jig 30, Standard Connection | 237 |
| 30-4022HC | Slide Block 40 High Cycle Extended, Single | 199 | 40-032-14 | Spanner Wrench, Fixed, LR14 | 240 |
| 30-4028 | Slide Block 40 Side Flange, 160mm | 198 | 40-032-25 | Spanner Wrench, Fixed, LR25 | 240 |
| 30-4028HC | Slide Block 40 High Cycle Flush, Double | 198 | 40-044 | Wrench with T-Handle, 3/16" | 239 |
| 30-4029 | Slide Block 40 Side Flange Extended, 200mm | 199 | 40-046 | Wrench with T-Handle, 1/4" | 239 |
| 30-4029HC | Slide Block 40 High Cycle Extended, Double | 199 | 40-047 | Wrench, Ball Headed 3/16" | 239 |
| 30-403 | Roller System 6, Single Bearing Unit Eccentric | 222 | 40-048 | Wrench, Ball Headed 1/4" | 239 |
| 30-404 | Roller System 6, Double Bearing Unit Eccentric | 222 | 40-516 | Tap 5/16-18 | 239 |
| 30-407 | Roller System 6, End Cap/Lubricating System | 230 | 50-700 | Workstation Lift System, 4 Cylinder | 185 |
| 30-407Z5 | Roller System 6, Replacement Felt | 230 | 50-702 | Workstation Lift System, 2 Cylinder | 184 |
| 30-412Z2 | Shim Pack 80 | 200 | 50-703 | Workstation Lift System, Telescopic Guide | 184 |
| 30-503Z6 | Roller System 14 HD, End Cap/Lubricating System | 230 | 50-704 | Workstation Lift System Mounting Plate 50-703 | 184 |
| 30-5601 | Slide Block 56 Double Flange, 50mm | 193 | 50-705 | Workstation Lift System Mounting Plate for 50-700 | 185 |
| 30-5608 | Slide Block 56 Double Flange, 100mm | 193 | 800.17 | Shoulder Bolt M5x6x25 | 126 |
| 30-8001 | Slide Block 80 Double Flange, 80mm | 197 | | | |
| 30-8001HC | Slide Block 80 High Cycle Single | 197 | | | |
| 30-8008 | Slide Block 80 Double Flange, 160mm | 197 | | | |
| 30-8008HC | Slide Block 80 High Cycle Double | 197 | | | |
| 30-812Z2 | Shim Pack 160 | 200 | | | |
| 31-001 | Roller System Adapter Shaft, A | 213 | | | |
| 31-002 | Roller System Adapter Shaft, B | 213 | | | |
| 31-003 | Roller System Adapter Shaft, C | 213 | | | |
| 31-004 | Roller System Adapter Shaft, D | 213 | | | |
| 31-005 | Roller System Adapter Shaft, E | 213 | | | |
| 31-006 | Roller System Adapter Shaft, F | 213 | | | |
| 31-010 | Roller System Adapter Shaft, Blank | 213 | | | |
| 31-014 | Roller System Universal Adapter Flange | 213 | | | |
| 31-014AD | Roller System Adapter Flange, A&D | 213 | | | |
| 31-014B | Roller System Adapter Flange, B | 213 | | | |
| 31-014C | Roller System Adapter Flange, C | 213 | | | |
| 31-014E | Roller System Adapter Flange, E | 213 | | | |
| 31-014F | Roller System Adapter Flange, F | 213 | | | |
| 31-014G | Roller System Adapter Flange, G | 213 | | | |



| Description | Part # | Page # |
|-----------------------------|---------|--------|
| 1" Series Profile | | |
| 1.0"X1.0" | 12-1010 | 52 |
| 1.0"X2.0" | 12-1020 | 52 |
| 2.0"X2.0" | 12-2020 | 52 |
| 1.5" Series Profile | | |
| 1.5"X1.5" | 10-1515 | 45 |
| 1.5"X1.5" Bi-Slot Corner | 10-1592 | 46 |
| 1.5"X1.5" Bi-Slot Mid-Frame | 10-1594 | 46 |
| 1.5"X1.5" Heavy | 11-1515 | 45 |
| 1.5"X1.5" Light | 12-1515 | 45 |
| 1.5"X1.5" Mono-Slot | 10-1591 | 46 |
| 1.5"X1.5" Quarter Round | 10-1543 | 47 |
| 1.5"X1.5" Tri-Slot | 10-1593 | 46 |
| 1.5"X3.0" | 10-1530 | 48 |
| 1.5"X3.0" Heavy | 11-1530 | 48 |
| 1.5"X3.0" Light | 12-1530 | 48 |
| 1.5"X6.0" | 10-1560 | 50 |
| 3.0"X3.0" | 10-3030 | 49 |
| 3.0"X3.0" Heavy | 11-3030 | 49 |
| 20 Series Profile | | |
| 20X10 | 12-120 | 42 |
| 20X20 | 12-020 | 42 |
| 20X40 | 12-124 | 42 |
| 40X40 20 Series | 12-040 | 43 |
| 28 Series Profile | | |
| 28X28 45 Deg. | 12-044 | 39 |
| 28X28 Bi-Slot | 12-228 | 38 |
| 28X28 Bi-Slot Mid-Frame | 12-328 | 38 |
| 28X28 Quad-Slot | 12-028 | 37 |
| 28X28 Quad-Slot (Black) | 12-028B | 37 |
| 28X28 Tri-Slot | 12-128 | 38 |
| 28X56 Bi-Slot | 12-628 | 40 |
| 28X56 Open Slot | 12-428 | 37 |
| 28X56 Quad-Slot | 12-728 | 40 |
| 56X56 | 12-056 | 37 |
| 30 Series Profile | | |
| 30X30 | 12-030 | 33 |
| 30X30 Bi-Slot Corner | 12-034 | 33 |
| 30X30 Quarter Round | 12-033 | 34 |
| 30X60 | 12-060 | 35 |
| 40 Series Profile | | |
| 120x40 Standard | 10-120 | 28 |
| 160x40 Heavy | 11-140 | 28 |
| 160x40 Standard | 10-164 | 28 |
| 160x80 Heavy | 11-160 | 29 |
| 160x80 Standard | 10-160 | 29 |
| 16X160 | 10-161 | 24 |
| 16X40 | 10-016 | 24 |
| 16X80 | 10-081 | 24 |
| 28X160 | 11-128 | 25 |
| 40X100 Heavy | 11-100 | 25 |
| 40X40 Bi-Slot Corner | 10-140 | 20 |
| 40X40 Bi-Slot Mid-Frame | 10-240 | 20 |
| 40X40 Heavy | 11-040 | 19 |
| 40X40 Heavy Square | 11-540 | 31 |
| 40X40 Light | 10-540 | 19 |
| 40X40 Light (Black) | 10-540B | 19 |
| 40X40 Mono-Slot | 10-440 | 20 |
| 40X40 Quarter Round ST | 10-043 | 21 |
| 40X40 Standard | 10-040 | 19 |
| 40X40 Standard (Black) | 10-040B | 19 |
| 40X40 Tri-Slot | 10-340 | 20 |
| 40x40-45 Deg. Standard | 10-044 | 22 |
| 40X45 Deg. Standard | 10-045 | 22 |
| 40X80 Quad-Slot | 10-380 | 26 |

| Description | Part # | Page # |
|-----------------------------------------------|------------|--------|
| 80x120 Heavy | 11-122 | 27 |
| 80X40 Heavy | 11-080 | 26 |
| 80X40 Light | 10-680 | 26 |
| 80X40 Standard | 10-080 | 26 |
| 80X40 Standard (Black) | 10-080B | 26 |
| 80X40 Tri-Slot Corner | 10-180 | 26 |
| 80X80 Extra Heavy | 11-089 | 27 |
| 80X80 Heavy | 11-088 | 27 |
| 80X80 Standard | 10-088 | 27 |
| 80X80 Standard (Black) | 10-088B | 27 |
| 80X80X40 Corner Heavy | 11-084 | 30 |
| Post 36X36 | 10-036 | 31 |
| Post 56X56 | 11-056 | 31 |
| Profile Rail 40X80, Clear | 14-248 | 128 |
| R40X80 30 Deg. Standard | 10-083 | 23 |
| R40X80 45 Deg. Standard | 10-085 | 23 |
| R40X80 60 Deg. Standard | 10-086 | 23 |
| R40X80 90 Deg. Standard | 10-089 | 23 |
| Anodize Breaker | | |
| Anodize Breaker | 20-070 | 88 |
| Base Plate | | |
| Adapter Plate, Leveling Foot | 21-504 | 170 |
| Adapter Plate, Leveling Foot 21-324 1/4-20 | 21-501 | 170 |
| Adapter Plate, Leveling Foot 21-324 5/16-18 | 21-500 | 170 |
| Adapter Plate, Leveling Foot 21-328 | 21-502 | 170 |
| Base Plate 1.0", 1/2-13, 2.0"x2.0" | 21-2020-08 | 172 |
| Base Plate 1.0", 1/4-20, 1.0"x2.0" | 21-1020-04 | 172 |
| Base Plate 1.0", 3/8-16, 2.0"x2.0" | 21-2020-06 | 172 |
| Base Plate 1.0", 5/16-18, 1.0"x2.0" | 21-1020-05 | 172 |
| Base Plate 1.0", 5/16-18, 2.0"x2.0" | 21-2020-05 | 172 |
| Base Plate 20, M10, 20x40 | 21-220-10 | 171 |
| Base Plate 20, M12, 20x40 | 21-220-12 | 171 |
| Base Plate 20, M8, 20x40 | 21-220-8 | 171 |
| Base Plate 28, M10, 54x25.4 | 21-005 | 171 |
| Base Plate 28, M10, 56x56 | 21-205 | 171 |
| Base Plate 28, M12, 54x25.4 | 21-006 | 171 |
| Base Plate 28, M12, 56x56 | 21-206 | 171 |
| Base Plate 28, M8, 54x25.4 | 21-004 | 171 |
| Base Plate 28, M8, 56x56 | 21-204 | 171 |
| Base Plate 30, M10, 60x30 | 21-029-10 | 171 |
| Base Plate 30, M12, 60x30 | 21-029-12 | 171 |
| Base Plate 30, M8, 60x30 | 21-029-8 | 171 |
| Corner Mounting Plate | 27-030 | 161 |
| Corner Mounting Plate Fastening Set (English) | 21-031E | 161 |
| Corner Mounting Plate Fastening Set (Metric) | 21-031M | 161 |
| SMART Base Plate 40x80/1.5"x3.0" | 27-002-XX | 172 |
| SMART Base Plate 80x80/3.0"x3.0" | 27-003-XX | 172 |
| Bi-Fold Door Guide | | |
| Bifold Door Glide Set, 28S | 21-080 | 121 |
| Bifold Door Glide Set, 40S | 21-081 | 121 |
| Bi-fold Door Guide, 30/28 to 30/28 | 25-082 | 121 |
| Bi-fold Door Guide, 40 to 40 | 25-080 | 121 |
| Bi-Slot Profile | | |
| 18X32 Bi-Slot | 12-032 | 54 |
| 18x32 Bi-Slot Fastener | 20-132 | 54 |
| Butt Fastener | | |
| Butt Fastener 1.0", 1/4-20 | 25-017 | 77 |
| Butt Fastener 1.5", 5/16-18 | 25-016 | 77 |
| Butt Fastener 30/28, M6 | 20-012 | 77 |
| Butt Fastener 40, M8 | 20-006 | 77 |
| Cable/Hose Holder | | |
| Cable Tie Holder 30/28 | 22-201 | 95 |
| Cable Tie Holder 40 | 22-202 | 95 |
| Cable/Hose Holder, 1.5" | 22-230 | 96 |
| Cable/Hose Holder, 40 | 22-200 | 96 |



