

spirax/sarco®

PN 4000 Series Fail Open Pneumatic Actuators (for LE Valves)

DESCRIPTION

A range of compact linear actuators having 5 diaphragm sizes for matching the requirements of different valves at various differential pressures. Each actuator is fitted with a mechanical stroke indicator and incorporates a semi-rolling diaphragm which gives good linearity over the operating stroke. The actuators may be converted to failed closed operation in the field by changing a very small number of components and without the need of special tools. A manual hand wheel is also available in all actuator sizes except PN 4200. These actuators are designed to operate with 2-port LE valves as detailed below.

Available Types:

Fail open, multi-spring yoke mounted actuators
PN 4200, PN 4300, PN 4400, PN 4500, and PN 4600 series.

Actuator type	Valve type	
.75" (20 mm) travel	LE Series	1/2" to 2"
1.25" (30 mm) travel	LE Series	2-1/2" to 4"

TECHNICAL DATA

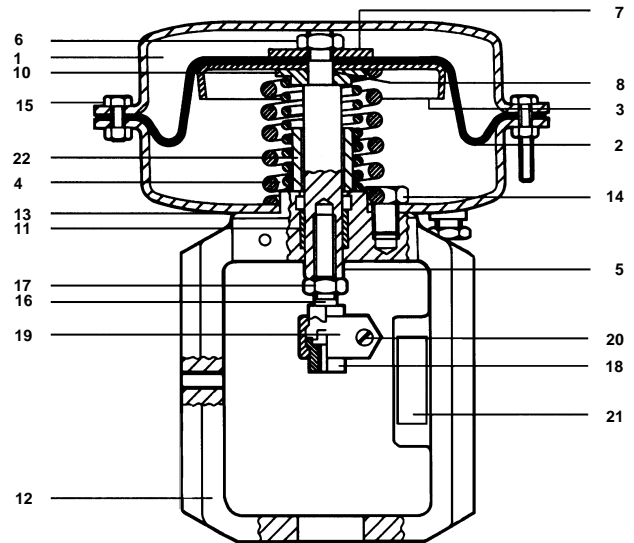
Temperature Range	14°F to 390°F (-20°C to 100°C)	
Maximum Operating Pressure	PN 4200/PN 4300	90 psi
	PN 4400	60 psi
	PN 4500/PN 4600	45 psi

SPRING RANGES

Actuator Types	Spring Range psi	Travel
PN 4220 PN 4320 PN 4420 PN 4520 PN 4620	3 (6) to 15 (18) psi	.75" (20 mm)
PN 4430 PN 4530 PN 4630	3 (6) to 15 (18) psi	1.25" (30 mm)

AIR SUPPLY CONNECTION

PN 4000 series, 1/4" NPT



PN 4220 Shown

CONSTRUCTION MATERIALS

No.	Part	Material
1	Diaphragm Housing	Pressed Steel
2	Diaphragm	Reinforced Nitrile Rubber
3	Diaphragm Plate	Pressed Steel
4	Springs	Spring Steel
5	Spindle	Stainless Steel
6	Locknut	Stainless Steel
7	Spacer	Zinc Plated Steel
8	'O' Ring	Rubber
9	Spring Guide	Zinc Plated Steel
10	Diaphragm Clamp	Zinc Plated Steel
11	Bearing	Bronze
12	Yoke	Cast Iron
13	Gasket	Non Asbestos Fiber
14	Fixing Screws	Steel
15	Housing Bolts and Nuts	Steel
16	Top Adaptor	Steel
17	Locknut	Steel
18	Bottom adaptor	Steel
19	Connectors	Stainless Steel
20	Connector Bolts and Nuts	Stainless steel
21	Travel Indicator	Aluminum
22	Spacer	Plastic

* A spring guide is provided on larger sizes.

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DIFFERENTIAL PRESSURES FOR LE VALVES AND PN 4000 SERIES ACTUATORS.

