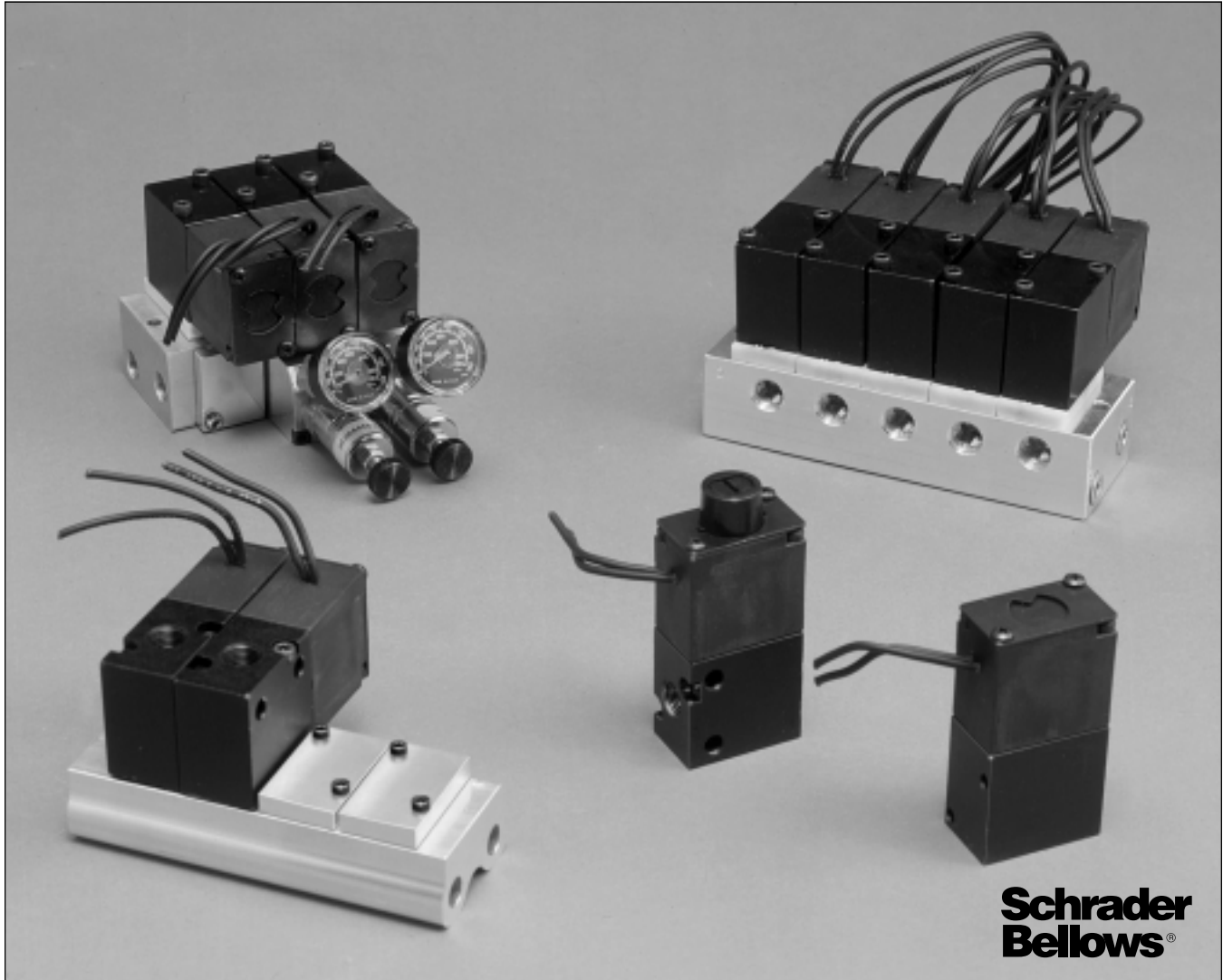


**MicroKing**  
**Air Control Valves**  
**3-Way Direct Acting**  
**.19 Cv – M5, 1/8" Port**

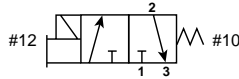
*Section C*



Basic Valve Functions .....	2	Subbase Bar Manifolds .....	7
MicroKing Series Basic Features .....	3	IEM Sandwich Regulator .....	8
Common Part Numbers .....	4	Subbase Manifold Regulator .....	9
Model Number Index .....	5	Technical Information .....	10
IEM Bar Manifolds .....	6	Dimensions .....	11-12

**Bold text part numbers are standard.**  
Standard text part numbers may have longer lead times.

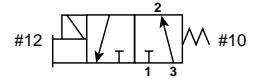
### 3-Way, 2-Position, Normally Closed



*De-energized position* – Solenoid #12 de-energized.  
 Pressure at inlet port 1 blocked, outlet port 2 connected to exhaust port 3.

*Energized position* – Solenoid #12 energized.  
 Pressure at inlet port 1 is connected to outlet port 2, exhaust port 3 is blocked.

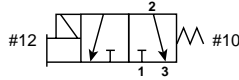
### 3-Way, 2-Position, Normally Open



*De-energized position* – Solenoid #12 de-energized.  
 Pressure at inlet port 3 connected to outlet port 2, exhaust port 1 is blocked.

*Energized position* – Solenoid #12 energized.  
 Pressure at inlet port 3 blocked, outlet port 2 connected to exhaust port 1.

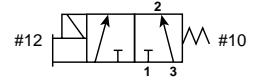
### 3-Way, 2-Position, Diverter



*De-energized position* – Solenoid #12 de-energized.  
 Pressure at inlet port 2 connected to outlet port 3. Port 1 is blocked.

*Energized position* – Solenoid #12 energized.  
 Pressure at inlet port 2 is connected to outlet port 1. Port 3 is blocked.

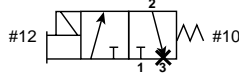
### 3-Way, 2-Position, Selector



*De-energized position* – Solenoid #12 de-energized.  
 Pressure at inlet port 1 is blocked. Pressure at inlet port 3 is connected to outlet port 2.

*Energized position* – Solenoid #12 energized.  
 Pressure at inlet port 1 is connected to outlet port 2. Pressure at port 3 is blocked.

### 2-Way, 2-Position, Normally Closed

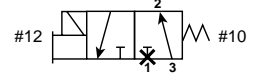


*De-energized position* – Solenoid #12 de-energized.  
 Pressure at inlet port 1 blocked, port 2 is connected to port 3, which is plugged.