| Description | Part # | Page # |
|---------------------------------------------------|----------|--------|
| Cable/Hose Holder, Qtr Turn Connection..... | 22-203 | 96 |
| Cross Cable Tie Holder 1.0"..... | 27-203 | 95 |
| Cross Cable Tie Holder 40/1.5"..... | 27-202 | 95 |
| T-Clip 40, 10-13mm..... | 22-210 | 95 |
| T-Clip 40, 13-16mm..... | 22-212 | 95 |
| T-Clip 40, 16-19mm..... | 22-215 | 95 |
| T-Clip 40, 6-8mm..... | 22-206 | 95 |
| T-Clip 40, 8-10mm..... | 22-208 | 95 |
| Casters | | |
| Caster, Floor Lock..... | 21-325 | 169 |
| Caster, Hollow King Pin 50mm No Lock..... | 21-300 | 167 |
| Caster, Hollow King Pin 50mm Wheel Lock..... | 21-301 | 167 |
| Caster, Hollow King Pin 75mm Total Lock..... | 21-310 | 167 |
| Caster, M10 Threaded 125mm No Lock..... | 21-314 | 168 |
| Caster, M10 Threaded 125mm Total Lock..... | 21-315 | 168 |
| Caster, M12 Threaded Leveler, 1200kg/set..... | 21-327 | 168 |
| Caster, M12 Threaded Leveler, 600kg/set..... | 21-323 | 168 |
| Caster, Plate Type Leveler, 1200kg/set..... | 21-328 | 169 |
| Caster, Plate Type Leveler, 600kg/set..... | 21-324 | 169 |
| Caster, Plate Type Rigid, 102kg, No Lock..... | 21-302 | 169 |
| Caster, Plate Type Rigid, 136kg, No Lock..... | 21-311 | 169 |
| Caster, Plate Type Swivel, 102kg, No Lock..... | 21-303 | 169 |
| Caster, Plate Type Swivel, 102kg, Total Lock..... | 21-304 | 169 |
| Caster, Plate Type Swivel, 136kg, No Lock..... | 21-312 | 169 |
| Caster, Plate Type Swivel, 136kg, Total Lock..... | 21-313 | 169 |
| Caster, Plate Type Swivel, 410kg, No Lock..... | 21-318 | 169 |
| Caster, Plate Type Swivel, 410kg, Total Lock..... | 21-319 | 169 |
| Catches | | |
| Ball Catch 40 (1/4-20)..... | 23-121 | 151 |
| Ball Catch 40 (M8)..... | 23-043 | 151 |
| Ball Catch, 3-Way (medium)..... | 23-012 | 152 |
| Ball Catch, 3-Way (small)..... | 23-004 | 152 |
| Ball Plunger 28, 3/8" x 18mm..... | 23-128 | 152 |
| Ball Plunger 40/40, 1/2" x 28mm..... | 23-129 | 152 |
| Catch Bracket Universal..... | 27-146 | 150 |
| Magnetic Catch 20/1.0"..... | 23-045 | 150 |
| Magnetic Catch 28/30/40/1.5"..... | 23-046 | 150 |
| Magnetic Catch Strike Plate..... | 23-051 | 150 |
| Central Connector | | |
| Central Connector Parallel..... | 20-705 | 79 |
| Central Connector Perpendicular..... | 20-704 | 79 |
| Clamp Bar | | |
| Profile Clamp Bar..... | 12-105 | 58 |
| Clamp Blocks | | |
| Clamp Block 1, 40 Series, 1 Hole..... | 20-018-1 | 101 |
| Clamp Block 2, 40 Series, 2 Hole..... | 20-018-2 | 101 |
| Clamp Block 3, 40 Series, 4 Hole..... | 20-018-4 | 101 |
| Conduit Accessories | | |
| Conduit Cap 120x120..... | 15-812 | 72 |
| Conduit Cap 120x160..... | 15-813 | 72 |
| Conduit Cap 40x120..... | 15-810 | 72 |
| Conduit Cap 40x160..... | 15-806 | 72 |
| Conduit Cap 40x40..... | 15-803 | 72 |
| Conduit Cap 40x80..... | 15-804 | 72 |
| Conduit Cap 80x120..... | 15-811 | 72 |
| Conduit Cap 80x160..... | 15-807 | 72 |
| Conduit Cap 80x80..... | 15-805 | 72 |
| Conduit Locking Screw 4.2x9.5..... | 24-695 | 72 |
| Conduit Profiles | | |
| Conduit Support 120..... | 15-120 | 70 |
| Conduit Support 160..... | 15-160 | 70 |
| Conduit Support 160 with T-Slots..... | 15-161 | 70 |
| Conduit Support 40..... | 15-040 | 70 |
| Conduit Support 40 with T-Slots..... | 15-041 | 70 |
| Conduit Support 80..... | 15-080 | 70 |

| Description | Part # | Page # |
|--------------------------------------------|----------|--------|
| Conduit Wall Duct 120..... | 15-122 | 71 |
| Conduit Wall Duct 40..... | 15-042 | 71 |
| Conduit Wall Duct 80..... | 15-082 | 71 |
| Connecting Element | | |
| Connecting Angle 20, Double..... | 20-116 | 105 |
| Connecting Element 28, Flat..... | 22-145 | 102 |
| Connecting Element 40, Flat..... | 22-140 | 102 |
| Connecting Plate 1.0"..... | 20-310 | 102 |
| Connecting Plate 1.5"..... | 20-300 | 102 |
| Connecting Plate 20..... | 20-117 | 102 |
| Connecting Plate 20, Double..... | 20-118 | 102 |
| Mounting Plate for 16X40..... | 22-139 | 101 |
| Connector Accessories | | |
| Connector Cap 30, Radius..... | 22-151 | 98 |
| Connector Cap 30, Square..... | 22-152 | 98 |
| Connector Cap 40, 3x45o..... | 18-822 | 98 |
| Connector Cap 40, Radius..... | 18-821 | 98 |
| Corner Connector Plug 28..... | 18-712 | 99 |
| Corner Connectors | | |
| Corner Bracket 1.5"..... | 22-153 | 98 |
| Corner Bracket 30..... | 22-150 | 98 |
| Corner Bracket 40..... | 22-146 | 98 |
| Corner Connector 1.0", 2-Way..... | 18-872 | 99 |
| Corner Connector 1.0", 3-Way..... | 18-873 | 99 |
| Corner Connector 1.5", 2-Way..... | 18-892 | 99 |
| Corner Connector 1.5", 3-Way..... | 18-893 | 99 |
| Corner Connector 20, 2-Way..... | 18-852 | 99 |
| Corner Connector 20, 3-Way..... | 18-853 | 99 |
| Corner Connector 28, 3-Way..... | 18-829 | 99 |
| Corner Connector 30, 2-Way..... | 18-902 | 99 |
| Corner Connector 30, 3-Way..... | 18-903 | 99 |
| Corner Connector 40, 2-Way..... | 18-826 | 99 |
| Corner Connector 40, 3-Way..... | 18-827 | 99 |
| Corner Element | | |
| Corner Element 1, 40..... | 21-035 | 108 |
| Corner Element 1, 80..... | 21-036 | 108 |
| Corner Element 2, 40..... | 21-037 | 108 |
| Corner Element 2, 80..... | 21-038 | 108 |
| Corner Element 3, 40..... | 21-135 | 108 |
| Corner Element 3, 80..... | 21-136 | 108 |
| Covers | | |
| Anti-Skid Cover 40 Series..... | 12-114 | 60 |
| Cover Strip 30/28 Series (Black)..... | 12-116B | 62 |
| Cover Strip 30/28 Series (Clear)..... | 12-116 | 62 |
| Cover Strip 40 Series (Aluminum)..... | 12-102 | 62 |
| Cover Strip 40 Series (PVC Black)..... | 12-111B | 62 |
| Cover Strip 40 Series (PVC Blue)..... | 12-111BL | 62 |
| Cover Strip 40 Series (PVC Clear)..... | 12-111 | 62 |
| Cover Strip 40 Series (PVC Yellow)..... | 12-111Y | 62 |
| Covers/Gaskets | | |
| Cover/Gasket Strip 20 Series (Black)..... | 12-115B | 62 |
| Cover/Gasket Strip 20 Series (Clear)..... | 12-115 | 62 |
| Cover/Gasket Strip 28 Series (Black)..... | 12-103B | 62 |
| Cover/Gasket Strip 40 Series (Black)..... | 12-101B | 62 |
| Cover/Gasket Strip 40 Series (Clear)..... | 12-101 | 62 |
| Cover/Gasket Strip 40 Series (Gray)..... | 12-101G | 62 |
| Cover/Gasket Strip 40 Series (Yellow)..... | 12-101Y | 62 |
| Door Guide System | | |
| Closure Plate 160x80..... | 21-156 | 125 |
| Closure Plate 80x80..... | 21-155 | 125 |
| Door Guide..... | 23-055 | 125 |
| Guide Insert Set, Inch..... | 21-073 | 55 |
| Roller Insert Set, Inch..... | 21-075 | 55 |
| Door Stops | | |
| Door Stop 30/40, Angled..... | 23-125 | 153 |



