

spirax/sarco

PN 3000 Series Fail Closed Pneumatic Actuators

Description

A range of compact linear actuators having 5 diaphragm sizes for matching the requirements of 1/2" to 4" SPIRA-TROL 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.

A manual handwheel is available for PN3300, PN3400 and PN3500 series actuators with spring ranges 3-15 psi.

Valve Type	Valve Size	Actuator Travel
L and K Series	1/2" to 2"	.75 inches (20 mm)
L and K Series	2-1/2" to 4"	1.25 inches (30 mm)

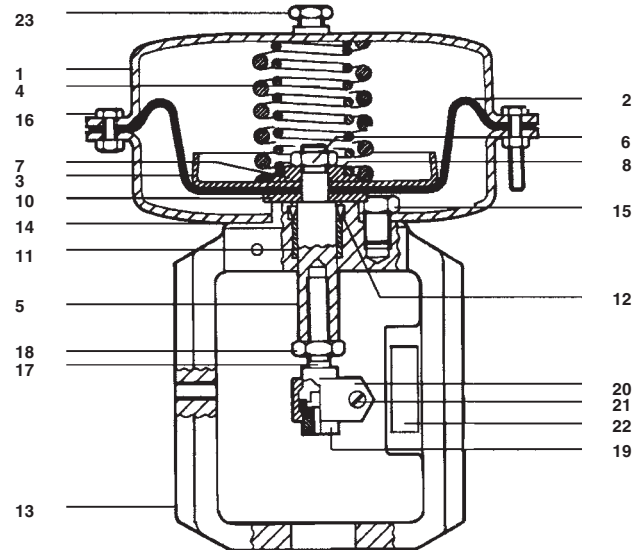
Spring Ranges

Actuator Type	Spring Range	Travel
PN 3220	3 (6) to 15 (18) psi	.75 inches (20 mm)
PN 3320		
PN 3420		
PN 3520		
PN 3620		
PN 3430	3 (6) to 15 (18) psi	1.25 inches (30 mm)
PN 3530		
PN 3630		
PN 3225	6 to 30 psi	.75 inches (20 mm)
PN 3325		
PN 3425		
PN 3525		
PN 3625		
PN 3435	6 to 30 psi	1.25 inches (30 mm)
PN 3535		
PN 3635		
PN 3326	15 to 45 psi	.75 inches (20 mm)
PN 3426		
PN 3436	15 to 45 psi	1.25 inches (30 mm)
PN 3524		
PN 3624	12 to 22 psi	.75 inches (20 mm)
PN 3534		
PN 3634		

Air supply connection PN 3000 series, 1/4" NPT

Technical Data

Temperature Range	14°F to 390°F (-20°C to 100°C)	
	PN 3200/PN 3300	90 psi
Maximum Operating Pressure	PN 3400	60 psi
	PN 3500/PN 3600	40 psi



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	'V' Ring	Rubber
13	Yoke	Cast Iron
14	Gasket	Non-asbestos Fiber
15	Fixing Screws	Steel
16	Housing Bolts and Nuts	Steel
17	Top Adaptor	Steel
18	Locknut	Steel
19	Bottom Adaptor	Steel
20	Connectors	Stainless Steel
21	Connectors, Bolts and Nuts	Stainless Steel
22	Travel Indicator	Aluminum
23	Cap (with vent hole)	Plastic

*A spring guide is provided on larger sizes.

Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only. In the interests of development and improvement of the product, we reserve the right to change the specification.

