

PN1000 Series Spring Extend Pneumatic Actuators (for 6" and 8" Spira-Trol Valves)

Description

A range of single spring linear actuators having 2 diaphragm sizes for matching the requirements of different valves at various differential pressures. Each actuator is fitted with a combined mechanical stroke indicator and anti-rotation guard. The actuators are designed for easy conversion from spring extend to spring retract, and vice versa, without the need for special tools.

Available types

Spring extend spindle actuators:

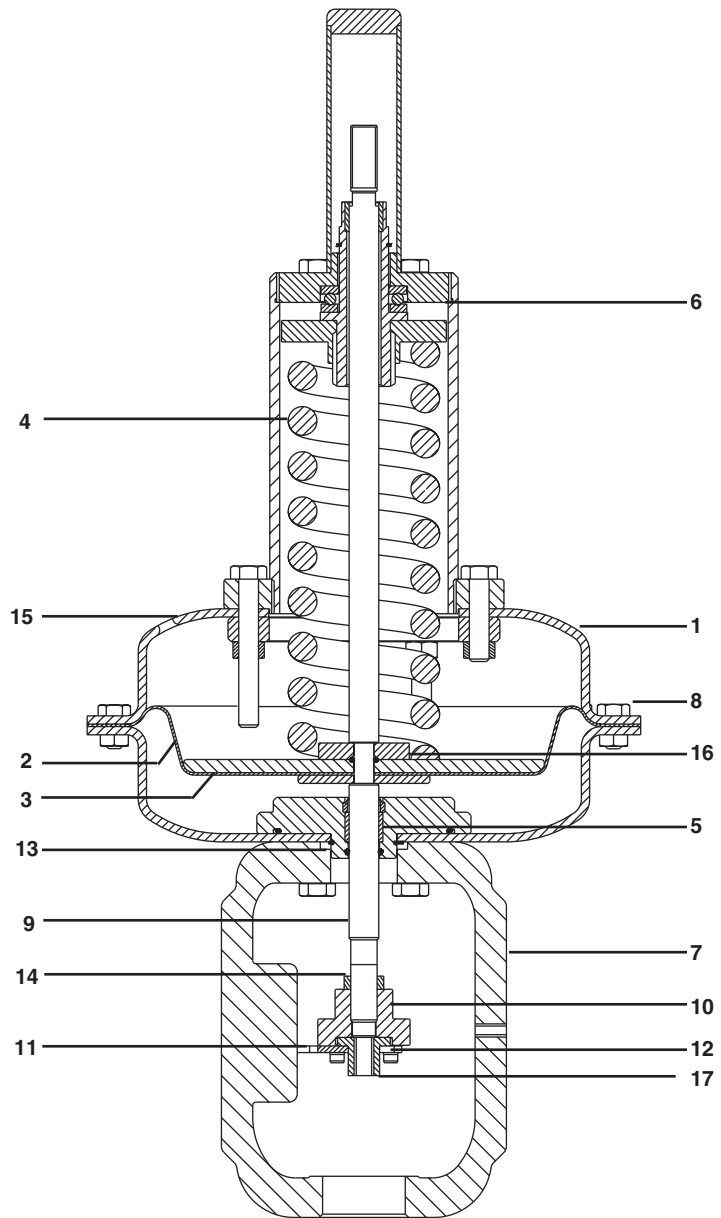
PN1600

Technical data

Temperature range	-20°C to +110°C (-4°F to +230°F)
Maximum operating pressure	4.5 bar (65 psi)
Air supply connection	1/4" NPT

Materials

No.	Part	Material
1	Diaphragm housing	Carbon steel
2	Diaphragm	Reinforced nitrile rubber
3	Diaphragm plate	Stainless steel
4	Spring	Spring steel
5	Spindle guide	Bronze
6	Bearing	Hardened steel
7	Yoke	Cast steel
8	Housing securing nuts and bolts	Zinc plated steel
9	Spindle	Stainless steel
10	Connector	Zinc plated steel
11	Travel indicator	Stainless steel
12	Lock plate	Zinc plated steel
13	'O' ring	Nitrile rubber
14	Lock-nut	Zinc plated steel
15	Cap with vent hole	Nickel plated brass
16	Spring location washer	Zinc plated steel
17	Valve spindle adapter	Stainless steel



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Differential pressures for KE and KEA series valves and PN1000 series actuators

Note: The differential pressures stated in the tables below are limited by the maximum operating pressures of the selected control valve.