| Description | Part # | Page # | Description | Part # | Page # |
|---------------------------------------------|----------|--------|---------------------------------------------|-----------|--------|
| Door Stop, Straight..... | 23-124 | 153 | Knuckle Foot 1.5" 5/8-11 x 3.15"..... | 21-406 | 160 |
| Velcro Plate..... | 23-158 | 153 | Knuckle Foot 1.5" 5/8-11 x 5.50"..... | 21-407 | 160 |
| End Caps | | | Knuckle Foot 1.5" Steel 1/2-13 x 2.63"..... | 21-414 | 157 |
| Access Hole Plug, 7mm Nickel..... | 18-713 | 63 | Knuckle Foot 1.5" Steel 3/8-16 x 2.38"..... | 21-413 | 157 |
| Access Hole Plug, 7mm Plastic..... | 18-710 | 63 | Knuckle Foot 1/2-13 Bolt Down..... | 21-420 | 158 |
| Connector Cap 1.5"..... | 22-154 | 98 | Knuckle Foot 30/28 M8..... | 21-010 | 159 |
| Connector Cap 40, Square..... | 18-842 | 98 | Knuckle Foot 40 M10x80..... | 21-012 | 159 |
| End Cap (Secure w/ Stud) Screw..... | 24-210-5 | 65 | Knuckle Foot 40 M8x60..... | 21-009 | 159 |
| End Cap 1.0"x1.0"..... | 18-1010 | 64 | Knuckle Foot 40 M8x80..... | 21-008 | 159 |
| End Cap 1.0"x2.0"..... | 18-1020 | 64 | Knuckle Foot 5/8-11 Bolt Down..... | 21-421 | 158 |
| End Cap 1.5"x1.5"..... | 18-1515 | 64 | Knuckle Foot 80 Clamping Shoe..... | 21-021 | 161 |
| End Cap 1.5"x1.5" Quarter Round..... | 18-1543 | 64 | Knuckle Foot 80 Rubber Insert..... | 21-020 | 161 |
| End Cap 1.5"x3.0"..... | 18-1530 | 64 | Knuckle Foot 80, M12x100..... | 21-013 | 160 |
| End Cap 160x16..... | 18-806 | 63 | Knuckle Foot 80, M12x160..... | 21-014 | 160 |
| End Cap 160x28..... | 18-816 | 63 | Knuckle Foot 80, M16x100..... | 21-016 | 160 |
| End Cap 2.0"x2.0"..... | 18-2020 | 64 | Knuckle Foot 80, M16x160..... | 21-018 | 160 |
| End Cap 20x10..... | 18-830 | 63 | Knuckle Foot Anti-Vibe 1/2-13 Heavy..... | 21-424 | 158 |
| End Cap 20x20..... | 18-802 | 63 | Knuckle Foot Anti-Vibe 1/2-13 Light..... | 21-422 | 158 |
| End Cap 20x40..... | 18-831 | 63 | Knuckle Foot Anti-Vibe 1/2-13 Medium..... | 21-423 | 158 |
| End Cap 28x28..... | 18-808 | 63 | Knuckle Foot HD, M20 ANTISKID..... | 21-015 | 157 |
| End Cap 28x28, Secure..... | 18-911 | 65 | Knuckle Foot HD, M20 HEAVY DUTY..... | 21-224 | 157 |
| End Cap 28x28x45 Degree..... | 18-844 | 63 | Leveling Foot 20, M5X25..... | 21-007 | 156 |
| End Cap 28x56..... | 18-809 | 63 | Leveling Foot 30, M8X9..... | 21-001-30 | 156 |
| End Cap 28X56, Secure..... | 18-912 | 65 | Leveling Foot 40, M8X16..... | 21-001 | 156 |
| End Cap 3.0"x3.0"..... | 18-3030 | 64 | Leveling Foot L-Base 1.0"..... | 21-416 | 162 |
| End Cap 30x30..... | 18-803 | 63 | Leveling Foot L-Base 1.5"..... | 21-415 | 162 |
| End Cap 30x30, Quarter Round..... | 18-838 | 63 | Leveling Foot L-Base 28..... | 21-022-28 | 162 |
| End Cap 30x30, Secure..... | 18-919 | 65 | Leveling Foot L-Base 30..... | 21-022-30 | 162 |
| End Cap 30x60..... | 18-863 | 63 | Leveling Foot L-Base 40..... | 21-022 | 162 |
| End Cap 30x60, Secure..... | 18-920 | 65 | Flat Plate Fastener | | |
| End Cap 32x18..... | 18-807 | 63 | Flat Plate Fastener 1.5"..... | 25-028 | 77 |
| End Cap 40-45o..... | 18-845 | 63 | Flat Plate Fastener 40..... | 20-028 | 77 |
| End Cap 40x120..... | 18-840 | 63 | Flat Plate Only..... | 20-028Z1 | 77 |
| End Cap 40x16..... | 18-811 | 63 | Floor Mounting | | |
| End Cap 40x160..... | 18-817 | 63 | Economy Floor Mounting Bracket 1"..... | 28-502 | 164 |
| End Cap 40x40..... | 18-813 | 63 | Economy Floor Mounting Bracket 1.5"..... | 28-504 | 164 |
| End Cap 40x40 (20 Series)..... | 18-832 | 63 | Economy Floor Mounting Bracket 2"..... | 28-507 | 164 |
| End Cap 40x40 Heavy Square..... | 18-805 | 63 | Economy Floor Mounting Bracket 20..... | 28-501 | 164 |
| End Cap 40x40 Quarter Round..... | 18-843 | 63 | Economy Floor Mounting Bracket 20X20..... | 28-506 | 164 |
| End Cap 40x40, Secure..... | 18-913 | 65 | Economy Floor Mounting Bracket 3.0"..... | 28-509 | 164 |
| End Cap 40x40, Secure w/ Stud..... | 18-916 | 65 | Economy Floor Mounting Bracket 30..... | 28-503 | 164 |
| End Cap 40x40-45 Degree..... | 18-820 | 63 | Economy Floor Mounting Bracket 40..... | 28-505 | 164 |
| End Cap 40x80..... | 18-814 | 63 | Economy Floor Mounting Bracket 60..... | 28-508 | 164 |
| End Cap 40x80, Secure..... | 18-914 | 65 | Economy Floor Mounting Bracket 80..... | 28-510 | 164 |
| End Cap 40x80, Secure w/ Stud..... | 18-917 | 65 | Flange Foot 40/1.5"..... | 27-050 | 165 |
| End Cap 56x56 (Post Profile)..... | 18-819 | 63 | Flange Foot 40X80/1.5"X3"..... | 27-055 | 165 |
| End Cap 80x120..... | 18-841 | 63 | Flange Foot 80/3"..... | 27-056 | 165 |
| End Cap 80x16..... | 18-812 | 63 | Floor Anchor 1.0"..... | 21-061 | 162 |
| End Cap 80x160..... | 18-818 | 63 | Floor Anchor 1.5"..... | 21-060 | 162 |
| End Cap 80x80..... | 18-815 | 63 | Floor Anchor 28..... | 21-023-28 | 162 |
| End Cap 80x80, Secure..... | 18-918 | 65 | Floor Anchor 30..... | 21-023-30 | 162 |
| End Cap 80x80, Secure w/ Stud..... | 18-915 | 65 | Floor Anchor 40..... | 21-023 | 162 |
| End Cap Push-in Fastener..... | 18-715 | 65 | Floor Fastening Set..... | 21-032 | 161 |
| End Cap R40/80-30 Degree..... | 18-883 | 63 | Floor Mounting Bracket 28/30/1.0"..... | 27-059 | 163 |
| End Cap R40/80-45 Degree..... | 18-885 | 63 | Floor Mounting Bracket 40/1.5"..... | 27-057 | 163 |
| End Cap R40/80-60 Degree..... | 18-886 | 63 | Floor Mounting Bracket 56/60/2.0"..... | 27-060 | 163 |
| Feet | | | Floor Mounting Bracket 80/3.0"..... | 27-058 | 163 |
| Knuckle Foot 1.0" 1/4-20 x 1.44"..... | 21-410 | 157 | Gasket | | |
| Knuckle Foot 1.0" 3/8-16 x 2.50"..... | 21-403 | 159 | Mesh Gasket 8..... | 12-107 | 61 |
| Knuckle Foot 1.0" Steel 1/4-20 x 1.44"..... | 21-412 | 157 | Panel Gasket 10..... | 12-108 | 61 |
| Knuckle Foot 1.5" 1/2-13 x 3.15"..... | 21-404 | 160 | Panel Gasket 8..... | 12-106 | 61 |
| Knuckle Foot 1.5" 1/2-13 x 5.50"..... | 21-405 | 160 | Profile Panel Holder (Black)..... | 12-016B | 57 |
| Knuckle Foot 1.5" 3/8-16 x 2.38"..... | 21-411 | 157 | Push-In Panel Seal (3mm)..... | 12-117-3 | 62 |
| Knuckle Foot 1.5" 5/16-18 x 2.00"..... | 21-401 | 159 | Push-In Panel Seal (6mm)..... | 12-117-6 | 62 |
| Knuckle Foot 1.5" 5/16-18 x 2.50"..... | 21-402 | 159 | Safety Cover Strip..... | 12-113 | 62 |