*Energized position* – Solenoid #12 energized.  
 Pressure at inlet port 1 is connected to outlet port 2. Port 3 is blocked.

\* Plug port 3.

### 2-Way, 2-Position, Normally Open



*De-energized position* – Solenoid #12 de-energized.  
 Pressure at inlet port 3 is connected to outlet port 2. Port 1 is blocked.

*Energized position* – Solenoid #12 energized.  
 Pressure at inlet port 3 is blocked. Port 2 is connected to port 1, which is plugged.

\* Plug port 1.

MicroKing Subbase Valve on 3-Port Subbase Bar Manifold is available as 3-Way NC and 3-Way NO. When choosing either an NC or NO valve, the valve is the same but the selector gasket is different to give the desired function.

**Flow Characteristics**

- MK 3-Way: .19 Cv

**Operating Pressure**

- Vacuum to 125 PSIG

**Ports**

- 1/8" NPT, BSPP 'G'
- M5
- 1/4 Inch Tube

**Mounting**

- Inline – Universal Function
  - NC, NO
  - Selector, Diverter
- IEM Bar Manifold
- Subbase Valve
  - NC, NO, Selector
- 3-Port Subbase Aluminum Bar Manifold

**Solenoids**

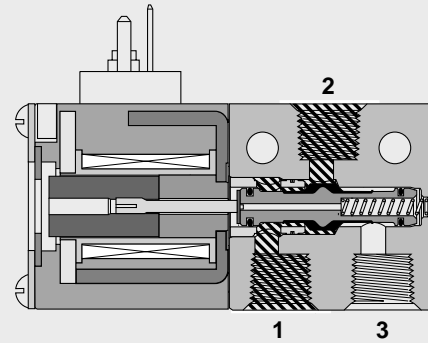
- 4.8 Watt
- Continuous Duty Rated
- 24" Grommet, 15mm 3-Pin DIN 43650C
- 12VDC to 240VAC

**Balanced Poppet**

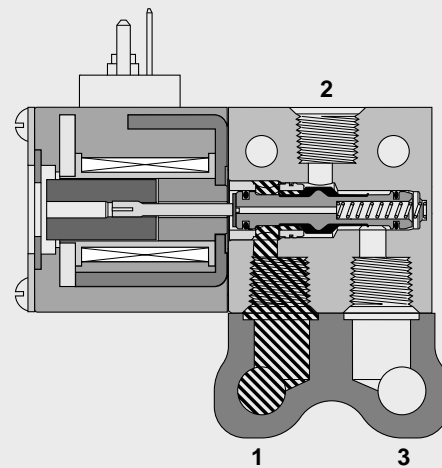
- Buna-N
- Fluorocarbon

**Certification/Approval**

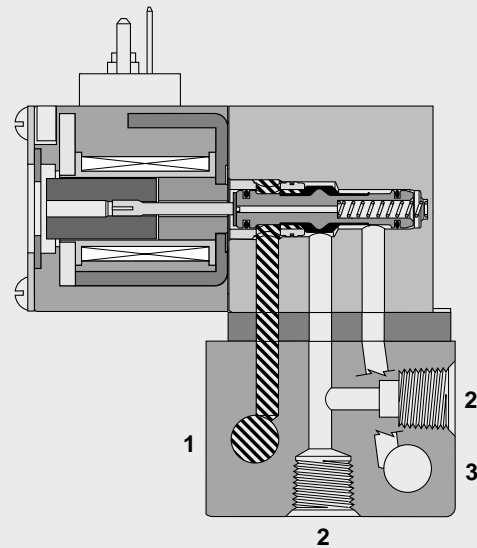
- Approved to be CE marked



**Inline Valve**  
 Shown Energized



**Inline Valve with IEM Bar Manifold**  
 Shown De-Energized

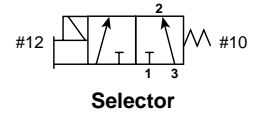
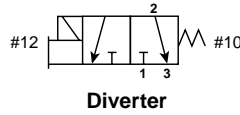
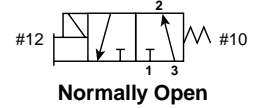
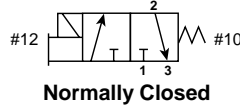
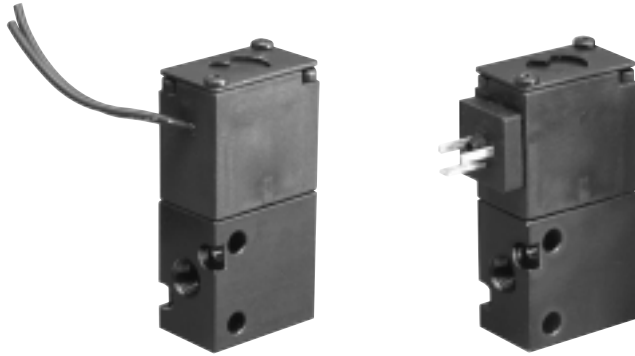


**Subbase Valve on 3-Ported Subbase Bar Manifold**  
 Shown De-Energized

 Pressure  Exhaust

**C**

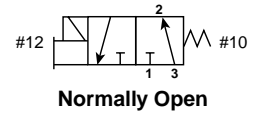
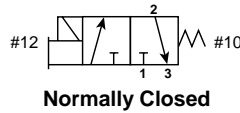
**3-Way Universal Inline**



	24" Grommet	3-Pin 15mm DIN 43650C	Voltage	Port Size
<b>MK</b>	<b>MKH0NBG45A</b>	<b>MKH0NB545A</b>	12VDC	1/8" NPT
	<b>MKH0NBG49A</b>	<b>MKH0NB549A</b>	24VDC	
	<b>MKH0NBG53A</b>	<b>MKH0NB553A</b>	120VAC	
	<b>MKHFNBG45A</b>	<b>MKHFNB545A</b>	12VDC	1/4" Tube Port #2
	<b>MKHFNBG49A</b>	<b>MKHFNB549A</b>	24VDC	1/8" NPT
	<b>MKHFNBG53A</b>	<b>MKHFNB553A</b>	120VAC	Port #1 & #3

