



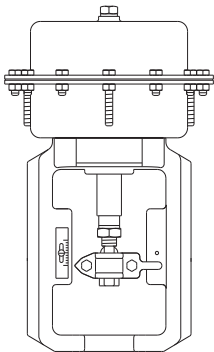
PN9000 Series
Pneumatic Actuators
for use with Spira-trol™ Control Valves

Description

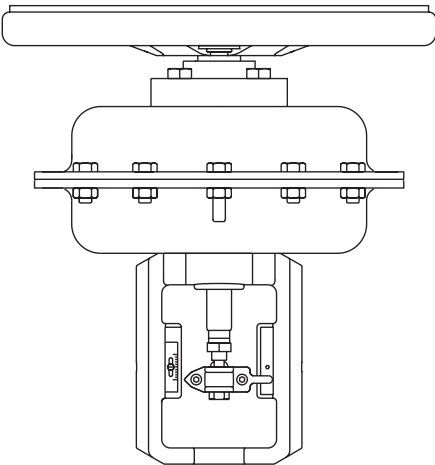
The PN9000 series actuators are a compact range of linear actuators that are available in 3 diaphragm sizes for matching the requirements of valves at various differential pressures.

Each actuator is fitted with a mechanical travel indicator and incorporates a fully-rolling diaphragm, which provides good linearity over the operating stroke.

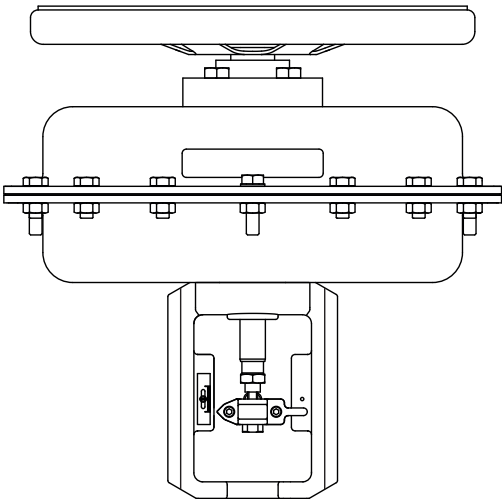
Available types	PN = Standard	Suffix E = Spring-extend	Important note: Throughout this document, reference has been made to the PN actuator.
		Suffix R = Spring-retract	
Optional extra	Manual handwheel	Suffix H	
	Anti-corrosive bolting	Suffix S	
Fast speed		Suffix F	



PN9100



PN9200EH



PN9336EH

Actuator force available in relation to motive air pressure

Actuator	Area of diaphragm cm ² (in ²)	Spring rating bar (psi)		Spring force E = Closed / R = Opened N (lbf)	Actuator force available in relation to motive air pressure N (lbf)					
					1	2	3	4	5	6
PN91_0 _	100 (15.5)	0.2 (2.9)	1.0 (14.5)	200 (45)		1000 (224.8)	2000 (449.6)	3000 (674.4)	4000 (899.2)	5000 (1124)
PN91_0 _		0.4 (5.8)	1.2 (17.4)	400 (89.9)		800 (179.8)	1800 (404.6)	2800 (629.4)	3800 (854.2)	4800 (1079)
PN91_6 _		1.0 (14.5)	2.0 (29)	1000 (224.8)			1000 (224.8)	2000 (449.6)	3000 (674.4)	4000 (899.2)
PN91_3 _		2.0 (29)	4.0 (58)	2000 (449.6)					1000 (224.8)	2000 (449.6)
PN92_0 _	340 (52.7)	0.2 (2.9)	1.0 (14.5)	680 (152.8)		3400 (764.3)	6800 (1528.7)	10200 (2293)		
PN92_0 _		0.4 (5.8)	1.2 (17.4)	1360 (305.7)		2720 (611.4)	6120 (1375.8)	9520 (2140.1)		
PN92_6 _		1.0 (14.5)	2.0 (29)	3400 (764.3)			3400 (764.3)	6800 (1375.8)	10200 (2293)	13600 (3057.4)
PN92_3 _		2.0 (29)	4.0 (58)	6800 (1528.7)					3400 (3012.4)	6800 (1528.7)
PN93_0 _	670 (103.9)	0.2 (2.9)	1.0 (14.5)	1340 (301.2)		6700 (1506.2)	13400 (3012.4)			
PN93_0 _		0.4 (5.8)	1.2 (17.4)	2680 (602.4)		5360 (1205)	12060 (2711.2)			
PN93_6 _		1.0 (14.5)	2.0 (29)	6700 (1506.2)			6700 (1506.2)	13400 (3012.4)		
PN93_7 _		2.5 (36.2)	3.5 (50.7)	16750 (3765.5)				3350 (753.1)		

