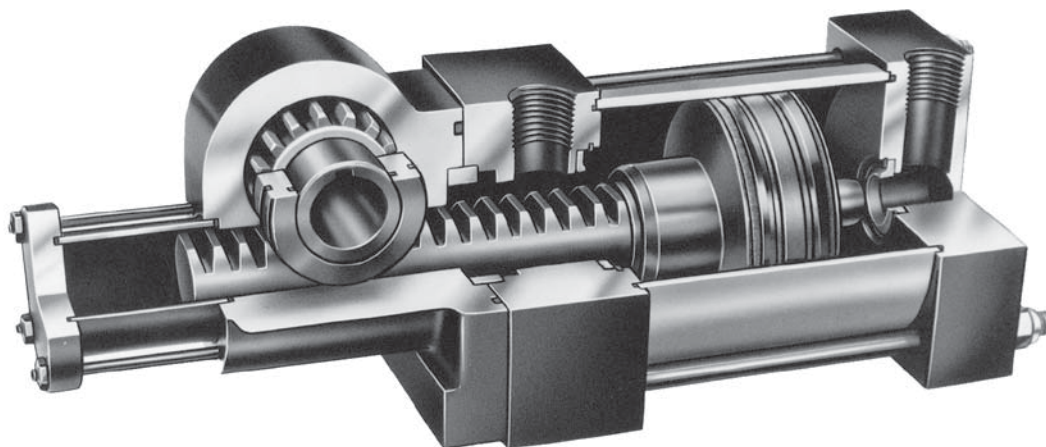




B671 / F672 Series

Heavy Duty Pneumatic

Rack and Pinion Rotary Actuator



*B671 and F672 Series Actuators
utilize the durable and time-proven
A2 Series cylinder design as the
power source.*

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PV

PRN(A)

WR

PTR

B671

HP



H53

800.696.6165

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Parker Hannifin Corporation
Pneumatic Division
Wadsworth, Ohio
www.parker.com/pneumatics

Bearings

High quality bronze bearings reduce friction and Break-away pressure while providing substantial pinion support.

Keyway

At 12:00 position of mid-stroke of actuator.

Piston Seals

Low friction lipseals are fully dynamic and self-compensating for no-leak service and long life at all operating pressures.

End Caps

Precision machined from cold rolled steel to exacting NFPA specifications, then black oxide coated for greater reliability and durability.

Ports

Full area ports provide unrestricted flow for maximum operating speeds.

Optional Cushions

Provide maximum performance and reduced shock in all applications. The floating polyurethane cushion seal provides maximum sealing effectiveness as the spear enters the cushion, yet allows fast "out-stroke" action by functioning as a springless check valve. Full adjustment of the cushion is obtained by the flush mounted adjustment needle.

Rack & Pinion

Chromium alloy steel with flame hardening ensures maximum shock resistance and strength of the rack & pinion.

Housing

A high strength aluminum housing is hard anodized for superior wear and corrosion resistance.

Tie Rods

High tensile steel has precision rolled threads and black oxide coating for greater strength and fatigue resistance.

Side Tapped Mounting Holes
Front and rear heads**Cylinder**

Precision finished aluminum alloy tubing is hard anodized for maximum wear resistance and long seal life.

Female Shaft

Designed for direct, on-shaft installation, eliminating the need for couplings and other connections.

Pistons

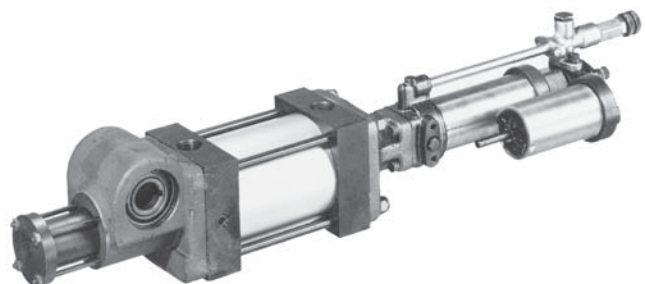
Are one piece steel for high strength and piloted to the rack assembly to ensure concentricity. A nonmetallic wear strip is employed to provide a non-scoring bearing surface. This high quality assembly eliminates friction, wear and galling while providing smooth operation.