Differential Pressures for PN1000 actuator - Unbalanced Flow Under - Class 4 - Spring Extend

Actuator	Actuator		Max air pressure	Maximum Differential Pressure (psi)			
	Closed	Open		6"		8"	
				PTFE	Graph	PTFE	Graph
PN1670	6	18	60				
PN1676	15	30	60				
PN1673	30	60	60	83	79	32	30

Differential Pressures for PN1000 actuator - Unbalanced Flow Over - Class 4 - Spring Extend

Actuator	Actuator		Max air pressure	Maximum Differential Pressure (psi)			
	Closed	Open		6"		8"	
				PTFE	Graph	PTFE	Graph
PN1670	6	18	65	329	333	184	187
PN1676	15	30	65	281	285	158	160
PN1673	30	60	65	202	206	113	115

Differential Pressures for PN1000 actuator - Balanced - Class 4 - Spring Extend

Actuator	Actuator		Max air pressure	Maximum Differential Pressure (psi)			
	Closed	Open		6"		8"	
				PTFE	Graph	PTFE	Graph
PN1670	6	18	65				
PN1676	15	30	65				
PN1673	30	60	65	740	740	740	740

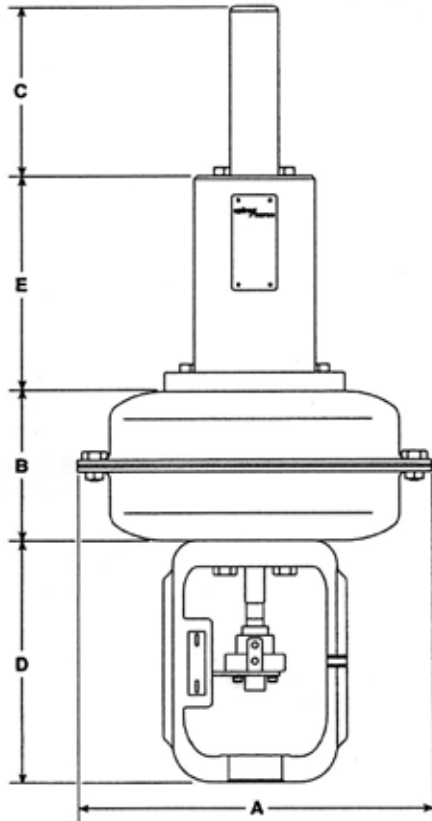
Differential Pressures for PN1000 actuator - Unbalanced Flow Under - Class 6 - Spring Extend

Actuator	Actuator		Max air pressure	Maximum Differential Pressure (psi)			
	Closed	Open		6"		8"	
				PTFE	Graph	PTFE	Graph
PN1670	6	18	60	28	24	43	13
PN1676	15	30	60	77	73	43	41
PN1673	30	60	60	159	155	90	87

Differential Pressures for PN1000 actuator - Unbalanced Flow Over - Class 6 - Spring Extend

Actuator	Actuator		Max air pressure	Maximum Differential Pressure (psi)			
	Closed	Open		6"		8"	
				PTFE	Graph	PTFE	Graph
PN1670	6	18	65	329	333	184	187
PN1676	15	30	65	281	285	158	160
PN1673	30	60	65	202	206	113	115

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Installation

Actuators should be mounted on the valve with the stem in a vertical position. Installation and Maintenance Instructions are supplied with the product.

Spare parts

Information regarding available spare parts is given on TI-P357-23-US.

PN1000 series actuator selection table

Selection should be made in conjunction with the differential pressure chart shown above and the following code:

Actuation	PN	= Pneumatic	<input type="text" value="PN"/>
Actuator action	1	= Spring to extend	<input type="text" value="1"/>
Diaphragm size	6		<input type="text" value="6"/>
Actuator travel	7	= 70 mm	<input type="text" value="7"/>
Spring range	0	= 0.4 to 1.2 bar (6 to 18 psi)	<input type="text" value="3"/>
	3	= 2.0 to 4.0 bar (30 to 60 psi)	
	6	= 1.0 to 2.0 bar (15 to 30 psi)	
Yoke type	B	= Type B for valve sizes: DN150 - 200 (6" to 8")	<input type="text" value="B"/>

How to order

Example: 1 off Spirax Sarco PN1553B actuator, set to 30 to 60 psig.

Dimensions/weights approximate in mm (inches) and kg (pounds)

Actuator	Actuator diaphragm			D	E	Weight
	A	B	C			
PN1600	465 (18-5/16")	515 (20-1/4")	150 (6")	247 (9-3/4")	250 (9-7/8")	70 (154)