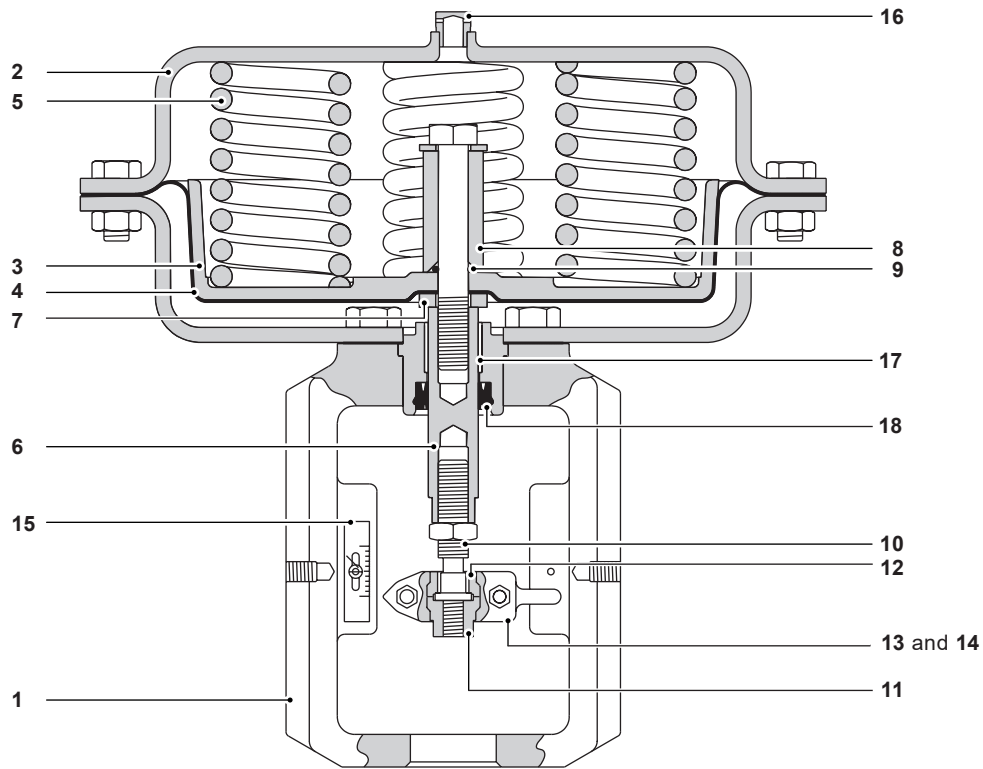
Technical data

Temperature range	Reinforced NBR Diaphragm	- 20 °C to +110 °C (- 4 °F to 230 °F)
	EPDM (T version)	-20 °C to +130 °C (- 4 °F to 266 °F)
Maximum operating inlet pressure	PN9100	6 bar g (87 psi g)
	PN9220E	3 bar g (43.4 psi g)
	PN9226E/PN9230E	4 bar g (58 psi g)
	PN9223E/PN9236E/PN9233E and PN9200R	6 bar g (87 psi g)
	PN9320E	2 bar g (29 psi g)
	PN9330E	3 bar g (43.4 psi g)
	PN9336E-PN9337E	4 bar g (58 psi g)
	PN9300R	2.7 bar g (39.1 psi g)
Air supply connection	1/4" NPT	
Actuator travel	PN9100	20 mm (0.79")
	PN922_ and PN932_	20 mm (0.79")
	PN923_ and PN933_	30 mm (1.18")
Reinforced NBR diaphragm		

Compliance

The PN9000 series actuator, when coupled to the Spira-trol™ control valve (as defined in the Technical Information sheets TI-S24-71 and TI-S24-72), complies with the requirements of Machinery Directive 2006/42EC. Please refer to the Installation and Maintenance Instructions for the PN9000 series (IM-P357-29) and the Spira-trol™ valve (IM-S24-42) for potential hazards and safety information relating to the installation, commissioning, maintenance and disposal of the product assembly and its component parts.