Hydro-Check Combination

The Rotary Actuator/Hydro-Check combination consists of the F672 Series Actuator axially linked to an F172-2 or F172-3 Series Hydro-Check. The Hydro-Check is a precision built adjustable hydraulic resistance unit designed to provide controlled feed rates. When coupled to an actuator, excellent rotational control is attained.

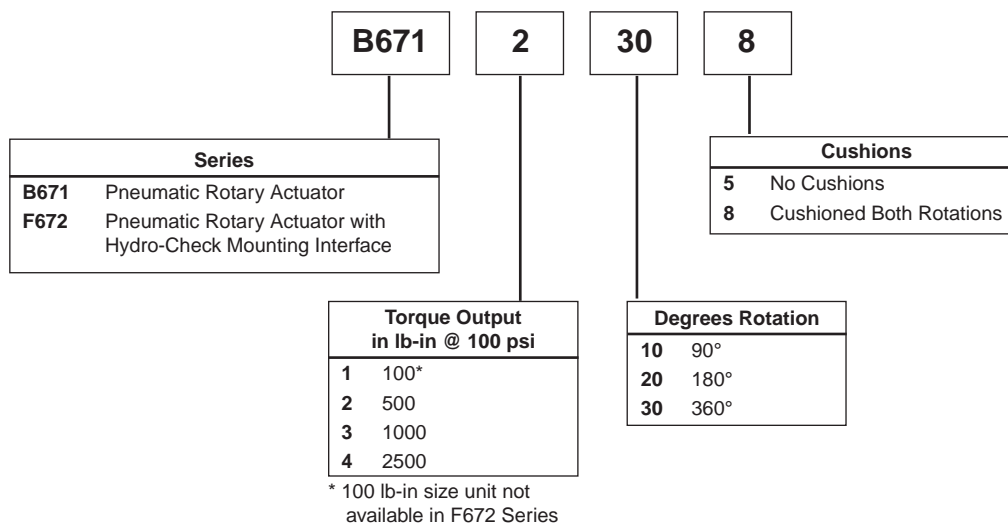
The Rotary Actuator / Hydro-Check combination provides consistent torque with adjustable hydraulic resistance for a smooth controlled rotational feed rate. Axial coupling of these units eliminates eccentric loading of component parts.

These actuators are available in three torque ranges to comply with varying load requirements. The Hydro-Check is capable of checking axial loads to 3,000 lbs. and is available with many controlling options (see Ordering Information). For information on Hydro-Checks not shown in this catalog, consult factory.



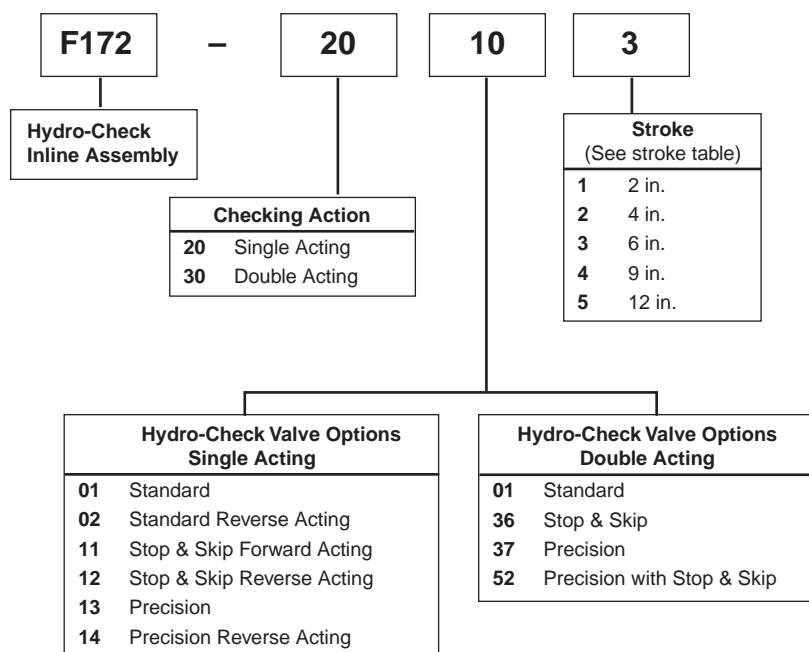
Model Code and Ordering Information

Example: B6712308



F172 Inline Hydro-Check Ordering Information For Use with F672 Rotary Actuator

Example: F172-20103



Hydro-Check Stroke Table

Model	Nominal Torque Output (lb-in)	Rotation Range (°)	Hydro-Check Stroke Required (in)
2	500	30-140	2
		141-284	4
		285-360	6
3	1000	30-112	2
		113-227	4
		228-341	6
		342-360	9
4	2500	30-74	2
		75-151	4
		152-227	6
		228-342	9
		343-360	12

Notes:

- Hydro-Check must be ordered separately.
- When both Actuator and Hydro-Check are ordered from Actuator Division, they will be assembled together.
- Specify voltage with stop and skip function - 12, 115, 220 or 440 VAC.
- For availability of other Hydro-Check options not listed here, please consult factory.