TI-1-515-US 6.07

PN 3000 Series Fail Closed Pneumatic Actuators

Differential Pressures SPIRA-TROL 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	5	7.5	12	16	30	45	75	120	190	

PN3000 Series Actuators

Maximum differential pressures for modulating duties only
KE, LE, KEA and LEA with (PTFE or Graphite stem seal)

Actuator	Spring range	Maximum differential pressures																	
		1/2"		3/4"		1"		1-1/4"		1-1/2"		2"		2-1/2"		3"		4"	
		PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite
PN3220	3 - 15	145	-	116	-	73	-	58	-	29	-	15	-	-	-	-	-	-	-
PN3220	6 - 18	363	145	290	116	189	73	145	58	58	29	44	15	-	-	-	-	-	-
PN3225	6 - 30	363	145	290	116	189	73	145	58	58	29	44	15	-	-	-	-	-	-
PN3320	3 - 15	348	131	276	102	189	73	145	58	58	29	44	15	-	-	-	-	-	-
PN3320	6 - 18	580	566	580	450	406	305	319	232	145	102	102	73	-	-	-	-	-	-
PN3325	6 - 30	580	566	580	450	406	305	319	232	145	102	102	73	-	-	-	-	-	-
PN3326	15 - 45	580	580	580	580	580	580	580	580	363	319	261	232	-	-	-	-	-	-
PN3420	3 - 15	566	348	450	276	305	189	232	145	102	58	73	44	-	-	-	-	-	-
PN3420	6 - 18	580	580	580	580	580	522	493	406	218	174	145	131	-	-	-	-	-	-
PN3425	6 - 30	580	580	580	580	580	522	493	406	218	174	145	131	-	-	-	-	-	-
PN3426	15 - 45	580	580	580	580	580	580	580	580	551	508	392	363	-	-	-	-	-	-
PN3430	3 - 15	-	-	-	-	-	-	-	-	-	-	-	-	44	15	29	-	15	-
PN3430	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	87	58	58	29	29	29
PN3435	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	87	58	58	29	29	29
PN3436	15 - 45	-	-	-	-	-	-	-	-	-	-	-	-	218	189	145	116	87	73
PN3520	3 - 15	580	580	580	508	450	334	348	261	160	116	102	87	-	-	-	-	-	-
PN3520	6 - 18	580	580	580	580	580	580	580	580	319	276	232	203	-	-	-	-	-	-
PN3525	6 - 30	580	580	580	580	580	580	580	580	319	276	232	203	-	-	-	-	-	-
PN3524	11 - 22	580	580	580	580	580	580	580	580	580	580	464	435	-	-	-	-	-	-
PN3530	3 - 15	-	-	-	-	-	-	-	-	-	-	-	-	58	29	44	15	29	15
PN3530	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	131	102	87	58	44	44
PN3535	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	131	102	87	58	44	44
PN3534	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	261	232	160	145	102	87
PN3620	3 - 15	580	580	580	580	580	537	508	421	218	174	160	131	-	-	-	-	-	-
PN3620	6 - 18	580	580	580	580	580	580	580	580	450	406	319	290	-	-	-	-	-	-
PN3625	6 - 30	580	580	580	580	580	580	580	580	450	406	319	290	-	-	-	-	-	-
PN3624	11 - 22	580	580	580	580	580	580	580	580	580	580	580	580	-	-	-	-	-	-
PN3630	3 - 15	-	-	-	-	-	-	-	-	-	-	-	-	87	58	58	44	29	29
PN3630	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	174	145	116	102	73	58
PN3635	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	174	145	116	102	73	58
PN3634	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	363	334	232	218	145	131

Maximum differential pressures for modulating duties only
 KE, LE, KEA and LEA with Bellows with PTFE or Graphite stem seal