| Description | Part # | Page # |
|------------------------------------------------------------|----------|--------|
| Gusset | | |
| Economy Gusset 20/1" | 28-600 | 104 |
| Economy Gusset 28/30..... | 28-601 | 104 |
| Economy Gusset 28x56/30x60/1"x2"..... | 28-603 | 105 |
| Economy Gusset 40/1.5" | 28-602 | 104 |
| Economy Gusset 56/60..... | 28-605 | 104 |
| Economy Gusset 56x56/60x60 | 28-607 | 105 |
| Economy Gusset 80/3" | 28-604 | 105 |
| Economy Gusset 80/3" | 28-606 | 104 |
| Economy Gusset 80x80/3"x3"..... | 28-608 | 105 |
| Gusset 20..... | 20-1010 | 107 |
| Gusset 40..... | 20-4040 | 107 |
| Gusset 40x80..... | 20-8040 | 107 |
| Gusset Bracket 1.0" | 20-442 | 106 |
| Gusset Bracket 1.5" | 20-440 | 106 |
| Gusset Bracket 3.0" | 20-441 | 106 |
| Gusset Bracket 30/28, 80x28..... | 20-101 | 106 |
| Gusset Bracket 40, 40x40..... | 20-102 | 106 |
| Gusset Bracket 40, 80x80..... | 20-103 | 106 |
| Machined Gusset 1.0"..... | 20-506 | 109 |
| Machined Gusset 1.0"X2.0" | 20-507 | 109 |
| Machined Gusset 1.5"..... | 20-508 | 109 |
| Machined Gusset 1.5"X3.0" | 20-509 | 109 |
| Machined Gusset 28..... | 20-2828M | 109 |
| Machined Gusset 28X56..... | 20-2856M | 109 |
| Machined Gusset 40..... | 20-4040M | 109 |
| Machined Gusset 40X80..... | 20-4080M | 109 |
| Handle/Stiffener | | |
| Profile Stiffener / Handle | 12-011 | 57 |
| Handles | | |
| Handle, 20..... | 23-233 | 132 |
| Handle, Large Angled | 23-074 | 131 |
| Handle, Light Duty Aluminum..... | 23-030 | 130 |
| Handle, Light Duty Aluminum, Angled | 23-034 | 130 |
| Handle, Medium Open Angled..... | 23-075 | 131 |
| Handle, Medium Open Caps..... | 23-076 | 131 |
| Handle, Multipurpose Plastic, 112mm | 23-033 | 132 |
| Handle, Multipurpose Plastic, 170mm | 23-028 | 132 |
| Handle, Qtr Turn 28, L Handle, Locking | 23-040 | 146 |
| Handle, Qtr Turn 28, L Handle, Non-Locking | 23-041 | 146 |
| Handle, Qtr Turn 40, L Handle, Locking | 23-038 | 146 |
| Handle, Qtr Turn 40, L Handle, Non-Locking | 23-039 | 146 |
| Handle, Qtr Turn 40, Square Insert | 23-135 | 146 |
| Handle, Qtr Turn 40, T Handle, Non-Locking | 23-133 | 146 |
| Handle, Qtr Turn 40, Wing Knob, Locking | 23-134 | 146 |
| Handle, Qtr Turn Inside Mount | 23-159 | 147 |
| Handle, Qtr Turn Pnl Mount, Square Insert, Locking..... | 23-145 | 147 |
| Handle, Qtr Turn Pnl Mount, T-Handle, Non-Locking..... | 23-143 | 147 |
| Handle, Qtr Turn Pnl Mount, Wing Knob, Locking..... | 23-144 | 147 |
| Handle, Tube Style Center Support..... | 23-073 | 133 |
| Handle, Tube Style Coated Steel Tubing..... | 13-012 | 133 |
| Handle, Tube Style Ends..... | 23-072 | 133 |
| Qtr Turn Backing Plate | 23-038Z1 | 148 |
| Qtr Turn Cam, Hooked | 23-142Z1 | 148 |
| Qtr Turn Cam, Offset 10 | 23-140Z5 | 148 |
| Qtr Turn Cam, Offset 16..... | 23-140Z4 | 148 |
| Qtr Turn Cam, Offset -2..... | 23-140Z6 | 148 |
| Qtr Turn Cam, Offset 8..... | 23-140Z3 | 148 |
| Qtr Turn Keeper Bracket..... | 23-140Z7 | 148 |
| Qtr Turn Spare Key..... | 23-140Z1 | 148 |
| Qtr Turn Spare Key..... | 23-140Z2 | 148 |
| Hinge | | |
| Concealed Hinge 40 | 23-225 | 142 |

| Description | Part # | Page # |
|--------------------------------------------------------------|----------|--------|
| Concealed Hinge, Half Hinge..... | 23-225Z1 | 142 |
| Concealed Hinge, Hinge Pin..... | 23-225Z2 | 142 |
| Hinge, 20 Light Duty | 23-020 | 134 |
| Hinge, 28 Light Duty, Left Side..... | 23-019 | 135 |
| Hinge, 28 Light Duty, Right Side | 23-018 | 135 |
| Hinge, 30 Medium Duty | 23-024 | 140 |
| Hinge, 30/28 Medium Duty | 23-242 | 134 |
| Hinge, 40 Lift Off Left | 23-440L | 144 |
| Hinge, 40 Lift Off Right..... | 23-440R | 144 |
| Hinge, 40 Light Duty, Left Side..... | 23-023 | 136 |
| Hinge, 40 Light Duty, Right Side | 23-021 | 136 |
| Hinge, 40 Medium Duty | 23-025 | 140 |
| Hinge, 40 Medium Duty (Locking)..... | 23-025L | 140 |
| Hinge, 40 Steel Heavy Duty (Black)..... | 23-011B | 144 |
| Hinge, 40 Steel Heavy Duty (Clear)..... | 23-011 | 144 |
| Hinge, Adjustable 28 | 23-220 | 141 |
| Hinge, Adjustable 40 | 23-222 | 141 |
| Hinge, Medium Duty Plastic Lift Off Left 1.0" | 23-550L | 137 |
| Hinge, Medium Duty Plastic Lift Off Left 1.5" | 23-551L | 138 |
| Hinge, Medium Duty Plastic Lift Off Left 28/30-40..... | 23-535L | 137 |
| Hinge, Medium Duty Plastic Lift Off Left 40-40..... | 23-545L | 137 |
| Hinge, Medium Duty Plastic Lift Off Right 1.0"..... | 23-550R | 137 |
| Hinge, Medium Duty Plastic Lift Off Right 1.5"..... | 23-551R | 138 |
| Hinge, Medium Duty Plastic Lift Off Right 28/30-40..... | 23-535R | 137 |
| Hinge, Medium Duty Plastic Lift Off Right 40-40..... | 23-545R | 137 |
| Hinge, Medium Duty Plastic Non-Removable 1.0"..... | 23-550 | 137 |
| Hinge, Medium Duty Plastic Non-Removable 1.5"..... | 23-551 | 138 |
| Hinge, Medium Duty Plastic Non-Removable 1.5" to 1" | 23-552 | 138 |
| Hinge, Medium Duty Plastic Non-Removable 28/30-40..... | 23-535 | 137 |
| Hinge, Medium Duty Plastic Non-Removable 40-40..... | 23-545 | 137 |
| Hinge, Medium Duty Steel Lift Off Left 28-28..... | 23-250L | 139 |
| Hinge, Medium Duty Steel Lift Off Left 28-40..... | 23-251L | 139 |
| Hinge, Medium Duty Steel Lift Off Left 40-40..... | 23-252L | 139 |
| Hinge, Medium Duty Steel Lift Off Right 28-28..... | 23-250R | 139 |
| Hinge, Medium Duty Steel Lift Off Right 28-40..... | 23-251R | 139 |
| Hinge, Medium Duty Steel Lift Off Right 40-40..... | 23-252R | 139 |
| Hinge, Medium Duty Steel Non-Removable 28-28..... | 23-250 | 139 |
| Hinge, Medium Duty Steel Non-Removable 28-40..... | 23-251 | 139 |
| Hinge, Medium Duty Steel Non-Removable 40-40..... | 23-252 | 139 |
| Hinge, Multi-Series..... | 23-016 | 143 |
| Hinge, Positioning, 120 Degree..... | 23-226 | 142 |
| Joining Plates | | |
| Joining Plate 1, 1.0" | 20-311 | 102 |
| Joining Plate 1, 1.5" | 20-301 | 102 |
| Joining Plate 1, 80 | 20-108 | 102 |
| Joining Plate 1.0", Corner..... | 20-314 | 103 |
| Joining Plate 1.0", T | 20-315 | 103 |
| Joining Plate 1.5", Corner..... | 20-304 | 103 |
| Joining Plate 1.5", T | 20-305 | 103 |
| Joining Plate 2, 1.0" | 20-312 | 102 |
| Joining Plate 2, 1.5" | 20-302 | 102 |
| Joining Plate 2, 2.0" | 20-313 | 102 |
| Joining Plate 2, 3.0" | 20-303 | 102 |
| Joining Plate 2, 40 | 20-111 | 102 |
| Joining Plate 2, 80 | 20-112 | 102 |
| Joining Plate 28, Corner | 20-105 | 103 |
| Joining Plate 28, T | 20-106 | 103 |
| Joining Plate 28-40 | 20-104 | 102 |