Overview

The B671 Series Pneumatic Rotary Actuator is designed to provide force in a reciprocating, rotational motion. It is ideal for any application requiring constant torque through a rotational distance: rotating or lifting heavy objects, positioning or bending operations.

The F672 Series utilizes the same high quality construction found on the B671 Series with the addition of a coupling arrangement for a Hydro-Check. An F672 / Hydro-Check assembly will provide controlled feed rates and excellent rotational control with pneumatic power through adjustable hydraulic resistance.

The B671 / F672 Series Pneumatic Rotary Actuator can be powered by shop air or inert gas. The actuators are pre-lubricated at assembly with NLG1 grade 2 grease with outstanding oxidation stability and corrosion resistant additives. This pre-lubrication is intended for use in pneumatic systems where airline lubrication is not used. However, to assure maximum service life of the cylinder, the air supply should be properly filtered and moisture free.

The pneumatic rotary actuator can be controlled by any conventional 4-way valve - hand, foot, mechanically or electrically controlled. All four sizes of rotary actuators are designed for direct on-shaft installation - no flexible couplings, cam and roller or chain and sprocket combinations are required.

Specifications

- Maximum Operating Pressure: 140 psi
- Standard Rotations: 90°, 180°, 360°
- Output Torque @ 100 psi: 100 lb-in to 2500 lb-in
- Maximum Break-away Pressure: 10 psi
- Mounting Orientation: Unrestricted
- Operating Temperature: 0° F to 180° F
- Leakage: External: 0 cfm
Internal: 0 cfm
- Theoretical Timing: Keyway located at 12:00 position at mid-stroke position of actuator

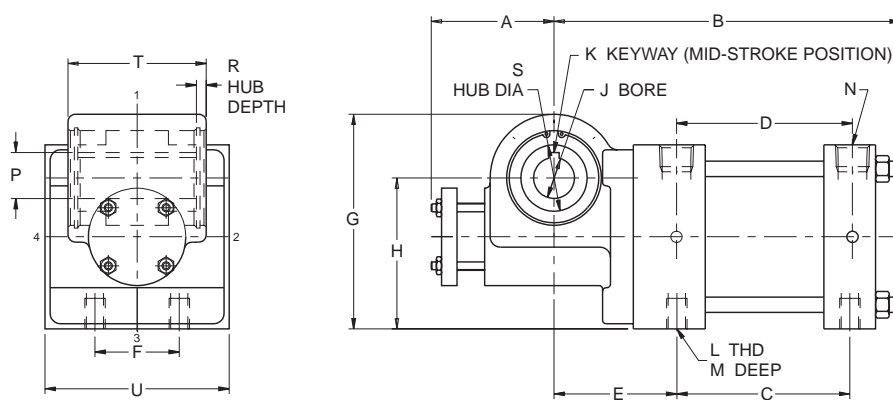
B671 / F672 Series Cushion Option

The standard cushions operate at the end of rotation to decelerate the actuator. A floating polyurethane cushion seal provides maximum sealing effectiveness going into the cushion. This durable material ensures millions of trouble free cycles with no wear. The cushion seal also acts as a check valve, allowing full air flow around the seal during outstroke, providing excellent break-away. Cushions, when so ordered, are installed both directions. They are available on both the B671 and F672 Series.