Actuator	Spring range	Maximum differential pressures																	
		1/2"		3/4"		1"		1-1/4"		1-1/2"		2"		2-1/2"		3"		4"	
		PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite
PN3326	15 - 45	580	580	580	580	522	406	406	305	174	131	116	102	-	-	-	-	-	-
PN3436	15 - 45	-	-	-	-	-	-	-	-	-	-	-	-	116	87	73	58	44	29
PN3520	6 - 18	580	493	566	392	377	261	290	203	131	87	87	58	-	-	-	-	-	-
PN3525	6 - 30	580	493	566	392	377	261	290	203	131	87	87	58	-	-	-	-	-	-
PN3524	11 - 22	580	580	580	580	580	580	580	580	450	421	319	305	-	-	-	-	-	-
PN3530	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	15	-	15	-	-	-
PN3535	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	15	-	15	-	-	-
PN3534	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	145	131	102	73	58	44
PN3620	3 - 15	145	-	116	-	73	-	58	-	29	-	15	-	-	-	-	-	-	-
PN3620	6 - 18	580	580	580	580	580	580	580	508	261	218	189	160	-	-	-	-	-	-
PN3625	6 - 30	580	580	580	580	580	580	580	508	261	218	189	160	-	-	-	-	-	-
PN3624	11 - 22	580	580	580	580	580	580	580	580	580	580	508	479	-	-	-	-	-	-
PN3630	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	73	44	44	29	29	15
PN3635	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	73	44	44	29	29	15
PN3634	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	261	232	160	145	102	87

Maximum differential pressures for Class IV shut off
 KE, LE, KEA and LEA with PTFE or Graphite stem seal

Actuator	Spring range	Maximum differential pressures																	
		1/2"		3/4"		1"		1-1/4"		1-1/2"		2"		2-1/2"		3"		4"	
		PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite
PN3220	6 - 18	145	-	87	-	29	-	29	-	-	-	-	-	-	-	-	-	-	-
PN3225	6 - 30	145	-	87	-	29	-	29	-	-	-	-	-	-	-	-	-	-	-
PN3320	3 - 15	131	-	87	-	29	-	29	-	-	-	-	-	-	-	-	-	-	-
PN3320	6 - 18	566	348	421	247	261	145	203	116	58	29	29	-	-	-	-	-	-	-
PN3325	6 - 30	566	348	421	247	261	145	203	116	58	29	29	-	-	-	-	-	-	-
PN3326	15 - 45	580	580	580	580	580	580	580	580	290	247	189	174	-	-	-	-	-	-
PN3420	3 - 15	348	131	247	87	145	29	116	29	29	-	-	-	-	-	-	-	-	-
PN3420	6 - 18	580	580	580	580	479	363	377	290	131	102	87	58	-	-	-	-	-	-
PN3425	6 - 30	580	580	580	580	479	363	377	290	131	102	87	58	-	-	-	-	-	-
PN3426	15 - 45	580	580	580	580	580	580	580	580	479	435	334	305	-	-	-	-	-	-
PN3430	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	29	15	15	-	-	-
PN3435	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	29	15	15	-	-	-
PN3436	15 - 45	-	-	-	-	-	-	-	-	-	-	-	-	174	145	102	87	58	44
PN3520	3 - 15	580	421	493	319	290	189	232	145	73	44	44	15	-	-	-	-	-	-
PN3520	6 - 18	580	580	580	580	580	580	580	522	247	203	160	131	-	-	-	-	-	-
PN3525	6 - 30	580	580	580	580	580	580	580	522	247	203	160	131	-	-	-	-	-	-
PN3524	11 - 22	580	580	580	580	580	580	580	580	566	537	392	377	-	-	-	-	-	-
PN3530	3 - 15	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-
PN3530	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	73	44	44	29	15	15
PN3535	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	73	44	44	29	15	15
PN3534	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	203	189	131	116	73	58
PN3620	3 - 15	580	580	580	580	493	377	392	305	145	102	87	58	-	-	-	-	-	-
PN3620	6 - 18	580	580	580	580	580	580	580	580	377	334	261	232	-	-	-	-	-	-
PN3625	6 - 30	580	580	580	580	580	580	580	580	377	3234	261	232	-	-	-	-	-	-
PN3624	11 - 22	580	580	580	580	580	580	580	580	580	580	580	551	-	-	-	-	-	-
PN3630	3 - 15	-	-	-	-	-	-	-	-	-	-	-	-	44	15	15	-	-	-
PN3630	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	131	102	73	58	44	29
PN3635	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	131	102	73	58	44	29
PN3634	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	319	290	189	174	116	102

KE, LE, KEA and LEA with Bellows (PTFE or Graphite stem seal)