| Description | Part # | Page # |
|----------------------------------------------------------|----------|--------|
| Joining Plate 3.0", Corner | 20-307 | 103 |
| Joining Plate 3.0", T | 20-306 | 103 |
| Joining Plate 40, Corner | 20-109 | 103 |
| Joining Plate 40, T | 20-110 | 103 |
| Joining Plate 80, Corner | 20-113 | 103 |
| Joining Plate 80, T | 20-114 | 103 |
| Latches | | |
| Deadbolt Latch | 23-160 | 149 |
| Slam Latch - Locking | 23-155 | 149 |
| Slam Latch - Non-Locking | 23-156 | 149 |
| Linear Roller System | | |
| Fastening Set for Bearing Unit 6 | 20-007 | 217 |
| Fastening Set for Mounting Plate RU40 | 20-129 | 225 |
| Fastening Set HD for Bearing Unit 14 | 20-030 | 219 |
| LR Bumper | 31-808 | 227 |
| Pulley, 8mm Bore Reversing Unit 40 | 31-125 | 225 |
| Pulley, Idler Reversing Unit 40 | 31-127 | 225 |
| Pulley, Spline Reversing Unit 40 | 31-123 | 225 |
| Roller System 14 HD, End Cap/Lubricating System | 30-503Z6 | 230 |
| Roller System 14 HD, Replacement Felt | 30-114Z5 | 230 |
| Roller System 14 HD, Single Bearing Unit Centric | 30-111 | 222 |
| Roller System 14 HD, Single Bearing Unit Eccentric | 30-113 | 222 |
| Roller System 14, Double Bearing Unit Centric | 30-102 | 222 |
| Roller System 14, Double Bearing Unit Eccentric | 30-104 | 222 |
| Roller System 14, End Cap/Lubricating System | 30-107 | 230 |
| Roller System 14, Linear Shaft | 13-513 | 229 |
| Roller System 14, Replacement Felt | 30-107Z1 | 230 |
| Roller System 14, Shaft Clamp | 13-114 | 229 |
| Roller System 14, Single Bearing Unit Centric | 30-101 | 222 |
| Roller System 14, Single Bearing Unit Eccentric | 30-103 | 222 |
| Roller System 25, End Cap/Lubricating System | 30-207 | 230 |
| Roller System 25, Linear Shaft | 13-524 | 229 |
| Roller System 25, Replacement Felt | 30-207Z1 | 230 |
| Roller System 25, Shaft Clamp | 13-125 | 229 |
| Roller System 6, Double Bearing Unit Centric | 30-402 | 222 |
| Roller System 6, Double Bearing Unit Eccentric | 30-404 | 222 |
| Roller System 6, End Cap/Lubricating System | 30-407 | 230 |
| Roller System 6, Linear Shaft | 13-505 | 229 |
| Roller System 6, Replacement Felt | 30-407Z5 | 230 |
| Roller System 6, Shaft Clamp | 13-106 | 229 |
| Roller System 6, Single Bearing Unit Centric | 30-401 | 222 |
| Roller System 6, Single Bearing Unit Eccentric | 30-403 | 222 |
| Roller System Adapter Flange, A&D | 31-014AD | 213 |
| Roller System Adapter Flange, B | 31-014B | 213 |
| Roller System Adapter Flange, C | 31-014C | 213 |
| Roller System Adapter Flange, E | 31-014E | 213 |
| Roller System Adapter Flange, F | 31-014F | 213 |
| Roller System Adapter Flange, G | 31-014G | 213 |
| Roller System Adapter Shaft, A | 31-001 | 213 |
| Roller System Adapter Shaft, B | 31-002 | 213 |
| Roller System Adapter Shaft, Blank | 31-010 | 213 |
| Roller System Adapter Shaft, C | 31-003 | 213 |
| Roller System Adapter Shaft, D | 31-004 | 213 |
| Roller System Adapter Shaft, E | 31-005 | 213 |
| Roller System Adapter Shaft, F | 31-006 | 213 |
| Roller System Belt 25T10 Clamping Block | 31-030 | 226 |
| Roller System Components, Bolt, 14-Centric | 30-105 | 223 |
| Roller System Components, Bolt, 14-Eccentric | 30-106 | 223 |
| Roller System Components, Bolt, 6-Centric | 30-006 | 223 |
| Roller System Components, Bolt, 6-Eccentric | 30-007 | 223 |
| Roller System Components, Spacer Shim, LR14 | 30-108Z1 | 223 |

| Description | Part # | Page # |
|-------------------------------------------------------------|-----------|--------|
| Roller System Components, Spacer Shim, LR14HD | 30-114Z3 | 223 |
| Roller System Components, Track Roller, Track Dia. 14 | 30-108 | 223 |
| Roller System Components, Track Roller, Track Dia. 6 | 30-008 | 223 |
| Roller System Exciter Cam | 31-033 | 228 |
| Roller System Hi-Flex Timing Belt | 31-052-1 | 226 |
| Roller System Limit Stop - Bi-Directional | 31-038 | 227 |
| Roller System Limit Stop - Single Direction | 31-037 | 227 |
| Roller System Proximity Switch | 31-035 | 228 |
| Roller System Proximity Switch Mounting Element | 31-036 | 228 |
| Roller System Reversing Unit 40 Mounting Plate | 31-129 | 225 |
| Roller System Reversing Unit 40, 8mm Bore | 31-124 | 225 |
| Roller System Reversing Unit 40, Idler | 31-126 | 225 |
| Roller System Reversing Unit 40, Spline Pulley | 31-122 | 225 |
| Roller System Tensioning Block | 31-031 | 226 |
| Roller System Universal Adapter Flange | 31-014 | 213 |
| Rubber Shock Absorber | 31-037Z3A | 227 |
| Spline Shaft, LR | 13-566 | 229 |
| Mesh Clamp | | |
| Profile Mesh Clamp | 12-010 | 58 |
| Mesh Retainer | | |
| Wire Mesh Retainer 20 | 20-200 | 119 |
| Wire Mesh Retainer 40 | 20-202 | 119 |
| Wire Mesh Retainer Economy 40 (1/4-20) | 22-111 | 120 |
| Wire Mesh Retainer Economy 40 (M6) | 22-110 | 120 |
| Milling Connector | | |
| Milling Connector 30 | 28-005 | 79 |
| Milling Connector 40/1.5" | 28-004 | 79 |
| Miter Connector | | |
| Miter Bracket | 20-127 | 81 |
| Miter Connector 1.0", Fixed | 25-026 | 81 |
| Miter Connector 1.5", Variable | 25-024 | 81 |
| Miter Connector 30/28 Fixed 90 Deg. | 20-128 | 81 |
| Miter Connector 30/28 Fixed Only | 20-128Z1 | 81 |
| Miter Connector 40, Variable | 20-022 | 81 |
| Multiblocks | | |
| Multiblock 25 CS | 22-117 | 118 |
| Multiblock Aluminum, M5 | 22-105 | 117 |
| Multiblock Aluminum, M6 | 22-106 | 117 |
| Multiblock Aluminum, M8 | 22-108 | 117 |
| Multiblock PA 1.0", 1/4-20 | 22-116 | 118 |
| Multiblock PA 20, M4 | 22-104 | 118 |
| Multiblock PA 30/28, M6 | 22-103 | 116 |
| Multiblock PA 40, M6 | 22-100 | 116 |
| Multiblock PA Universal, 1/4-20 | 22-115 | 116 |
| Multiblock, Clamp Style 30/28 | 22-113 | 117 |
| Multiblock, Clamp Style 40 | 22-112 | 117 |
| Uniblock PA 20, M4 | 22-107 | 118 |
| Nuts | | |
| Metric Nuts | 24-7XX-X | 89 |
| English Nuts | 25-7XX-X | 89 |
| Panel Material | | |
| Panel, 10mm TRESPA - Blue (CA Stock Only) | 26-430-10 | 113 |
| Panel, 6mm TRESPA - Black | 26-410-6 | 113 |
| Panel, 6mm TRESPA - Blue | 26-430-6 | 113 |
| Panel, 6mm TRESPA - Grey | 26-420-6 | 113 |
| Panel, 6mm TRESPA - White | 26-480-6 | 113 |
| Panel, 8mm TRESPA - Black | 26-410-8 | 113 |
| Panel, Aluminum Veneer, 6mm, Black | 26-110-6 | 114 |
| Panel, Aluminum Veneer, 6mm, Clear | 26-170-6 | 114 |
| Panel, Aluminum Veneer, 6mm, White | 26-180-6 | 114 |