**Note:** All units with non-locking flush override.

**3-Way Subbase Mount**

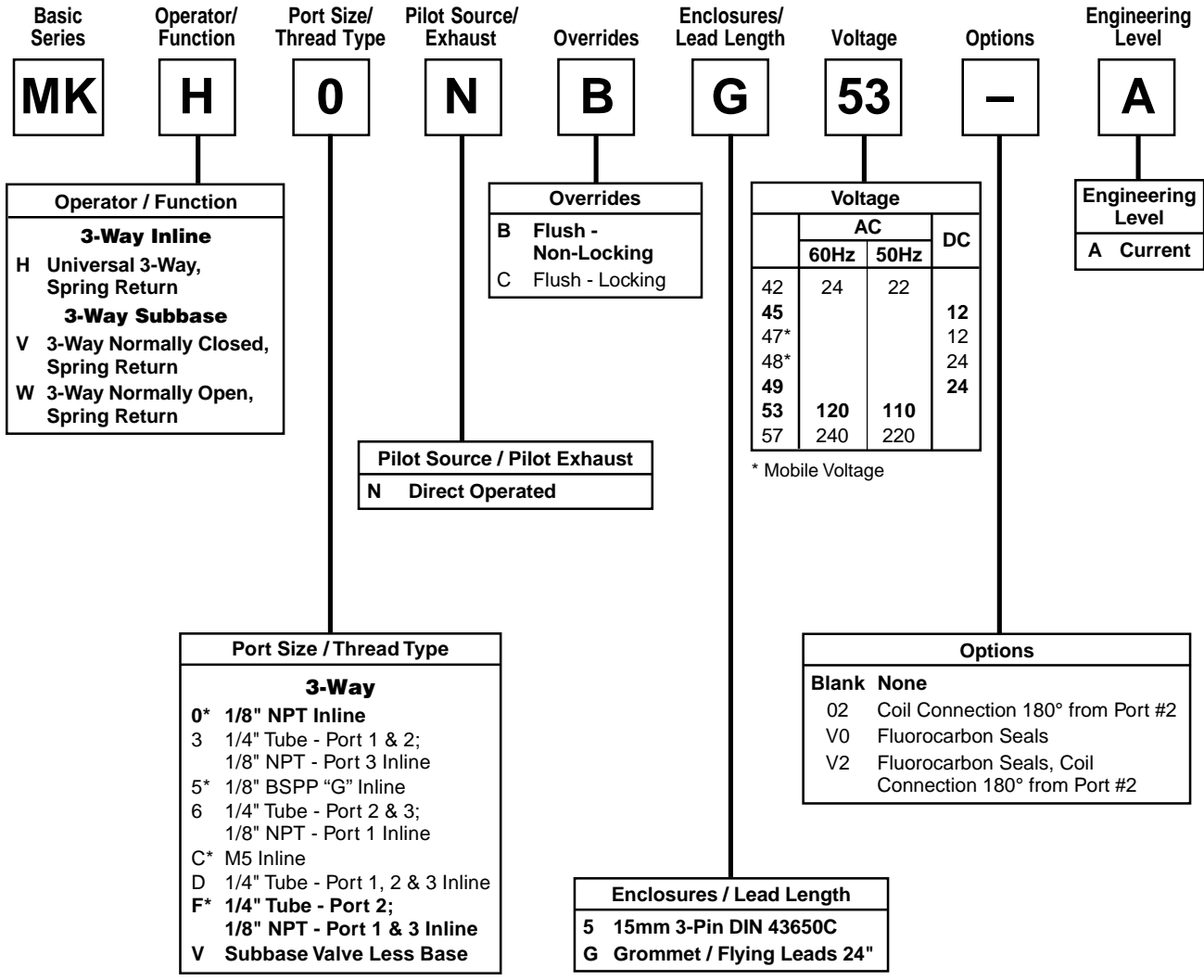


	24" Grommet	3-Pin 15mm DIN 43650C	Voltage	Function
<b>MK</b>	<b>MKVVBG45A</b>	<b>MKVVB545A</b>	12VDC	Normally Closed
	<b>MKVVBG49A</b>	<b>MKVVB549A</b>	24VDC	
	<b>MKVVBG53A</b>	<b>MKVVB553A</b>	120VAC	
	<b>MKWVBG45A</b>	<b>MKWVB545A</b>	12VDC	Normally Open
	<b>MKWVBG49A</b>	<b>MKWVB549A</b>	24VDC	
	<b>MKWVBG53A</b>	<b>MKWVB553A</b>	120VAC	

**Note:** All units with non-locking flush override. Valve includes mounting bolts & appropriate NC or NO selector gasket.  
 Subbase valves must be used on PSEK & PSFK Bar Manifolds (Page 7).

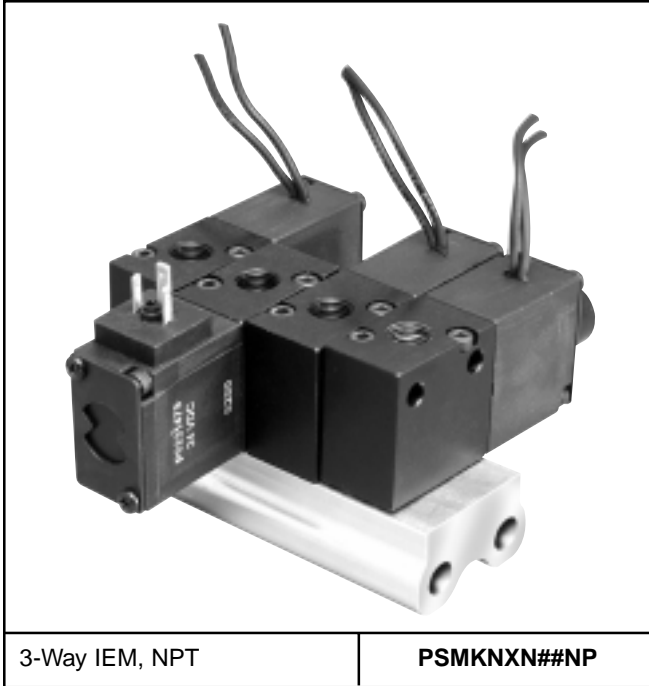
**MicroKing BOLD OPTIONS ARE STANDARD**

**C**



\* Available on IEM Manifold

Subbase valves with option '02' or 'V2' will not mount on Subbase Manifolds with the Regulator Option.  
 Inline valves with option '02' or 'V2' will not mount on IEM Manifolds with Sandwich Regulators when the valve is configured for Normally Closed function.



