



Cert. No. LRQ 0963008

ISO 9001

# spirax sarco

TI-P357-11  
CH Issue 7

## PN3000 Series Spring Extend

### Pneumatic Actuators (for LE or LEA Valves)

#### Description

A range of compact linear actuators having 5 diaphragm sizes for matching the requirements of all LE valve sizes 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. For precise valve positioning on modulating applications and when using higher pressure spring range actuators a positioner must be used. A manual handwheel is available as an optional extra for the PN3200, PN3300, PN3400, PN3500 and PN3600 series actuators. These actuators are designed to operate with 2-port LE or LEA valves as detailed below:

Actuator type	Valve type	Valve size
20 mm travel	LE and LEA series	DN15 - 50
30 mm travel	LE and LEA series	DN65 - 100

#### Available types

Spring extend spindle, multi-spring yoke mounted actuators  
PN3200, PN3300, PN3400, PN3500, and PN3600 series.

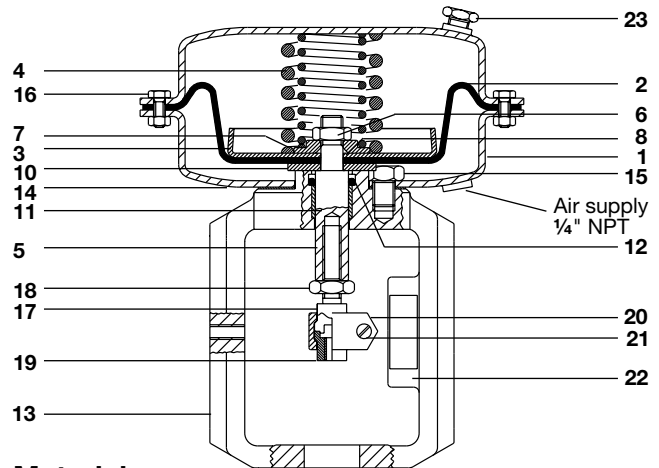
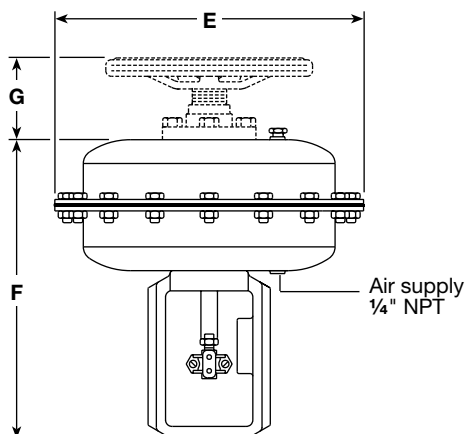
#### Spring ranges

Actuator type	Spring range	Travel
PN3220, PN3320, PN3420 PN3520, PN3620	0.2 (0.4) to 1 (1.2) bar *	20 mm
PN3430, PN3530, PN3630	0.2 (0.4) to 1 (1.2) bar *	30 mm
PN3225, PN3325, PN3425 PN3525, PN3625	0.4 to 2 bar	20 mm
PN3435, PN3535, PN3635	0.4 to 2 bar	30 mm
PN3326, PN3426	1.0 to 3 bar	20 mm
PN3436	1.0 to 3 bar	30 mm
PN3524, PN3624	0.8 to 1.5 bar	20 mm
PN3534, PN3634	0.8 to 1.5 bar	30 mm

\* Spring range 0.2 to 1 bar can be bench set 0.4 to 1.2 bar if required.

#### Technical data

Temperature range	-20°C to +100°C	
	PN3200 and PN3300	6 bar
Maximum operating pressure	PN3400	4 bar
	PN3500 and PN3600	2.5 bar



#### 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	Lock-nut	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	'V' ring	Rubber
13	Yoke	Cast iron
14	Gasket	Non asbestos fibre
15	Fixing screws	Steel
16	Housing bolts and nuts	Steel
17	Top adaptor	Steel
18	Lock-nut	Steel
19	Bottom adaptor	Steel
20	Connectors	Stainless steel
21	Connectors bolts and nuts	Stainless steel
22	Travel indicator	Aluminium
23	Cap (with vent hole)	Nickle plated brass

#### Dimensions / weights (approximate) in mm and kg

Actuator	E	F	G	Weight	Weight with handwheel
PN3200 series	209	240	-	7.2	-
PN3300 series	285	264	113	11.2	13.5
PN3420 series	336	263	113	20.0	22.3
PN3430 series	336	328	157	20.0	23.7
PN3520 series	405	294	113	22.6	26.3
PN3530 series	405	367	157	22.6	26.3
PN3620 series	465	400	-	38.0	-
PN3630 series	465	400	-	38.0	-

## Differential pressures for LE and LEA valves and PN3000 series actuators

**Note:** Differential pressures do not apply where the valve has been fitted with high temperature graphite stem sealing, contact Spirax Sarco for further details.