| Description | Part # | Page # |
|--------------------------------------------------|----------------|--------|
| Panel, Expanded PVC, 6mm, Black..... | 26-510-6..... | 114 |
| Panel, Expanded PVC, 6mm, Blue..... | 26-530-6..... | 114 |
| Panel, Expanded PVC, 6mm, White..... | 26-580-6..... | 114 |
| Panel, Polycarbonate 3mm, Clear..... | 26-790-3..... | 113 |
| Panel, Polycarbonate, Clear..... | 26-790-6..... | 113 |
| Panel, Polycarbonate, Light Smoked..... | 26-795-6..... | 113 |
| Panel, Wire Mesh .5"x.5" Black..... | 26-210-05..... | 113 |
| Panel, Wire Mesh 1"x1" Black..... | 26-210-10..... | 113 |
| Panel, Wire Mesh 1"x1" Yellow..... | 26-250-10..... | 113 |
| Panel, Wire Mesh 1.5"x1.5" Black..... | 26-210-15..... | 113 |
| Panel, Wire Mesh 2"x2" Black..... | 26-210-20..... | 113 |
| Panel Retainer | | |
| Panel Retainer 20..... | 20-200P..... | 119 |
| Panel Retainer 40..... | 20-202P..... | 119 |
| Pivot Joint | | |
| Pivot Joint 1.0"..... | 23-260..... | 145 |
| Pivot Joint 1.0" with Clamp Handle..... | 23-261..... | 145 |
| Pivot Joint 1.5"..... | 23-262..... | 145 |
| Pivot Joint 1.5" with Clamp Handle..... | 23-263..... | 145 |
| Pivot Joint 30/28 (Black)..... | 23-013B..... | 145 |
| Pivot Joint 30/28 (Clear)..... | 23-013..... | 145 |
| Pivot Joint 30/28 with Clamp Handle (Black)..... | 23-015B..... | 145 |
| Pivot Joint 30/28 with Clamp Handle (Clear)..... | 23-015..... | 145 |
| Pivot Joint 40 (Black)..... | 23-010B..... | 145 |
| Pivot Joint 40 (Clear)..... | 23-010..... | 145 |
| Pivot Joint 40 with Clamp Handle (Black)..... | 23-014B..... | 145 |
| Pivot Joint 40 with Clamp Handle (Clear)..... | 23-014..... | 145 |
| Pneumatics | | |
| Blank Plate 40X80..... | 21-4000Z1..... | 178 |
| Blank Plate 80X80..... | 21-8000Z1..... | 178 |
| Pneumatic Connector Plate 40x80..... | 21-040ZX..... | 176 |
| Pneumatic Connector Plate 80x80..... | 21-043ZX..... | 176 |
| Pneumatic Fastener, Butt-Fastening Set..... | 20-012..... | 178 |
| Pneumatic Fastener, Universal..... | 20-011..... | 78 |
| Pneumatic Joining Plate, Inline, 80x127..... | 21-045..... | 177 |
| Pneumatic Joining Plate, T, 80x80..... | 21-044..... | 177 |
| Pneumatic Seal 120x40..... | 21-144..... | 179 |
| Pneumatic Seal 80x40..... | 21-041..... | 179 |
| Pneumatic Seal 80x80..... | 21-042..... | 179 |
| Pneumatic Seal 80x80 T-Joining..... | 21-046..... | 179 |
| Profile Connectors | | |
| Angle Connector 40/1.5", 45o..... | 27-600..... | 100 |
| Cross Connector 1.5", Double Tab..... | 25-027..... | 100 |
| Profile to Wall Fastener | | |
| Profile to Wall Fastener 40, M8..... | 20-015..... | 80 |
| Rack Angle | | |
| Profile Rack Angle no Holes..... | 12-110..... | 59 |
| Profile Rack Angle with Holes..... | 12-109..... | 59 |
| Rack Angle Clip Nut #10-32..... | 25-075..... | 94 |
| Rack Angle Clip Nut 1/4-20..... | 25-076..... | 94 |
| Rack Angle Clip Nut M5..... | 20-075..... | 94 |
| Rack Angle Clip Nut M6..... | 20-076..... | 94 |
| Rail Cart | | |
| Rail Cart, 4 Roller..... | 23-201..... | 128 |
| Rail Cart, 4 Roller w/ Fastening Set..... | 23-202..... | 128 |
| Rail Cart, 8 Roller..... | 23-200..... | 128 |
| Ratchet Lever | | |
| Ratchet Lever M8x16..... | 23-316..... | 201 |
| Ratchet Lever M8x20..... | 23-320..... | 201 |
| Ratchet Lever M8x25..... | 23-325..... | 201 |
| Ratchet Lever M8x40..... | 23-340..... | 201 |
| Ratchet Lever M8x50..... | 23-350..... | 201 |
| Ratchet Lever M8x63..... | 23-363..... | 201 |
| Roller Track | | |
| Conv Roller Track 7/8" Dia..... | 14-100..... | 203 |

| Description | Part # | Page # |
|--------------------------------------------------------|----------------|--------|
| Rollers | | |
| Roller 40..... | 21-069..... | 126 |
| Roller Insert 25..... | 21-065..... | 127 |
| Shoulder Bolt M5x6x25..... | 800.17..... | 126 |
| Rolling Door Guide | | |
| Guide Insert Set, Metric..... | 21-067..... | 55 |
| Guide Profile UHMW..... | 12-421..... | 55 |
| Profile Rolling Door Guide..... | 12-022..... | 55 |
| Roller Insert Set, Metric..... | 21-068..... | 55 |
| Screws | | |
| Screws, Button Head (English)..... | 25-1XX-X..... | 92 |
| Screws, Button Head (Metric)..... | 24-1XX-X..... | 90 |
| Screws, Flat Head (English)..... | 25-2XX-X..... | 92 |
| Screws, Flat Head (Metric)..... | 24-2XX-X..... | 90 |
| Screws, Set Screws w/ Hexagon Socket (English)..... | 25-5XX-XX..... | 94 |
| Screws, Set Screws w/ Hexagon Socket (Metric)..... | 24-5XX-XX..... | 94 |
| Screws, Socket Head (English)..... | 25-3XX-X..... | 92 |
| Screws, Socket Head (Metric)..... | 24-3XX-X..... | 90 |
| Screws, T-Bolt (Metric)..... | 24-4XX-X..... | 88 |
| Self Tapping Connector | | |
| Self Tapping Connector 40..... | 20-019..... | 80 |
| Services | | |
| 45o Miter Cut up to 80x80 (3"x3")..... | 19-105..... | 231 |
| 45o Miter Cut, 6"x1.5"..... | 19-106..... | 231 |
| Chamfer Panel Corner..... | 19-029..... | 231 |
| Drill & Tap for M3 or M4..... | 19-013..... | 231 |
| Drill & Tap for M5, M6, M8 or M10..... | 19-012..... | 231 |
| Drill & Tap M12 or M16 (Knuckle Foot 80)..... | 19-014..... | 231 |
| Drill 0.375" or 0.500" hole for Ball Plunger..... | 19-022..... | 231 |
| Drill 20mm x 6mm for Pneumatic Universal Fastener..... | 19-020..... | 231 |
| Drill 7mm Access Hole..... | 19-011..... | 231 |
| Drill 7mm Access Hole through 160mm Side..... | 19-025..... | 231 |
| Drill and Counter Bore for BHCS or SHCS..... | 19-004..... | 231 |
| Drill and Counter Bore for FHCS..... | 19-006..... | 231 |
| Drill and Tap M10 (Knuckle foot 80)..... | 19-017..... | 231 |
| Drill and Tap M8 (Knuckle Foot 40)..... | 19-016..... | 231 |
| Drill hole 0.323" for 40 & 80 profiles..... | 19-140..... | 231 |
| Drill through hole for Side Mounting Knuckle Foot..... | 19-023..... | 231 |
| Drill thru panel up to 10mm for screws..... | 19-027..... | 231 |
| Drill/Tap/Mill for Roller PA..... | 19-103..... | 231 |
| Mill Square up to 160x80..... | 19-102..... | 231 |
| Mill Square up to 80x40..... | 19-100..... | 231 |
| Mill square up to 80x80..... | 19-101..... | 231 |
| Miter Connection Counter Bore..... | 19-211..... | 231 |
| Notch Panel Corner..... | 19-030..... | 231 |
| Panel cut to size..... | 19-032..... | 231 |
| Panel Packaging for secure transport..... | 19-026..... | 231 |
| Saw Cut For Linear Shafts..... | 19-007..... | 231 |
| Service for Dowel (Securing Linear Shaft)..... | 19-019..... | 231 |
| Service for Quarter Turn Handles (22.5mm Dia)..... | 19-018..... | 231 |
| Service, Saw Cut to 160x80mm..... | 19-003..... | 231 |
| Service, Saw Cut to 80x40mm..... | 19-001..... | 231 |
| Service, Saw Cut to 80x80mm..... | 19-002..... | 231 |
| Special Miter Cut..... | 19-104..... | 231 |
| Special Service Cut..... | 19-031..... | 231 |
| Step Drill for Universal Fastener 40 or 28..... | 19-015..... | 231 |
| Tap Profile End 5/16-18..... | 19-009..... | 231 |
| Tap profile End M8..... | 19-010..... | 231 |
| Slide Blocks | | |
| High Cycle Nut #10-32..... | 25-705-2..... | 94 |
| Shim Pack 160..... | 30-812Z2..... | 200 |
| Shim Pack 80..... | 30-412Z2..... | 200 |
| Slide Block 1.0" Double Flange, 2.00"..... | 30-1002..... | 192 |