- IEM Bar Manifold uses standard Universal Inline MicroKing Valves.
- Standard Manifold allows mounting of Normally Closed and Normally Open Valves simultaneously by rotating valve mounting as shown in picture.
- Manifolds available in all station lengths 2 thru 20.
- Manifold Kit includes o-rings and bolts.

**Accessories**

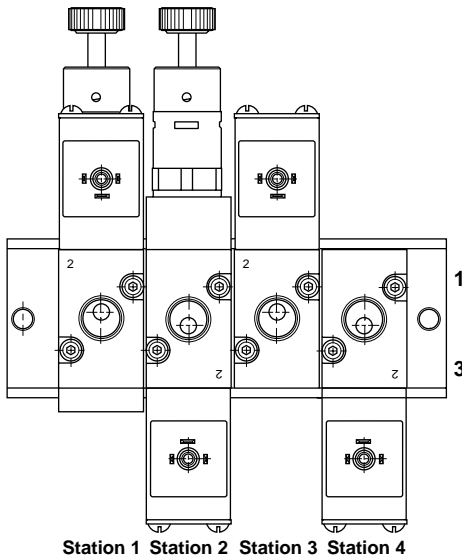
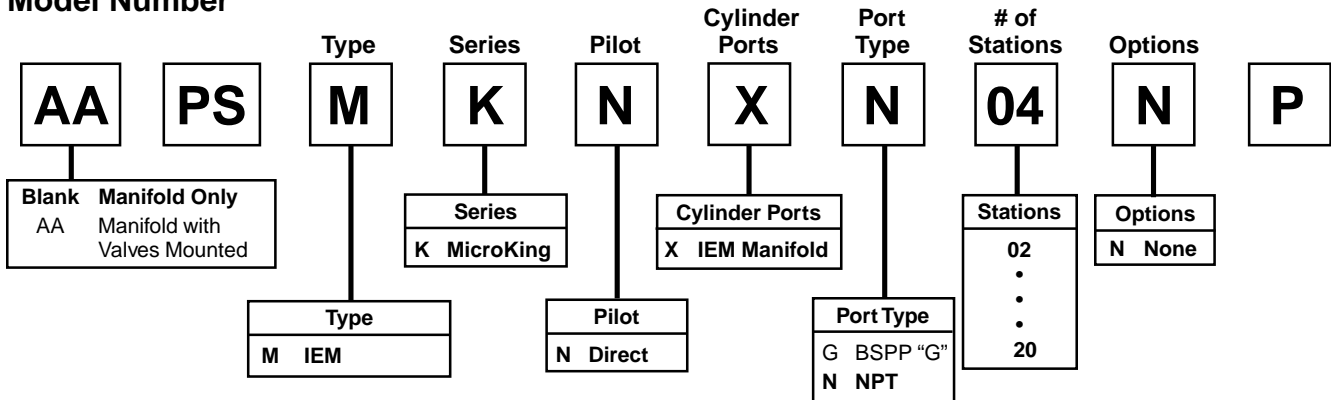
- Blank Plate - Universal 1/8" NPT ..... PS2166P
- Blank Plate - Universal 1/8" BSPP "G" ..... PS2167P
- Blank Plate ..... PS2169P
- DIN Rail Clip - IEM / Subbase (2) ..... PS2190P

**Replacement Kits**

- IEM Valve/Manifold O-ring Kit (10) ..... PS2184P
- IEM Valve/Manifold Bolt Kit (10) ..... PS2187P

## – stations 02 to 20

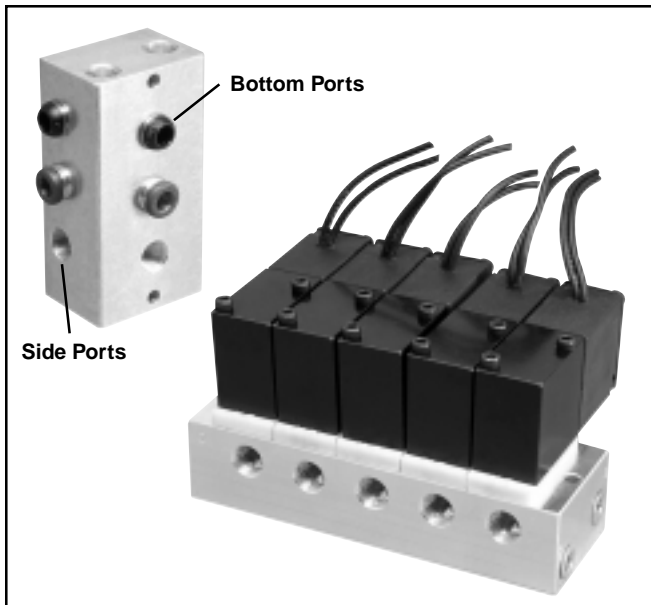
**Model Number**



**How to Order an Add-A-Fold Assembly**

Item	Qty	Part Number
001	1	AAPSMKNXN04NP
002	4	MKH0NB549A - Station 1, 3 - Normally Closed - Station 2, 4 - Normally Open
003	2	PS2130166P* - Station 1, 2

\* Regulator Gauges included but not assembled.  
 When ordering Add-A-Folds, list valves left to right when looking at the Port #3 side of the manifold.  
 Valve Function NC or NO and Regulator / Blank Plate location must be specified.



3-Way, Subbase, NPT	<b>PSFKN1N##NP</b>
3-Way, Subbase, 1/4" Tube Port #2	<b>PSFKNBN##NP</b>

## – stations 02 to 20

- 3-Ported Subbase Bar Manifold uses Subbase mount MicroKing Valves.
- Standard Manifold allows mounting of Normally Closed and Normally Open Valves simultaneously by use of selector gaskets.
- Bar Manifold Regulator Option is available with Option Code 'R'.