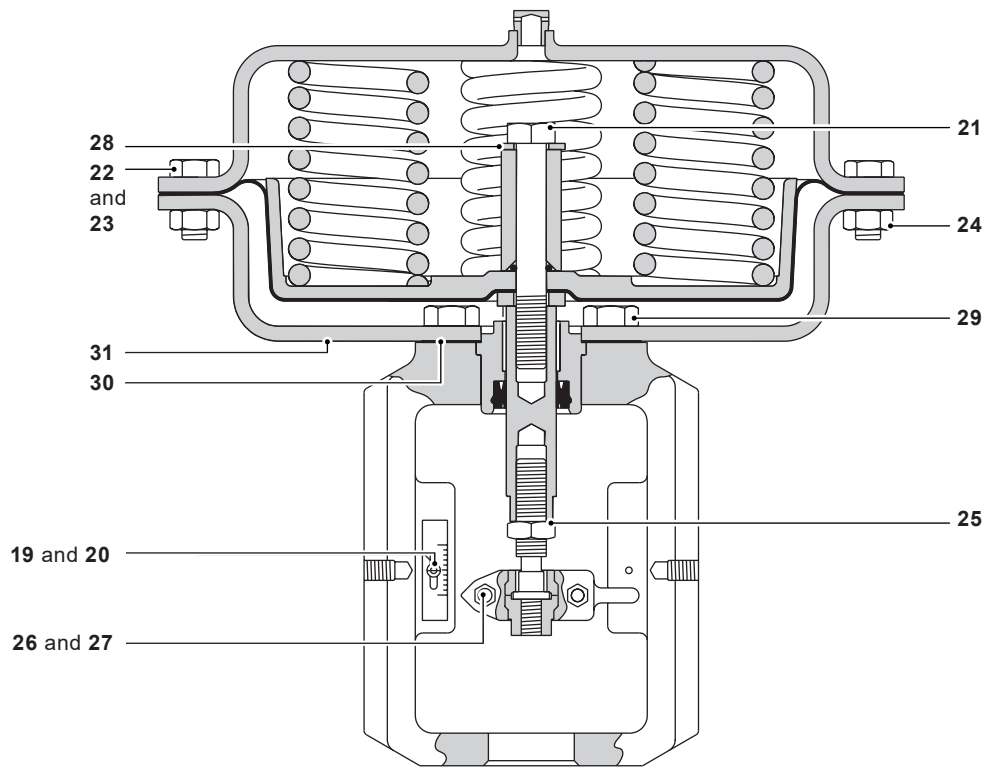
Materials



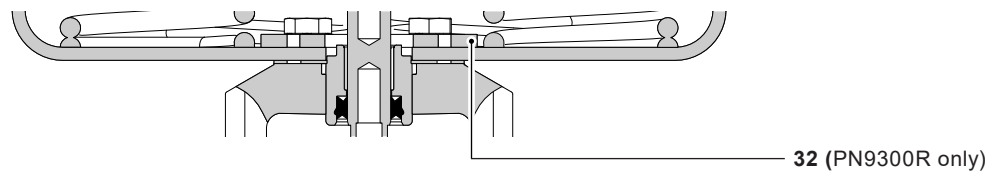
No.	Part	Material	
1	Yoke	SG iron	
2	Upper diaphragm housing	Carbon steel (Zn. plated)	
3	Diaphragm plate	Aluminium	
4	Diaphragm (optional EPDM for T version)	Reinforced NBR	
5	Spring	Spring steel	
6	Spindle	Stainless steel	
7	Washer	Carbon steel (Zn. plated)	
8	Spacer	Carbon steel (Zn. plated)	
9	'O' ring	Viton	
10	Connector	Stainless steel	BS 970 431 S29
11	Adaptor	Stainless steel	BS 970 431 S29
12	Collar	Stainless steel	1.4057
13	Clamp front	Stainless steel	BS 3100 Pt 2 304 C15
14	Clamp rear	Stainless steel	BS 3100 Pt 2 304 C15
15	Scale	Stainless steel	BS 1449 304 S16
16	Vent plug	Brass	
17	Bearing	PTFE/steel composite	
18	Seal	Polyurethane (FKM for T version)	