LE VALVES

Valve Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
Travel mm	20 mm (.75")						30 mm (1.25")		
Standard Cvs	4.7	7.4	11.7	18.7	29	42	74	117	187

PN 4000 SERIES ACTUATORS (SPRING RETRACT SPINDLE)

Actuator	Spring Range		Minimum Air Pressure	Positioner Required*	Maximum Differential Pressure (psi)								
	Closed	Open			230	135	75	30	-	-	-	-	-
PN 4220	15	3	20	Optional	230	135	75	30	-	-	-	-	-
	15	3	30	Yes	230	230	230	225	130	75	-	-	-
	15	3	45	Yes	230	230	230	230	230	165	-	-	-
	15	3	60	Yes	230	230	230	230	230	230	-	-	-
	15	3	75	Yes	230	230	230	230	230	230	-	-	-
	15	3	90	Yes	230	230	230	230	230	230	-	-	-
PN 4320	15	3	20	Optional	230	230	165	80	40	20	-	-	-
	15	3	30	Yes	230	230	230	230	230	170	-	-	-
	15	3	45	Yes	230	230	230	230	230	230	-	-	-
	15	3	60	Yes	230	230	230	230	230	230	-	-	-
	15	3	75	Yes	230	230	230	230	230	230	-	-	-
	15	3	90	Yes	230	230	230	230	230	230	-	-	-
PN 4420	15	3	20	Optional	-	-	230	120	65	35	-	-	-
	15	3	30	Yes	-	-	230	230	230	230	-	-	-
	15	3	45	Yes	-	-	230	230	230	230	-	-	-
	15	3	60	Yes	-	-	230	230	230	230	-	-	-
PN 4430	15	3	20	Optional	-	-	-	-	-	-	15	-	-
	15	3	30	Yes	-	-	-	-	-	-	130	90	55
	15	3	45	Yes	-	-	-	-	-	-	230	195	120
	15	3	60	Yes	-	-	-	-	-	-	230	230	185
PN 4520	15	3	20	Optional	-	-	-	205	115	70	-	-	-
	15	3	30	Yes	-	-	-	230	230	230	-	-	-
	15	3	45	Yes	-	-	-	230	230	230	-	-	-
PN 4530	15	3	20	Optional	-	-	-	-	-	-	30	-	-
	15	3	30	Yes	-	-	-	-	-	-	230	150	95
	15	3	45	Yes	-	-	-	-	-	-	230	230	150
PN 4620	15	3	20	Optional	-	-	-	-	150	90	-	-	-
	15	3	30	Yes	-	-	-	-	230	230	-	-	-
	15	3	45	Yes	-	-	-	-	230	230	-	-	-
PN 4630	15	3	20	Optional	-	-	-	-	-	-	45	25	15
	15	3	30	Yes	-	-	-	-	-	-	230	195	120
	15	3	45	Yes	-	-	-	-	-	-	230	230	190

* Applies to modulating duty only.

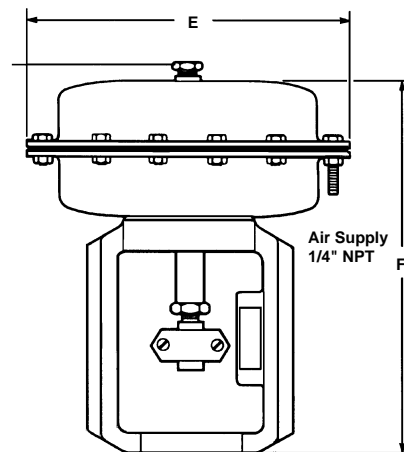
INSTALLATION

Actuators should be mounted on LE valves with the stem in a vertical position. Installation and Maintenance Instructions are supplied with the products.

SPARE PARTS

Information regarding spare parts available is given on TIS 1.517.

DIMENSIONS (NOMINAL) IN INCHES AND MILLIMETERS			
Actuator	E	F	Weight
PN 4220 Series	8.2 (209)	9.5 (240)	15.4 lb (7.2 kg)
PN 4300 Series	11.2 (285)	10.4 (264)	24.2 lb (11.2 kg)
PN 4420 Series	13.2 (336)	10.4 (263)	44 lb (20.0 kg)
PN 4430 Series	13.2 (336)	12.8 (328)	44 lb (20.0 kg)
PN 4520 Series	15.9 (405)	11.6 (294)	48.5 lb (22.6 kg)
PN 4530 Series	15.9 (405)	14.4 (367)	48.5 lb (22.6 kg)
PN 4620 Series	18.3 (465)	15.7 (400)	83.7 lb (38.0 kg)
PN 4630 Series	18.3 (465)	15.7 (400)	83.7 lb (38.0 kg)



HOW TO ORDER

1 PN 4320 pneumatic actuator

Note: Actuator code should be suffixed 'H' where a handwheel is required, i.e. PN 4320H

TIS 1.516 US 03.98