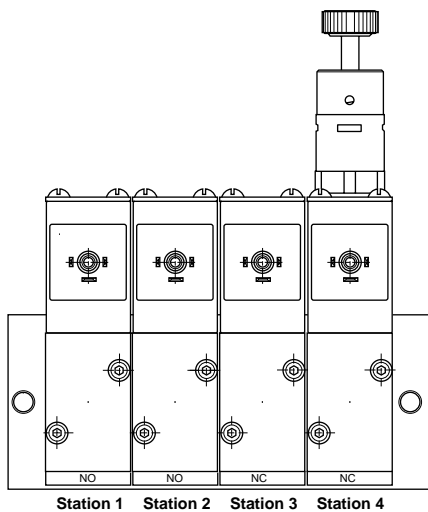
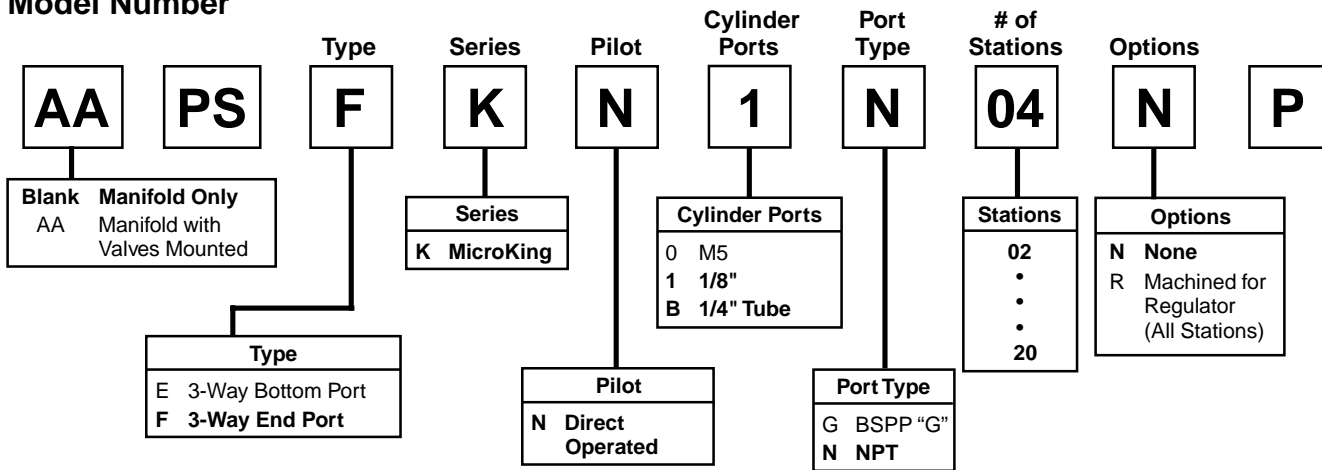
**Accessories**

Regulator Cover Plate .....	PS2109P
DIN Rail Clip - IEM / Subbase (2) .....	PS2190P
Blank Plate (Includes PS2106P) .....	PS2194P

**Replacement Kits**

Selector Gasket NC .....	PS2105P
Selector Gasket NO .....	PS2106P
Subbase Valve / Manifold Bolt Kit (10) .....	PS2188P

**Model Number**



**How to Order an Add-A-Fold Assembly**

Item	Qty	Part Number
001	1	AAPSFKN1N04RP
002	2	MKVVNB549A - Station 1, 2
003	2	MKVVNB549A - Station 3, 4
004	3	PS2109P - Station 1, 2 & 3
005	1	PS2131166P* - Station 4

\* Regulator gauges included but not assembled.  
 When ordering Add-A-Folds, list valves left to right when looking at the Port 2 side of the manifold.  
 Regulator / Cover Plate / Blank Plate location must be specified.

## IEM Sandwich Regulator

- Pressure regulation for individual valves mounted on IEM Bar Manifold.
- Same Sandwich Regulator used for Normally Closed and Normally Open Valves.

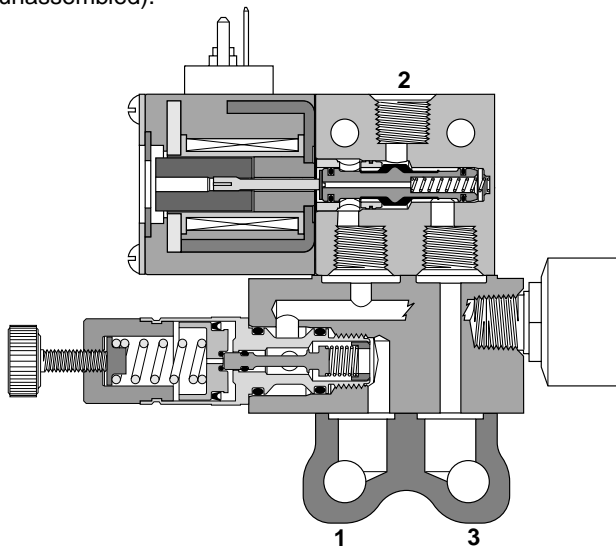
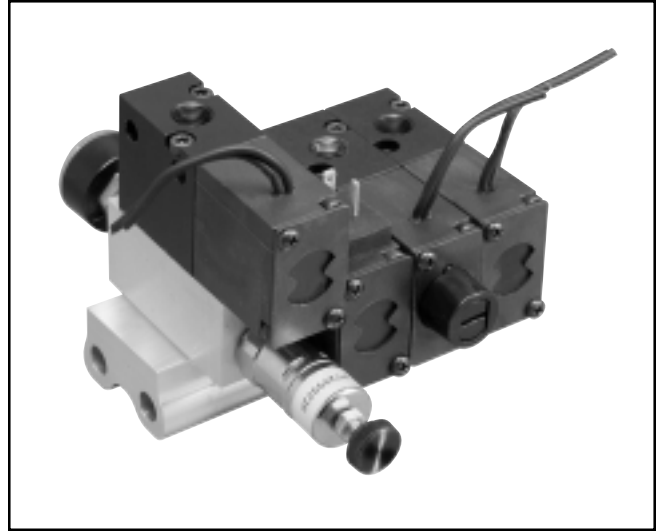
	Common Port with Gauge *	Common Port without Gauge	Cv
60 PSI	PS2130155P	PS2130122P	.11
125 PSI	PS2130166P	PS2130133P	

\* Gauge is 60 PSI or 160 PSI, depending on pressure range.