Materials continued on next page

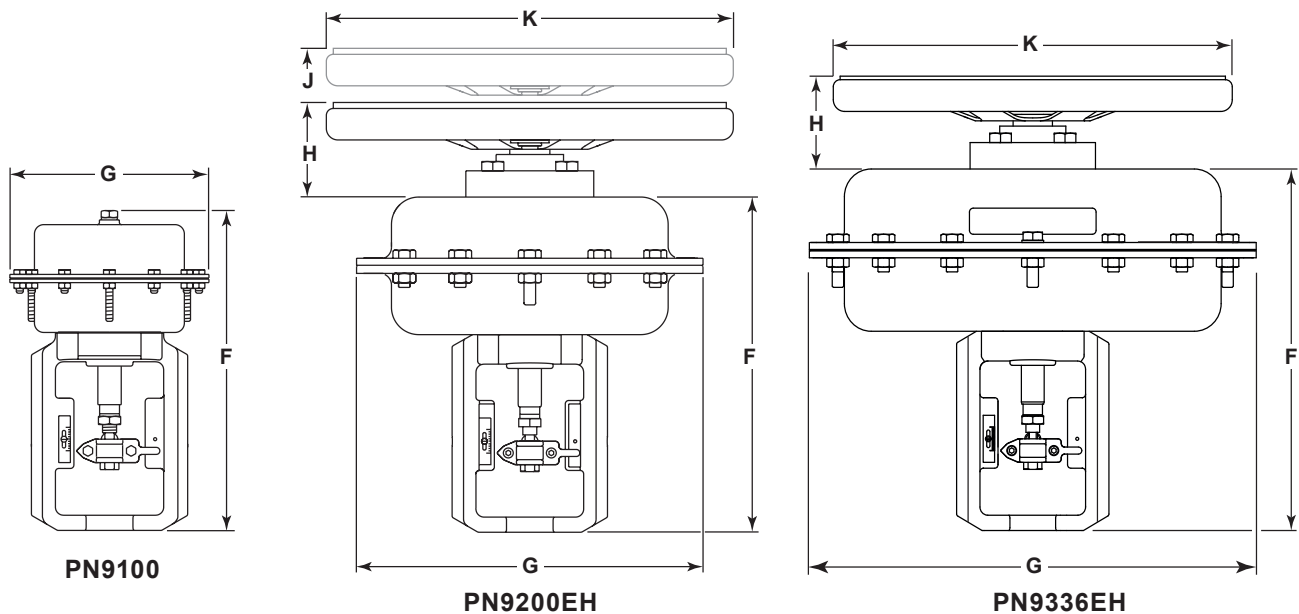
Materials (continued)



No.	Part		Material	
19	Pan head screw	PN9000	Carbon steel (Zn. plated)	
20	Nyloc nut	PN9000S	Stainless steel	A2 - 70
21	Bolt		Carbon steel (Zn. plated)	Gr. 8.8
22	Hex. head screw (short)	PN9000	Carbon steel (Zn. plated)	Gr. 8.8
23	Hex. head screw (long)			
24	Nut	PN9000S	Carbon steel (Zn. and AL. plated)	Gr. 8.8
25	Lock-nut		Stainless steel	A2 - 70
26	Socket head screw	PN9000	Carbon steel (Zn. plated)	Gr. 8.8
27	Nut	PN9000S	Stainless steel	A2 - 70
28	Washer		Carbon steel (Zn. plated)	
29	Hex. head screw		Carbon steel (Zn. plated)	Gr. 8.8 (Gr. 10.9 for PN9300R)
30	Gasket		Reinforced Graphite	
31	Lower diaphragm housing		Carbon steel (Zn. plated)	
32	Thrust plate	PN9300R only	Carbon steel	



Dimensions and weights (approximate) in mm (inches) and kg (lbs)



