



PPR SERIES PISTON ACTUATOR



Features

Operation

Pneumatic piston actuator. Spring return or double acting. 70° or 90° rotation angle without the need for additional parts.

Air Pressure Supply

100 psig maximum.

Size and Torques

See tables 1 to 5.

Manual Operator (Optional)

Top handwheel for manual operation can be supplied.

Spring Range

Standard range: 25 - 50 psig

Main parts identification

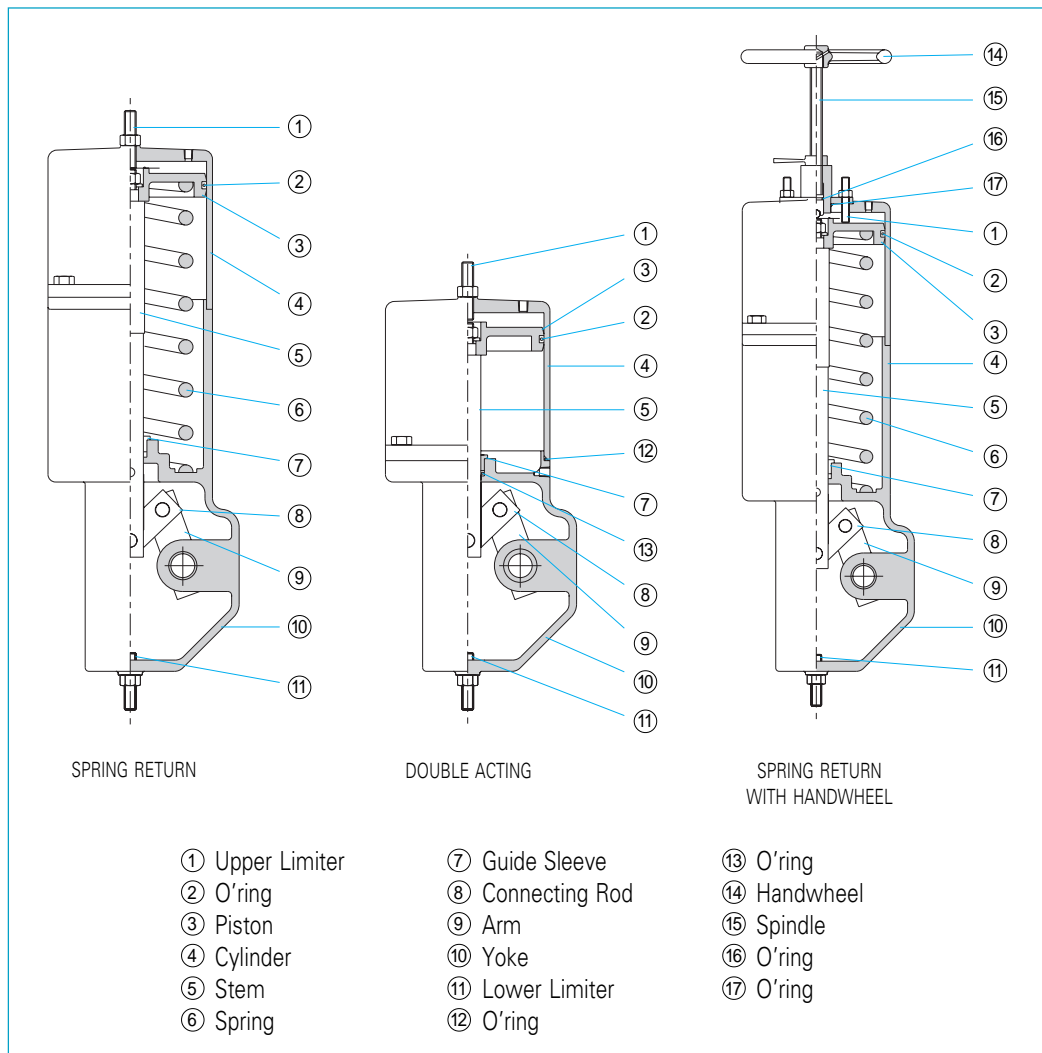


Table 1
Spring return actuator -
spring torque at the
start of the travel

ACTUATOR SIZE	TORQUE (lb.-in.)
02	346
03	1431
04	4646
05	8827

Table 2
Spring return actuator -
spring torque at the
end of the travel

ACTUATOR SIZE	ANGLE	
	70°	90°
	TORQUE (lb.-in.)	
02	450	463
03	1795	1837
04	6052	6230
05	10877	11837

ACTUATOR SIZE	EFFECTIVE AIR SUPPLY PRESSURE AT THE ACTUATOR (psig)				
	60	70	80	90	100
	TORQUE (lb.-in.)				
02	176	280	384	489	593
03	793	1225	1657	2088	2520
04	2355	3756	5157	6559	7960
05	4474	7136	9798	12462	15124

Table 3
Spring return actuator - resulting torque from the difference between air supply force and spring force for a 70° opening angle

ACTUATOR SIZE	EFFECTIVE AIR SUPPLY PRESSURE AT THE ACTUATOR (psig)				
	60	70	80	90	100
	TORQUE (lb.-in.)				
02	108	204	299	395	490
03	528	923	1317	1711	2106
04	1452	2732	4013	5293	6574
05	2758	5198	7624	10056	12490

Table 4
Spring return actuator - resulting torque from the difference between air supply force and spring force for a 90° opening angle

Remark: Before using tables 1,2,3 and 4 add at least 25% to the valve required torque.