| Description | Part # | Page # | Description | Part # | Page # |
|----------------------------------------------|-----------|--------|----------------------------------------|----------|--------|
| Slide Block 1.0" Double Flange, 4.00" | 30-1004 | 192 | Sliding Door Set | | |
| Slide Block 1.0" Side Flange Extended, 4.00" | 30-1024 | 195 | Sliding Door Set | 23-065 | 123 |
| Slide Block 1.0" Side Flange, 2.00" | 30-1012 | 194 | Standard Fastener | | |
| Slide Block 1.0" Side Flange, 4.00" | 30-1014 | 194 | Standard Fastener 1", 1/4-20 | 25-022 | 76 |
| Slide Block 1.5" Double Flange, 3.00" | 30-1503 | 196 | Standard Fastener 1.5", 5/16-18 | 25-003 | 76 |
| Slide Block 1.5" Double Flange, 6.00" | 30-1506 | 196 | Standard Fastener 1.5", 5/16-18 (SS) | 25-003SS | 76 |
| Slide Block 1.5" High Cycle Double | 30-1506HC | 196 | Standard Fastener 1.5", S End, 5/16-18 | 25-014 | 76 |
| Slide Block 1.5" High Cycle Extended, Single | 30-1516HC | 199 | Standard Fastener 20, M5 | 20-021 | 76 |
| Slide Block 1.5" High Cycle Flush, Single | 30-1513HC | 198 | Standard Fastener 30/28, M8 | 20-003 | 76 |
| Slide Block 1.5" High Cycle Flush, Single | 30-1523HC | 198 | Standard Fastener 30/28, M8 (SS) | 20-003SS | 76 |
| Slide Block 1.5" High Cycle Single | 30-1503HC | 196 | Standard Fastener 30/28, S End, M8x18 | 20-143 | 76 |
| Slide Block 1.5" Side Flange Extended, 4.50" | 30-1516 | 199 | Standard Fastener 40, M8 | 20-002 | 76 |
| Slide Block 1.5" Side Flange, 3.00" | 30-1513 | 198 | Standard Fastener 40, M8 (SS) | 20-002SS | 76 |
| Slide Block 1.5" Side Flange, 6.00" | 30-1523 | 198 | Standard Fastener 40, S End, M8 | 20-144 | 76 |
| Slide Block 2.0" Double Flange, 2.00" | 30-2002 | 193 | T-Nut | | |
| Slide Block 2.0" Double Flange, 4.00" | 30-2004 | 193 | Double Economy 1.5", 5/16-18, 0.5" | 25-046 | 87 |
| Slide Block 28 Double Flange, 100mm | 30-2808 | 192 | Double Economy 1.5", 5/16-18, 0.88" | 25-047 | 87 |
| Slide Block 28 Double Flange, 50mm | 30-2801 | 192 | Double Economy 1.5", 5/16-18, 1.0" | 25-048 | 87 |
| Slide Block 28 Ratcheting L-Handle | 30-0001 | 201 | Double Standard 1.5", 5/16-18, 1.5" | 25-041 | 84 |
| Slide Block 28 Side Flange Extended, 140mm | 30-2829 | 195 | Double Standard 30/40, M8, 24mm | 20-049 | 84 |
| Slide Block 28 Side Flange Extended, 90mm | 30-2822 | 195 | Double Standard 30/40, M8, 40mm | 20-050 | 84 |
| Slide Block 28 Side Flange, 100mm | 30-2828 | 194 | Economy Compression Spring, M6 | 24-719-6 | 86 |
| Slide Block 28 Side Flange, 50mm | 30-2821 | 194 | Economy Compression Spring, M8 | 24-719-8 | 86 |
| Slide Block 28 Star Handle | 30-0005 | 201 | Economy Offset 1.5", #8-32 | 25-045 | 86 |
| Slide Block 3.0" Double Flange, 3.00" | 30-3003 | 197 | Economy Offset 30/28, 1/4-20 | 20-193 | 86 |
| Slide Block 3.0" Double Flange, 6.00" | 30-3006 | 197 | Economy Offset 30/28, M6 | 20-190 | 86 |
| Slide Block 3.0" High Cycle Double | 30-3006HC | 197 | Economy Offset 40, 5/16-18 | 20-182 | 86 |
| Slide Block 3.0" High Cycle Single | 30-3003HC | 197 | Economy Offset 40, M8 | 20-181 | 86 |
| Slide Block 40 Double Flange, 160mm | 30-4008 | 196 | Economy Standard 1.5", #10-32 | 20-088 | 86 |
| Slide Block 40 Double Flange, 80mm | 30-4001 | 196 | Economy Standard 20, #10-24 | 20-086 | 86 |
| Slide Block 40 High Cycle Double | 30-4008HC | 196 | Economy Standard 20, M5 | 20-085 | 86 |
| Slide Block 40 High Cycle Extended, Double | 30-4029HC | 199 | Economy Standard 30/28, 1/4-20 | 20-093 | 86 |
| Slide Block 40 High Cycle Extended, Single | 30-4022HC | 199 | Economy Standard 30/28, 5/16-18 | 20-092 | 86 |
| Slide Block 40 High Cycle Flush, Double | 30-4028HC | 198 | Economy Standard 30/28, M6 | 20-090 | 86 |
| Slide Block 40 High Cycle Flush, Single | 30-4021HC | 198 | Economy Standard 30/28, M6 (SS) | 20-090SS | 86 |
| Slide Block 40 High Cycle Single | 30-4001HC | 196 | Economy Standard 30/28, M8 | 20-091 | 86 |
| Slide Block 40 Ratcheting L-Handle | 30-0011 | 201 | Economy Standard 40, 1/4-20 | 20-083 | 86 |
| Slide Block 40 Side Flange Extended, 120mm | 30-4022 | 199 | Economy Standard 40, 5/16-18 | 20-082 | 86 |
| Slide Block 40 Side Flange Extended, 200mm | 30-4029 | 199 | Economy Standard 40, M6 | 20-080 | 86 |
| Slide Block 40 Side Flange, 160mm | 30-4028 | 198 | Economy Standard 40, M8 | 20-081 | 86 |
| Slide Block 40 Side Flange, 80mm | 30-4021 | 198 | Heavy Duty Double 1.5", 1/4-20, 1.0" | 25-052 | 85 |
| Slide Block 40 Star Handle | 30-0015 | 201 | Heavy Duty Double 1.5", 5/16-18, 1.5" | 25-053 | 85 |
| Slide Block 56 Double Flange, 100mm | 30-5608 | 193 | Heavy Duty Double 40, M8 | 20-063 | 85 |
| Slide Block 56 Double Flange, 50mm | 30-5601 | 193 | Heavy Duty Retainer Spring | 20-0614 | 85 |
| Slide Block 80 Double Flange, 160mm | 30-8008 | 197 | Heavy Duty Single 1.5", 1/4-20 | 25-050 | 85 |
| Slide Block 80 Double Flange, 80mm | 30-8001 | 197 | Heavy Duty Single 1.5", 5/16-18 | 25-051 | 85 |
| Slide Block 80 High Cycle Double | 30-8008HC | 197 | Heavy Duty Single 40, M5 | 20-067 | 85 |
| Slide Block 80 High Cycle Single | 30-8001HC | 197 | Heavy Duty Single 40, M6 | 20-060 | 85 |
| Slide Pad 1.0"x2.0" Top, Tapped | 30-1001 | 200 | Heavy Duty Single 40, M8 | 20-064 | 85 |
| Slide Pad 1.0"x2.0" Top, Tapped | 30-2000 | 200 | Self Aligning 28/30/40, M5 | 20-065 | 84 |
| Slide Pad 1.0"x2.0", Tapped | 30-1000 | 200 | Self Aligning 28/30/40, M6 | 20-066 | 84 |
| Slide Pad 1.5"x3.0", High Cycle | 30-1501 | 200 | Self Aligning 28/30/40, M8 | 20-068 | 84 |
| Slide Pad 1.5"x3.0", High Cycle | 30-3001 | 200 | Standard 20, M4 | 20-044 | 83 |
| Slide Pad 1.5"x3.0", Tapped | 30-1500 | 200 | Standard 20, M5 | 20-045 | 83 |
| Slide Pad 1.5"x3.0", Tapped | 30-3000 | 200 | Standard 28, 1/4-20 | 25-055 | 83 |
| Slide Pad 28, 80mm | 30-2800-2 | 200 | Standard 28, 5/16-18 | 25-057 | 83 |
| Slide Pad 40, 300mm | 30-4000-3 | 200 | Standard 28, M6 | 20-055 | 83 |
| Slide Pad 40, 80mm | 30-4000-2 | 200 | Standard 28, M8 | 20-057 | 83 |
| Slide Pad 40, 80mm High-Cycle | 30-4000-6 | 200 | Standard 30/40, M4 | 20-051 | 83 |
| Sliding Door Guide | | | Standard 30/40, M5 | 20-052 | 83 |
| Profile Sliding Door Guide 30/28 Lower | 12-015 | 56 | Standard 30/40, M6 | 20-056 | 83 |
| Profile Sliding Door Guide 30/28 Upper | 12-014 | 56 | Standard 30/40, M6 (SS) | 20-056SS | 83 |
| Profile Sliding Door Guide 40 Lower | 12-013 | 56 | Standard 30/40, M8 | 20-058 | 83 |
| Profile Sliding Door Guide 40 Upper | 12-012 | 56 | Standard 30/40, M8 (SS) | 20-058SS | 83 |
| Sliding Door Guides | 23-054 | 124 | Standard, 1.0", #10-32 | 25-030 | 83 |