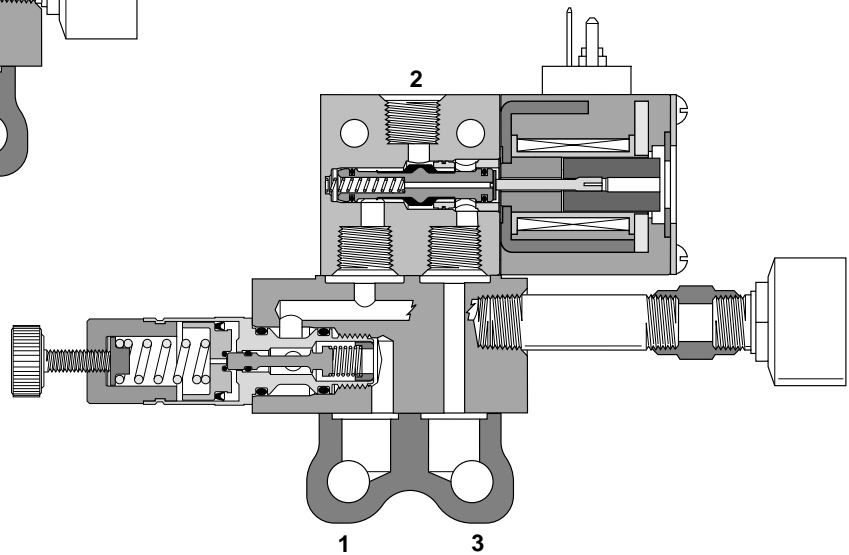
When mounting Regulators side-by-side or with Normally Open valves, gauges must be staggered. Brass adapters are listed at the bottom of the page.

Regulator without gauge includes 1/8" gauge plug.

Regulator with gauge includes 1/8" gauge plug & gauge (unassembled).



**Normally Closed**



**Normally Open**

**Brass Adapters for Gauge –**

1/8" to 1/8" Female Coupling ..... 207P-2  
 1/8" Male Pipe Nippled 1.5" .... 215PNL-2-15  
 1/8" Male to Female Adapter ..... 222P-2-2

1/8" to 1/8" 45° Female Elbow ..... 2201P-2-2  
 1/8" to 1/8" 90° Female Elbow ..... 2200P-2-2

**Gauge 3/4" Face (.91" OD) –**

0-60 PSI ..... PS3451060P  
 0-160 PSI ..... PS3451160P



## Subbase Manifold Regulator

- Pressure regulation for individual valves mounted on 3-Port Subbase Bar Manifold.
- Use Manifold with Option Code 'R' – all stations prepared to accept Regulator Kits or Cover Kits.
- Regulator Kits and Cover Kits ordered separately.

	Common Port with Gauge *	Common Port without Gauge	Cv
60 PSI	PS2131155P	PS2131122P	.11
125 PSI	PS2131166P	PS2131133P	

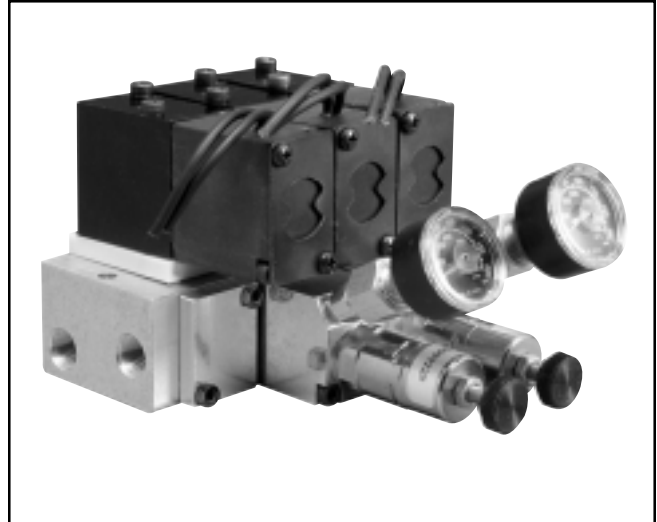
\* Gauge is 60 PSI or 160 PSI, depending on pressure range.

When mounting Regulators side-by-side, gauges must be staggered. Brass adapters are listed at the bottom of the page.

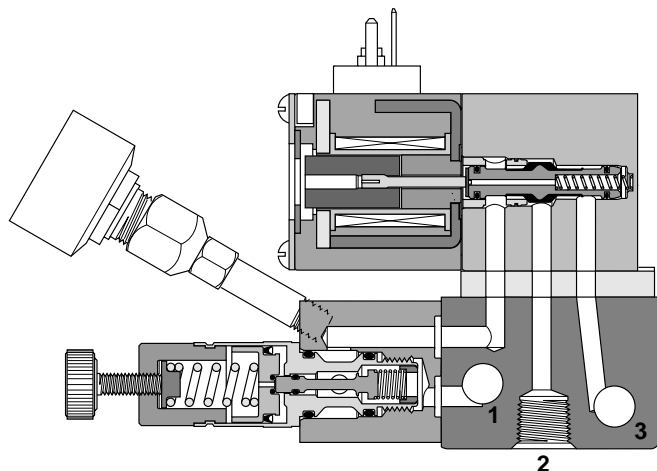
Regulator without gauge includes M5 gauge plug.

Regulator with gauge includes M5 gauge plug, 10-32x1/8" swivel fitting & gauge (unassembled).

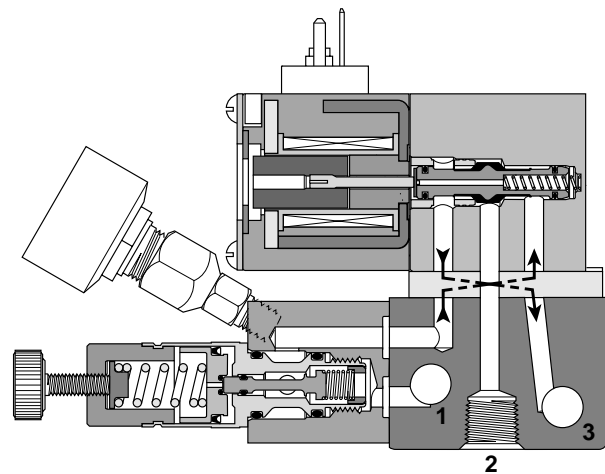
Regulator Cover Plate ..... PS2109P



**C**



**Normally Closed**



**Normally Open**

**Note:** Valve with Locking Override Option 'C' not available when Regulator Gauge is used.

**Brass Adapters for Gauge –**

- #10-32 Male to #10-32 Female Extender (Qty. 10) ..... PS2195P
- #10-32 Male to 1/8" Female Straight Swivel (Qty. 5) ..... PS2196P