Actuator	Spring range	Maximum differential pressures																	
		1/2"		3/4"		1"		1-1/4"		1-1/2"		2"		2-1/2"		3"		4"	
		PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite
PN3326	15 - 45	580	537	580	406	363	247	261	174	87	44	44	15	-	-	-	-	-	-
PN3436	15 - 45	-	-	-	-	-	-	-	-	-	-	-	-	58	29	29	15	15	-
PN3520	6 - 18	493	276	363	203	218	102	145	58	29	-	15	-	-	-	-	-	-	-
PN3525	6 - 30	493	276	363	203	218	102	145	58	29	-	15	-	-	-	-	-	-	-
PN3524	11 - 22	580	580	580	580	580	580	580	580	363	319	247	218	-	-	-	-	-	-
PN3534	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	87	73	44	29	29	15
PN3620	6 - 18	580	580	580	580	580	493	450	363	160	131	102	73	-	-	-	-	-	-
PN3625	6 - 30	580	580	580	580	580	493	450	363	160	131	102	73	-	-	-	-	-	-
PN3624	11 - 22	580	580	580	580	580	580	580	580	580	580	435	406	-	-	-	-	-	-
PN3630	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-
PN3635	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-
PN3634	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	203	174	116	102	58	58

Maximum differential pressures for Class VI shut off (PTFE (G) seat seal only)

KE, LE, KEA and LEA with PTFE or Graphite stem seal

Actuator	Spring range	Maximum differential pressures																	
		1/2"		3/4"		1"		1-1/4"		1-1/2"		2"		2-1/2"		3"		4"	
		PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite
PN3220	3 - 15	145	-	116	-	73	-	58	-	29	-	15	-	-	-	-	-	-	-
PN3220	6 - 18	348	145	276	116	189	73	145	58	58	29	44	15	-	-	-	-	-	-
PN3225	6 - 30	348	145	276	116	189	73	145	58	58	29	44	15	-	-	-	-	-	-
PN3320	3 - 15	348	131	276	102	189	73	145	58	58	29	44	15	-	-	-	-	-	-
PN3320	6 - 18	580	551	580	435	406	290	319	232	131	102	102	73	-	-	-	-	-	-
PN3325	6 - 30	580	551	580	435	406	290	319	232	131	102	102	73	-	-	-	-	-	-
PN3326	15 - 45	580	580	580	580	580	580	580	580	363	319	261	232	-	-	-	-	-	-
PN3420	3 - 15	551	334	435	276	276	174	232	145	102	58	73	44	-	-	-	-	-	-
PN3420	6 - 18	580	580	580	580	580	522	493	392	203	174	145	116	-	-	-	-	-	-
PN3425	6 - 30	580	580	580	580	580	522	493	392	203	174	145	116	-	-	-	-	-	-
PN3426	15 - 45	580	580	580	580	580	580	580	580	551	508	392	363	-	-	-	-	-	-
PN3430	3 - 15	-	-	-	-	-	-	-	-	-	-	-	-	29	15	29	-	15	-
PN3430	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	87	58	58	29	29	15
PN3435	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	87	58	58	29	29	15
PN3436	15 - 45	-	-	-	-	-	-	-	-	-	-	-	-	218	189	145	116	116	87
PN3520	3 - 15	580	580	580	508	450	334	348	261	145	116	102	73	-	-	-	-	-	-
PN3520	6 - 18	580	580	580	580	580	580	580	580	319	276	218	203	-	-	-	-	-	-
PN3525	6 - 30	580	580	580	580	580	580	580	580	319	276	218	203	-	-	-	-	-	-
PN3524	11 - 22	580	580	580	580	580	580	580	580	580	580	464	435	-	-	-	-	-	-
PN3530	3 - 15	-	-	-	-	-	-	-	-	-	-	-	-	58	29	44	15	29	15
PN3530	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	131	102	73	58	44	44
PN3535	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	131	102	73	58	44	44
PN3534	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	261	232	160	145	102	87
PN3620	3 - 15	580	580	580	580	580	537	493	406	218	174	160	131	-	-	-	-	-	-
PN3620	6 - 18	580	580	580	580	580	580	580	580	450	406	319	290	-	-	-	-	-	-
PN3625	6 - 30	580	580	580	580	580	580	580	580	450	406	319	290	-	-	-	-	-	-
PN3624	11 - 22	580	580	580	580	580	580	580	580	580	580	580	580	-	-	-	-	-	-
PN3630	3 - 15	-	-	-	-	-	-	-	-	-	-	-	-	87	58	58	44	29	29
PN3630	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	174	145	116	102	73	58
PN3635	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	174	145	116	102	73	58
PN3634	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	363	334	232	218	145	131