| Description | Part # | Page # | Description | Part # | Page # |
|-----------------------------------------------------|-----------------|--------|-----------------------|--------------|--------|
| Standard, 1.0", 1/4-20 | 25-031 | 83 | Z-Nut | | |
| Standard, 30/40, #10-32 | 25-009 | 83 | Z-Nut 30/28, M3 | 20-036 | 87 |
| Standard, 30/40, 1/4-20 | 25-001 | 83 | Z-Nut 30/28, M4 | 20-037 | 87 |
| Standard, 30/40, 5/16-18 | 25-002 | 83 | Z-Nut 30/28, M5 | 20-038 | 87 |
| T-Slot Bar 40, Heavy Duty | 20-062 | 85 | Z-Nut 40, M3 | 20-033 | 87 |
| T-Slot Bar 40/30 Standard | 20-059 | 85 | Z-Nut 40, M4 | 20-034 | 87 |
| Tooling/Jigs | | | Z-Nut 40, M5 | 20-035 | 87 |
| Drill Bit 6.8mm | 40-018 | 239 | | | |
| Drilling Jig 28, Standard Connection | 40-027 | 237 | | | |
| Drilling Jig 30, Standard Connection | 40-030 | 237 | | | |
| Drilling Jig 40, Standard Connection | 40-010 | 237 | | | |
| Drilling Jig 40, Universal Connection | 40-015 | 237 | | | |
| Drilling Jig 80, Standard Connection | 40-011 | 237 | | | |
| Drilling Jig, Clamp Profile 40x40 | 40-026 | 238 | | | |
| Spanner Wrench, Adjustable for LR14 | 40-017 | 240 | | | |
| Spanner Wrench, Fixed, LR14 | 40-032-14 | 240 | | | |
| Spanner Wrench, Fixed, LR25 | 40-032-25 | 240 | | | |
| Spanner Wrench, Pin Socket for LR14 | 40-029 | 240 | | | |
| Step Drill 7x20 with 3 Flats | 40-024 | 238 | | | |
| Step Drill 7x20, #2 Morse Taper | 40-023 | 238 | | | |
| Step Drill 9x15 | 40-025 | 238 | | | |
| Tap 5/16-18 | 40-516 | 239 | | | |
| Tap M8x1.25 | 40-016 | 239 | | | |
| Wrench with T-Handle, 1/4" | 40-046 | 239 | | | |
| Wrench with T-Handle, 3/16" | 40-044 | 239 | | | |
| Wrench with T-Handle, Hex 5 | 40-012 | 239 | | | |
| Wrench, Ball Headed 1/4" | 40-048 | 239 | | | |
| Wrench, Ball Headed 3/16" | 40-047 | 239 | | | |
| Wrench, Ball Headed Hex 5 | 40-013 | 239 | | | |
| Wrench, Ball Headed Hex 6 | 40-022 | 239 | | | |
| UHMW Slides | | | | | |
| Slide Bar UHMW | 12-400 | 60 | | | |
| Slide Bar UHMW 40X10 | 12-420 | 60 | | | |
| Slide Bar UHMW 28/30X8 | 12-430 | 60 | | | |
| Slide Strip UHMW | 12-410 | 60 | | | |
| Universal Fastener | | | | | |
| Universal Fastener 1.0", 1/4-20 | 25-023 | 78 | | | |
| Universal Fastener 1.5", 5/16-18 | 25-004 | 78 | | | |
| Universal Fastener 28 to 40 M6 | 20-011 | 78 | | | |
| Universal Fastener 28 Zinc Casting | 20-005Z1 | 78 | | | |
| Universal Fastener 28, M6 | 20-005 | 78 | | | |
| Universal Fastener 30, M6 | 20-008 | 78 | | | |
| Universal Fastener 40 Zinc Casting | 20-004Z1 | 78 | | | |
| Universal Fastener 40, M8 | 20-004 | 78 | | | |
| Washers | | | | | |
| Washers (English) | 25-7XX-X | 89 | | | |
| Washers (Metric) | 24-7XX-X | 89 | | | |
| Workstations | | | | | |
| Drawer 13.5" H | 22-122 | 183 | | | |
| Drawer 6.75" H | 22-121 | 183 | | | |
| Parts Bin Mounting Bracket, Angled | 22-128Z3 | 181 | | | |
| Parts Bin Mounting Bracket, Double Angle | 22-128Z4 | 181 | | | |
| Parts Bin Mounting Bracket, Flat | 22-128Z2 | 181 | | | |
| Parts Bin Mounting Slide Rail | 22-130 | 182 | | | |
| Parts Bin Slide Collar | 22-134 | 182 | | | |
| Parts Bin, Polypropylene | 22-126 | 181 | | | |
| Parts Bin, Polypropylene | 22-127 | 181 | | | |
| Parts Bin, Polypropylene | 22-128 | 181 | | | |
| Parts Bin, Polypropylene | 22-129 | 181 | | | |
| Tool Runner, Straight | 22-136 | 183 | | | |
| Workstation Lift System Mounting Plate 50-703 | 50-704 | 184 | | | |
| Workstation Lift System Mounting Plate 50-700 | 50-705 | 185 | | | |
| Workstation Lift System, 2 Cylinder | 50-702 | 184 | | | |
| Workstation Lift System, 4 Cylinder | 50-700 | 185 | | | |
| Workstation Lift System, Telescopic Guide | 50-703 | 184 | | | |



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EM Sales Offices

Australia

Parker Hannifin (Australia) Pty Limited
9 Carrington Road
Castle Hill NSW 2154
Australia
phone +61 (0) 2 9634 7777
fax +61 (0) 2 9634 3749

Brazil

Parker Hannifin Ind. Com Ltda.
Av. Lucas Nogueira Garcez 2181
Esperança
12325-900 Jacareí, SP
phone 12 3954 5100
fax 12 3954 5262
email automation.brazil@parker.com

Canada

Parker Motion and Control Canada
160 Chisholm Drive
Milton, Ontario L9T3G9
phone (905) 693 3020
fax (905) 876 1958
email miltoncustservice@parker.com

China

Parker Hannifin Motion & Control (Shanghai) Co., Ltd
280 Yunqiao Rd. Jin Qiao Export Processing Zone
Shanghai 201206, China
phone (86-21) 50312525
fax (86-21) 64459717

France

Parker SSD Parvex
8 avenue du Lac
B.P. 249
F-21007 Dijon Cedex
phone +33 (0) 3 80 42 41 40
fax +33 (0) 3 80 42 41 23

Germany

**Electromechanical Europe
Parker Hannifin GmbH & Co KG**
Robert-Bosch-Strasse 22
D-77656 Offenburg
Germany
phone +49 (0) 781 509 0
fax +49 (0) 781 509 98176

India

**Parker Hannifin India Pvt. Ltd
Automation Group-SSD Drives
Division**
151 & 157 Developed Plots Estate
Perungudi, Chennai 600 096
phone (044) 4391 0799
fax (044) 4391 0700

Italy

Parker Hannifin SpA
Via Gounod 1
20092 Cinsello Balsamo
Milano, Italy
phone +39 02 361081
fax +39 02 36108400

Korea

Parker Hannifin Korea
6th Floor Daehwa Building
169 Samsung-dong Kangnam-gu
Seoul 135-882, South Korea
phone +82 2 559 0400
fax +82 2 556 8187

Mexico

**Parker Hannifin de Mexico
Motion & Control Division**
Eje Uno Norte No. 100
Parque Ind. Toluca 2000
Toluca, Edo. de C.P. 50100 Mexico
phone 011 52 722 275 4200
fax 011 52 722 279 0316

Singapore

Parker Hannifin Singapore Pte Ltd
11, Fourth ChinBee Road
Singapore 619702
phone (65) 6887 6300
fax (65) 6265 5125/6261 4929

Taiwan

Parker Hannifin Taiwan Co., Ltd
No. 40, Wuchiuan 3rd Road
Wuku Industrial Park
Taipei County, Taiwan 248
ROC
phone 886 2 2298 8987
fax 886 2 2298 8982

Thailand

Parker Hannifin (Thailand) Co., Ltd.
1023, 3rd Floor, TPS Building,
Pattanakarn Road,
Suanluang, Bangkok 10250
Thailand
phone (66) 02717 8140
fax (66) 02717 8148

UK

Parker Hannifin Ltd.
Tachbrook Park Drive
Tachbrook Park
Warwick CV34 6TU
phone +44 (0) 1926 317970
fax +44 (0) 1926 317980

USA

**Parker Hannifin Electromechanical
Automation Division Main Office/
Compumotor**
5500 Business Park Drive
Rohnert Park, CA 94928 USA
phone (707) 584 7558
(800) 358 9070
fax (707) 584 8015
email emn_support@parker.com

**Parker Hannifin Electromechanical
Automation Division/Daedal**
1140 Sandy Hill Road
Irwin, PA 15642
phone (724) 861 8200
(800) 245 6903
fax (724) 861 3330
email ddlcat@parker.com

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Parker Hannifin Corporation
Electromechanical Automation, N.A.
135 Quadral Drive
Wadsworth, OH 44281 USA
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Email: ipsquotes@parker.com
emn_support@parker.com
www.parkermotion.com/IPS