### LE and LEA valves

Valve size	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
Travel mm	20						30		
Kvs	0.4 to 4	6.3	10	16	25	36	63	100	160

### PN3000 series actuators (spring extend spindle)

Actuator	Spring range		Minimum air pressure	Positioner required*	Maximum differential pressure (bar)								
	Closed	Open											
PN3220	0.2	1.0	1.2	Optional	16.0	11.2	5.8	2.6	1.2	-	-	-	-
	0.4	1.2	1.4	Optional	16.0	16.0	13.6	6.6	3.6	2.0	-	-	-
PN3225	0.4	2.0	2.5	Optional	16.0	16.0	13.6	6.6	3.6	2.0	-	-	-
PN3320	0.2	1.0	1.2	Optional	16.0	16.0	13.3	6.5	3.5	1.9	-	-	-
	0.4	1.2	1.4	Optional	16.0	16.0	16.0	14.3	8.2	4.8	-	-	-
PN3325	0.4	2.0	2.5	Optional	16.0	16.0	16.0	14.3	8.2	4.8	-	-	-
PN3326	1.0	3.0	3.5	Yes	16.0	16.0	16.0	16.0	16.0	13.6	-	-	-
PN3420	0.2	1.0	1.2	Optional	-	-	16.0	10.3	5.8	3.4	-	-	-
	0.4	1.2	1.4	Optional	-	-	16.0	16.0	12.8	7.7	-	-	-
PN3425	0.4	2.0	2.5	Optional	-	-	16.0	16.0	12.8	7.7	-	-	-
PN3426	1.0	3.0	3.5	Yes	-	-	16.0	16.0	16.0	16.0	-	-	-
PN3430	0.2	1.0	1.2	Optional	-	-	-	-	-	-	1.4	-	-
	0.4	1.2	1.4	Optional	-	-	-	-	-	-	4.1	2.5	1.4
PN3435	0.4	2.0	2.5	Optional	-	-	-	-	-	-	4.1	2.5	1.4
PN3436	1.0	3.0	3.5	Yes	-	-	-	-	-	-	12.1	7.7	4.8
PN3520	0.2	1.0	1.2	Optional	-	-	-	15.8	9.1	5.4	-	-	-
	0.4	1.2	1.4	Optional	-	-	-	16.0	16.0	11.8	-	-	-
PN3525	0.4	2.0	2.5	Optional	-	-	-	16.0	16.0	11.8	-	-	-
PN3524	0.8	1.5	2.3	Yes	-	-	-	16.0	16.0	16.0	-	-	-
PN3530	0.2	1.0	1.2	Optional	-	-	-	-	-	-	2.7	1.5	-
	0.4	1.2	1.4	Optional	-	-	-	-	-	-	6.6	4.1	2.5
PN3535	0.4	2.0	2.5	Optional	-	-	-	-	-	-	6.6	4.1	2.5
PN3534	0.8	1.5	2.3	Yes	-	-	-	-	-	-	14.4	9.2	5.8
PN3620	0.2	1.0	1.2	Optional	-	-	-	-	13.1	7.9	-	-	-
	0.4	1.2	1.4	Optional	-	-	-	-	16.0	16.0	-	-	-
PN3625	0.4	2.0	2.5	Optional	-	-	-	-	16.0	16.0	-	-	-
PN3624	0.8	1.5	2.3	Yes	-	-	-	-	16.0	16.0	-	-	-
PN3630	0.2	1.0	1.2	Optional	-	-	-	-	-	-	4.2	2.6	1.5
	0.4	1.2	1.4	Optional	-	-	-	-	-	-	9.7	6.1	3.8
PN3635	0.4	2	2.5	Optional	-	-	-	-	-	-	9.7	6.1	3.8
PN3634	0.8	1.5	2.3	Yes	-	-	-	-	-	-	16.0	13.3	8.4

\* Applies to modulating duty only.

### Reduced capacity (Kvs) valves

For valves having reduced capacity Kvs trims differential pressures should be selected from the above chart using the actual Kvs value column and not the valve size column.

\* For product compatibility with DN65, DN80, and DN100:

Valves having 30 mm travel actuators must be selected for all trim options. Valves having 20 mm travel with reduced Kvs trims, it is recommended that a positioner be used to obtain the desired travel.

### How to order

**Example:** 1 off Spirax Sarco PN3320 pneumatic actuator.  
**Note:** Actuator code should be suffixed 'H' where a handwheel is required i.e. PN3320H.

### Spare parts

Information regarding parts availability is given on TI-P357-14.

### Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions supplied with the product.

#### Installation note

Actuators should be mounted on LE or LEA valves with the stem in a vertical position. An optional manual handwheel is available for the PN3300, PN3400, PN3500 and PN3600 series actuators. Actuators fitted with manual handwheels are designated with suffix 'H' i.e. PN3320H.

#### Disposal

This product is recyclable. No ecological hazard is anticipated with the disposal of this product, providing due care is taken.