Control Valves

Linear Actuators

KE, LE, KEA and LEA with Bellows (PTFE stem seal or Graphite stem seal)

Actuator	Spring range	Maximum differential pressures																	
		1/2"		3/4"		1"		1-1/4"		1-1/2"		2"		2-1/2"		3"		4"	
		PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite	PTFE	Graphite
PN3326	15 - 45	580	580	580	580	508	392	392	305	174	131	116	87	-	-	-	-	-	-
PN3436	15 - 45	-	-	-	-	-	-	-	-	-	-	-	-	116	87	73	58	44	29
PN3520	6 - 18	580	493	551	392	377	261	290	203	131	87	87	58	-	-	-	-	-	-
PN3525	6 - 30	580	493	551	392	377	261	290	203	131	87	87	58	-	-	-	-	-	-
PN3524	11 - 22	580	580	580	580	580	580	580	580	450	421	319	290	-	-	-	-	-	-
PN3530	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	15	-	15	-	-	-
PN3535	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	15	-	15	-	-	-
PN3534	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	145	116	102	73	58	44
PN3620	3 - 15	145	-	116	-	73	-	58	-	29	-	15	-	-	-	-	-	-	-
PN3620	6 - 18	580	580	580	580	580	580	580	493	261	218	174	160	-	-	-	-	-	-
PN3625	6 - 30	580	580	580	580	580	580	580	493	261	218	174	160	-	-	-	-	-	-
PN3624	11 - 22	580	580	580	580	580	580	580	580	580	580	508	479	-	-	-	-	-	-
PN3630	6 - 18	-	-	-	-	-	-	-	-	-	-	-	-	73	44	44	29	29	15
PN3635	6 - 30	-	-	-	-	-	-	-	-	-	-	-	-	73	44	44	29	29	15
PN3634	11 - 22	-	-	-	-	-	-	-	-	-	-	-	-	247	232	160	145	102	87

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 spare parts available is given on TIS 1.517.

Reduced capacity (C_vs) valve

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

*For product compatibility with 2-1/2", 3" and 4"

Valves having 30 mm travel actuators must be selected for all trim options.

Valves having 20 mm travel with reduced C_vs trims, it is recommended that a positioner be used to obtain the desired travel.

How to Order

1 PN 3320 pneumatic actuator

Note: Actuator code should be suffixed 'H' where handwheel is required, i.e. PN 3320 H.

Dimensions
(nominal) in inches and millimeters

Actuator	E	F	Weight
PN 3200 Series	8.2 (209)	9.5 (240)	15.4 lb (7.2 kg)
PN 3300 Series	11.2 (285)	10.4 (264)	24.2 lb (11.2 kg)
PN 3420 Series	13.2 (336)	10.4 (263)	44 lb (20.0 kg)
PN 3430 Series	13.2 (336)	12.8 (328)	44 lb (20.0 kg)
PN 3520 Series	15.9 (405)	11.6 (294)	48.5 lb (22.6 kg)
PN 3530 Series	15.9 (405)	19.4 (367)	48.5 lb (22.6 kg)
PN 3620 Series	18.3 (465)	15.7 (400)	83.7 lb (38.0 kg)
PN 3630 Series	18.3 (465)	15.7 (400)	83.7 lb (38.0 kg)