Normally opened valve:

Stroke: 70°

Valve torque: 4800 lb.-in.

An actuator torque at least 25% higher than valve torque requirement is recommended.

Required actuator torque: 6000 lb.-in.

Required torque, at opening, will be supplied by the spring at the end of the stroke, and at closing by the difference between air supply pressure and spring forces. By referring to table 2, we can see that a PPR size 04 actuator can be used; however, we should also refer to table 3 that shows that this actuator size can be used only with 90 psig effective air supply pressure or higher, at the actuator.

Normally closed valve:

Stroke: 70°

Valve torque: 800 lb.-in.

An actuator torque at least 25% higher than valve torque requirement is recommended.

Required actuator torque: 1000 lb.-in.

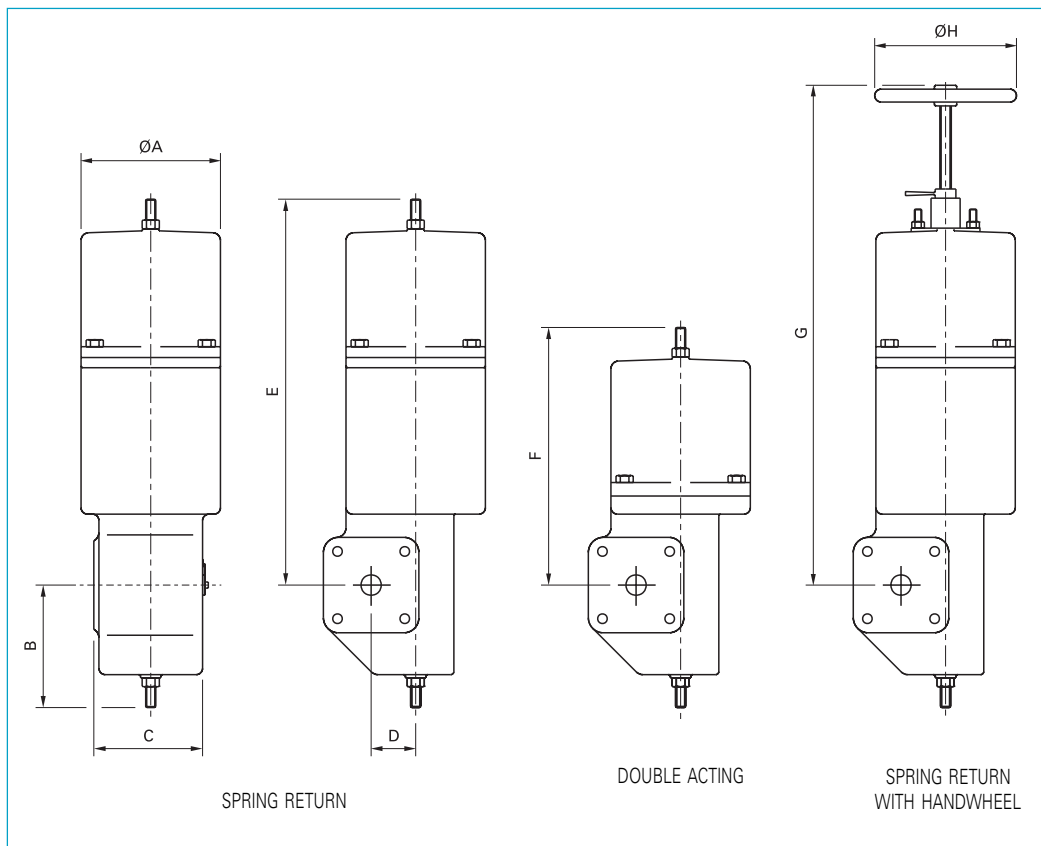
Required torque will be supplied by the spring at the beginning of the stroke. By referring to table 1, we can see that a PPR size 03 actuator can be used.

Spring return actuator selecting examples

ACTUATOR SIZE	TORQUE (lb.-in.)	EFFECTIVE AIR SUPPLY PRESSURE AT THE ACTUATOR (psig)			
		30	50	70	100
02	STARTING	415	692	969	1384
	RUN	271	452	634	905
03	STARTING	1717	2862	4007	5724
	RUN	1123	1873	2622	3746
04	STARTING	5575	9292	13009	18585
	RUN	3648	6081	8513	12162
05	STARTING	10592	17654	24717	35311
	RUN	6931	11553	16174	23107

Table 5
Double acting actuator torque

Dimensions



SIZE	DIMENSIONS (mm)							
	ØA	B	C	D	E	F	G	ØH
02	108	87	110	24.5	280	196	380	165
03	163	136	134	38.5	400	258	610	235
04	219	193	166	70	600	405	900	235
05	273	250	220	84	718	480	980	340

Accessories

Pneumatic positioner, electro-pneumatic positioner, smart positioner, air filter/regulator, limit switch, electro-pneumatic transducer, solenoid valve, and others.

HITER

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Representative

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