**Gauge 3/4" Face (.91" OD) –**

- 0-60 PSI ..... PS3451060P
- 0-160 PSI ..... PS3451160P

## Performance Information

Electrical					Flow			
Code	Voltage		Power Consumption	Holding Current	Cv Chart - Buna-N (Fluorocarbon)			
	AC				(W / VA)	(Amps)	Inline	
	60Hz	50Hz	M5	1/8", 1/4" Tube			M5	1/8", 1/4" Tube
42	24	22	—	5.4VA	.228			
45	—	—	12	4.8W	.401	.15 (.11)	.19 (.15)	.11 (.11)
47*	—	—	12	4.3W	.402			
48*	—	—	24	4.9W	.204	.15 (.11)	.15 (.15)	.11 (.11)
49	—	—	24	4.9W	.203			
53	120	110	—	5.4VA	.045	.15 (.11)	.19 (.15)	.11 (.11)
57	240	230	—	6.0VA	.025			

**Note:** Voltage Tolerance: +10 / -15%

Cv tested per ANSI / (NFPA) T3.21.3

\* For mobile voltage applications: +25 / -30%

## Response Time

Code	Voltage	0 Cu. In. Test Chamber		12 Cu. In. Test Chamber	
		Fill	Exhaust	Fill	Exhaust
49	24VDC	.025	.018	.335	.374
53	120VAC	.021	.029	.309	.389

**Average Fill Time (Seconds):** With 100 PSIG supply, time required to fill from 0-90 PSIG and exhaust from 100 PSIG to 10 PSIG is measured from instant of energizing, or de-energizing solenoid. Times shown are average.

Tested per ANSI / (NFPA) T3.21.8.

## Operating Pressure

Vacuum to 125 PSIG

## Temperature Rating

Buna-N

5°F to 120°F (-15°C to 49°C)

Fluorocarbon

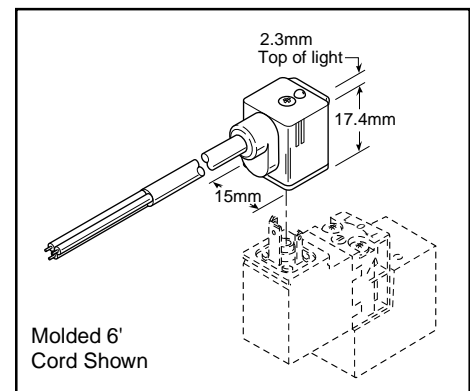
5°F to 140°F (-15°C to 60°C)

## 15mm 3-Pin DIN 43650C

Connector	Connector with 6' (2m) Cord	Description
PS2932P	PS2932JP	Unlighted
PS294675P	PS2946J75P*	Light – 12VAC or DC
PS294679P	PS2946J79P*	Light – 24VAC or DC
PS294683P	PS2946J83P*	Light – 110/120VAC
PS294687P	N/A	Light – 240/230VAC

\* LED with surge suppression.

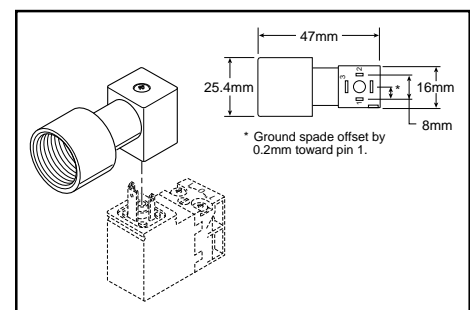
**Note:** Max ø6.5mm cable size required for connector w/o 6' (2m) cord.



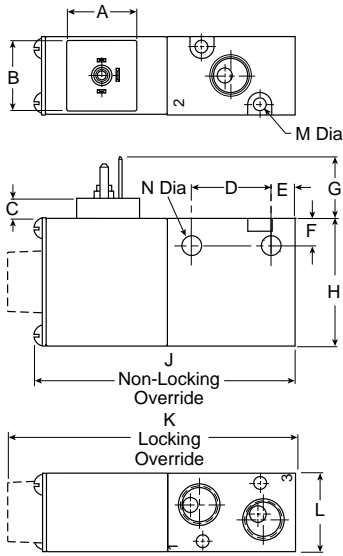
## 15mm 3-Pin DIN 43650C to 1/2" Conduit

Connector	Description
PS2998P	1/2" NPTF Conduit – Unlighted with 3' (1m) Leads 20 AWG Wire

**Note:** Rated up to 250VAC or VDC; 6 Amps



**C**



Max. Hex Size (Across Flats)  
 For Inlet / Exhaust Ports = 9/16" (14mm)

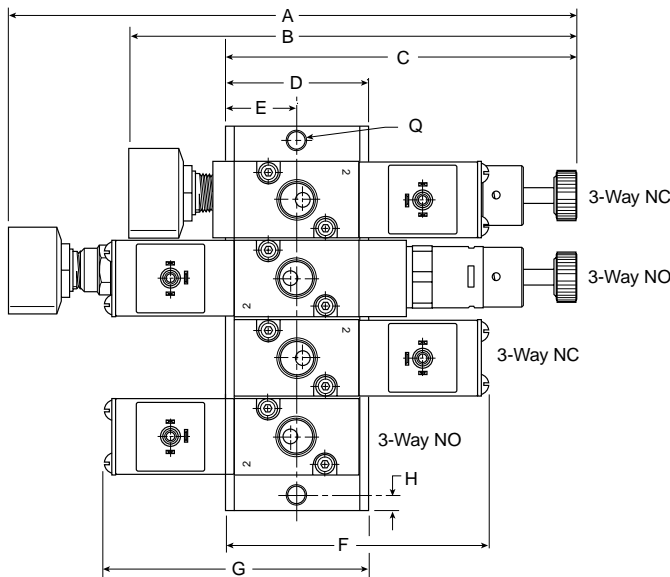
**MicroKing 3-Way Inline**

<b>A</b>	<b>B</b>	<b>C*</b>	<b>D</b>	<b>E</b>
.71 (18)	.71 (18)	.20 (5)	.79 (20)	.24 (6)
<b>F</b>	<b>G*</b>	<b>H</b>	<b>J</b>	<b>K</b>
.28 (7)	.63 (16)	1.30 (33)	2.60 (66)	2.87 (73)
<b>L</b>	<b>M</b>	<b>N</b>		
.79 (20)	.13 (3.3)	.20 (5)		

Inches (mm)

\* Dimensions C & G not applicable to grommet version.