Quick Reference Data

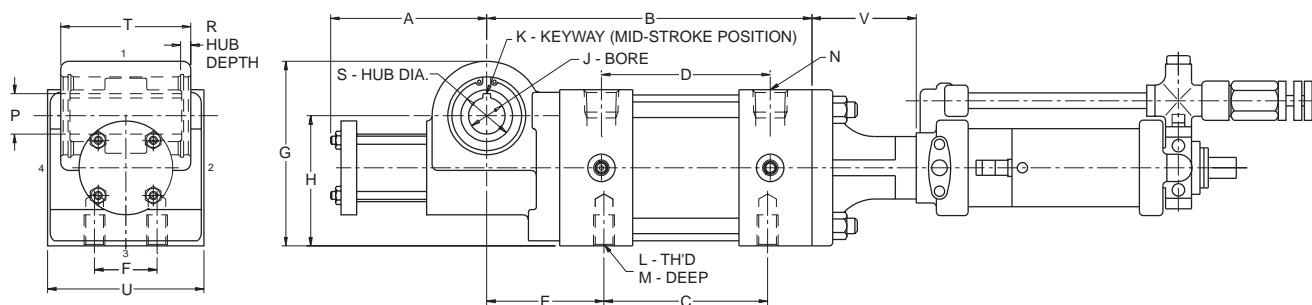
Model	Cylinder Bore (in)	Actual Output Torque (lb-in) versus Specified Pressure (PSI)				Displacement per Degree Rotation (in ³ /°)	Maximum Angular Backlash (minutes)	Maximum Rotational Tolerance (°)
		50	75	100	125			
1	1-1/2	50	75	100	125	0.021	40	-0, +5
2	3-1/4	250	375	500	625	0.116	40	-0, +4
3	4	500	750	1000	1250	0.219	40	-0, +3
4	5	1250	1875	2500	3125	0.514	30	-0, +2

B671 Series



Model	Rotation	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U
1	90°	2.16	6.45	3.36	3.42														
	180°	3.35	7.53	4.44	4.50	2.19	0.62	2.94	1.92	0.500	0.12 x 1.31	1/4-20	0.38	3/8	0.560	0.16	1.00	1.69	2.00
	360°	5.35	9.68	6.60	6.66					0.502	1.31				0.570				
2	90°	2.50	7.95	3.92	3.99														
	180°	3.75	9.21	5.17	5.25	2.81	1.50	4.44	3.12	0.875	0.19 x 2.62	1/2-13	0.75	1/2	0.964	0.22	1.25	3.12	3.75
	360°	6.25	11.72	7.69	7.76					0.877	2.62				0.974				
3	90°	3.00	8.46	4.23	4.30														
	180°	4.56	10.03	5.80	5.87	3.00	2.06	5.25	3.69	1.000	0.25 x 2.88	1/2-13	0.75	1/2	1.117	0.24	1.62	3.38	4.50
	360°	7.96	13.17	8.94	9.01					1.002	2.88				1.127				
4	90°	3.56	10.51	5.28	5.35														
	180°	5.75	12.87	7.63	7.71	3.88	2.69	6.88	4.75	1.500	0.38 x 3.50	5/8-11	0.94	1/2	1.668	0.31	2.50	4.12	5.50
	360°	10.75	17.58	12.34	12.42					1.502	3.50				1.678				

F672 Series



F672 Actuator with Hydrocheck

Model	Rotation	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V
2	90°	2.50	7.80	3.92	4.05															
	180°	3.75	9.06	5.17	5.31	2.81	1.50	4.44	3.12	0.875	0.19 x 2.62	1/2-13	0.75	1/2	0.964	0.22	1.25	3.12	3.75	2.50
	360°	6.25	11.57	7.69	7.82					0.877	2.62				0.974					
3	90°	3.00	8.30	4.23	4.36															
	180°	4.56	9.87	5.80	5.93	3.00	2.06	5.25	3.69	1.000	0.25 x 2.88	1/2-13	0.75	1/2	1.117	0.24	1.62	3.38	4.50	2.50
	360°	7.96	13.01	8.94	9.07					1.002	2.88				1.127					
4	90°	3.56	10.22	5.28	5.41															
	180°	5.75	12.58	7.63	7.77	3.88	2.69	6.88	4.75	1.500	0.38 x 3.50	5/8-11	0.94	1/2	1.668	0.31	2.50	4.12	5.50	2.50
	360°	10.75	17.29	12.34	12.48					1.502	3.50				1.678					

B671 / F672 Series*	
Actuator Size (Cushioned or Non-Cushioned)	Seal Kit Number
100 lb-in	B732904
500 lb-in	B732905
1,000 lb-in	B732906
2,500 lb-in	B732907

* Does not include Hydro-Check Seal Kit

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