Weight ..... 4.5 oz (.12 Kg)



Max. Hex Size (Across Flats)  
 For Inlet / Exhaust Ports = 3/4" (18mm)

**MicroKing IEM Manifold**

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
5.99 (152) <sup>§</sup>	4.53 (115)	3.70 (94)	1.48 (38)	.74 (19)
<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>	<b>K</b>
2.68 (68)	2.68 (68)	.20 (5)	3.03 (77)	2.13 (54)
<b>L</b>	<b>M</b>	<b>N</b>	<b>P</b>	<b>Q</b>
.83 (21)	.81 (20.5)	.42 (10.8)	.82 (20.8)	Ø .26 (6.8)

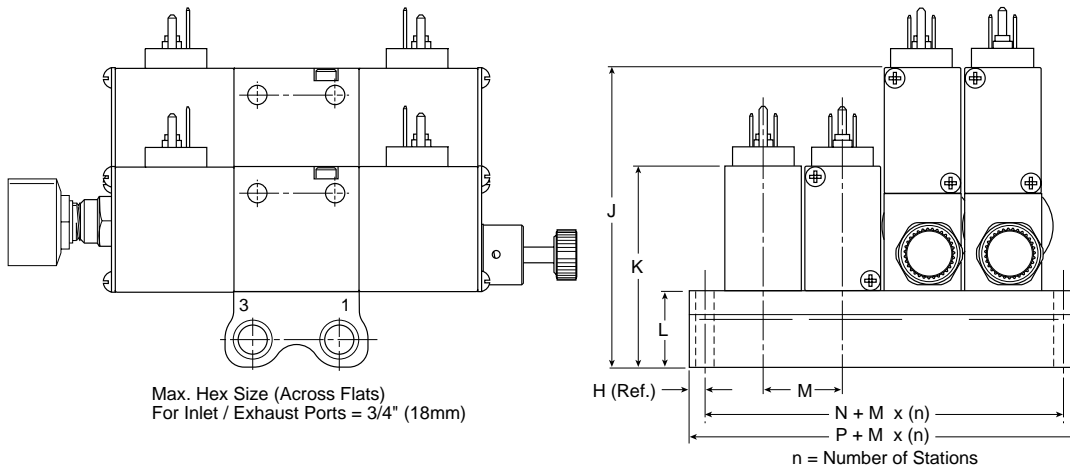
§ - 3mm

Weight

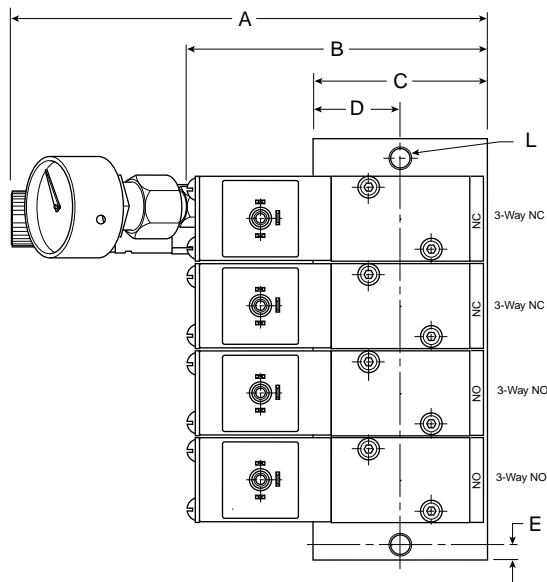
2 Station ..... 2.5 oz (.07 Kg)

Each Additional ..... 1 oz (.03 Kg)

Regulator w/Gauge .. 4.5 oz (.12 Kg)



n = Number of Stations



**MicroKing 3-Way Subbase**

<b>A</b> 4.33 (110) <sup>†</sup>	<b>B</b> 2.74 (70) <sup>‡</sup>	<b>C</b> 1.57 (40) <sup>§</sup>	<b>D</b> .79 (20)	<b>E</b> .20 (5)
<b>F</b> 2.58 (66)	<b>G</b> 1.10 (28)	<b>H</b> .81 (20,5)	<b>J</b> .38 (9,7)	<b>K</b> .77 (19,7)
<b>L</b> Ø .26 Ø (6.8)				

Inches (mm)

<sup>†</sup> ± 5mm

<sup>‡</sup> ± 3mm

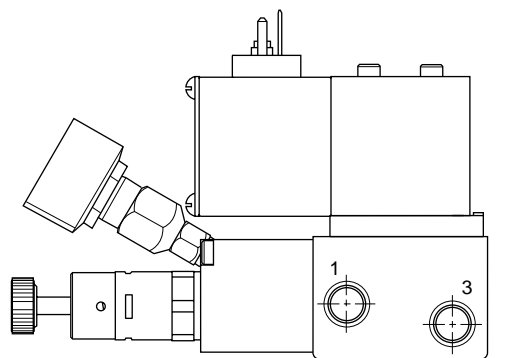
<sup>§</sup> - 3mm

Weight

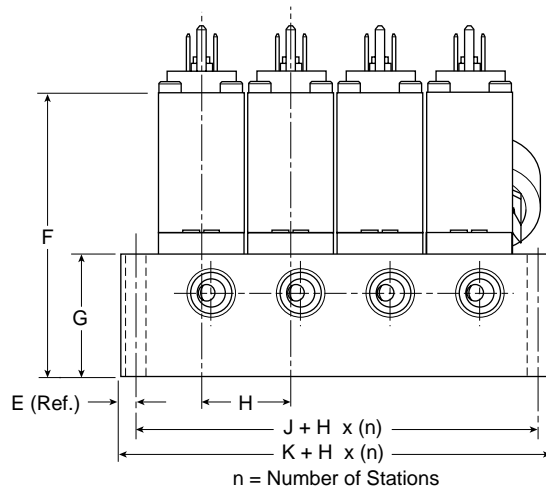
2 Station ..... 5.0 oz (.14 Kg)

Each Additional ..... 1.8 oz (.05 Kg)

Regulator w/Gauge .... 3.5 oz (.1 Kg)



Max. Hex Size (Across Flats)  
 For Inlet / Exhaust Ports = 13/16" (20mm)



**Note:** Valve options '02' & 'V2' - Solenoid Rotated 180° -  
 NOT available with regulator option.