Actuator range	F		G		H		J (Handwheel lifted)		K		Weight			
	mm	(inches)	mm	(inches)	mm	(inches)	mm	(inches)	mm	(inches)	Actuator		With handwheel	
	kg	(lbs)	kg	(lbs)										
PN9100E and variants	275	10.8	170	6.7	55	2.1	75	2.9	225	8.9	6	13.2	+ 5.86	12.9
PN9100R and variants	275	10.8	170	6.7	120	4.7	140	5.5	225	8.9	6	13.2	+ 2.50	5.5
PN9200E and variants	300	11.8	300	11.8	65	2.5	85	3.3	350	13.8	17	37.5	+ 7.20	15.9
PN9200R and variants	300	11.8	300	11.8	132	5.1	152	6.0	350	13.8	17	37.5	+ 3.77	8.3
PN9230E and variants	335	13.2	300	11.8	65	2.5	95	3.7	350	13.8	17	37.5	+ 3.77	8.3
PN9230R and variants	335	13.2	300	11.8	122	4.8	152	6.0	350	13.8	17	37.5	+ 3.77	8.3
PN9320E and variants	325	12.8	390	15.4	65	2.5	85	3.3	350	13.8	27	59.5	+ 7.20	15.9
PN9320R and variants	325	12.8	390	15.4	132	5.1	152	6.0	350	13.8	27	59.5	+ 3.77	8.3
PN9330E and variants	335	13.2	390	15.4	65	2.5	95	3.7	350	13.8	27	59.5	+ 7.20	15.9
PN9330R and variants	335	13.2	390	15.4	122	4.8	152	6.0	350	13.8	27	59.5	+ 3.70	8.3
PN9336E and variants	335	13.2	390	15.4	65	2.5	95	3.7	350	13.8	27	59.5	+ 7.20	15.9
PN9336R and variants	335	13.2	390	15.4	122	4.8	152	6.0	350	13.8	27	59.5	+ 3.77	8.3
PN9337E and variants	335	13.2	390	15.4	410	16.1	410	16.1	350	13.8	27	59.5		

How to use the sizing data on the following pages:

The following tables supply guidance as to the sizing of the PN9000 when it is used on a Spira-trol™ control valve.

Two conditions are illustrated in tabular form:

Class IV shut-off - Providing shut-off of the valve to the requirements of BS 5793-4 (IEC 60534-4) class IV.

Class VI shut-off - Providing shut-off of the valve to the requirements of BS 5793-4 (IEC 60534-4) class VI.

To select a suitable actuator:

- Identify the column containing the valve and gland material selected.
- Identify the maximum operating pressure condition, including any transient pressures likely to occur, within the selected column.
- Read back to the left hand side of the table to identify the suitable actuator for the application.

For conditions outside of those illustrated please contact Spirax Sarco.

PN9000E
- Maximum differential pressures for Class IV shut-off
- Metal Seated (T & S)
- Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Cage Type		Standard Cage (S)																				
Valve size		DN15-25 (½"-1")																				
Actuator	Spring range bar (psi)	0.01-0.07 (0.012-0.081)			0.1-0.2 (0.12-0.23)			0.5 (0.58)			1.0 (1.2)			1.6 (1.8)			2.5 (2.9)					
		N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D			
		Maximum pressure bar g (psi g)																				
PN9120E	0.2-1.0	6.0	103.4				50.2															
	(3-15)	(87)	(1500)				(728)															
	0.4-1.2	6.0	103.4			25.0	103.4			96.6		25.0	67.6		17.6	26.5		0.6	12.2			
	(6-17)	(87)	(1500)			(363)	(1500)			(1401)		(363)	(980)		(255)	(384)		(9)	(177)			
PN9126E	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	81.4	25.0	85.5	47.3	25.0		
	(15-29)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1180)	(363)	(1240)	(686)	(363)		
PN9123E	2.0-4.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0		
	(29-58)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)		
PN9220E	0.2-1.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	94.6	25.0	103.4	66.1	25.0	85.4	25.7	25.0	49.8	11.7	25.0		
	(3-15)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1372)	(363)	(1500)	(959)	(363)	(1239)	(373)	(363)	(722)	(170)	(363)		
	0.4-1.2	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	98.2	25.0		
	(6-17)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1424)	(363)		
PN9226E	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0		
	(15-29)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)		
PN9223E	2.0-4.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0		
	(29-58)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)		
PN9320E	0.2-1.0	4.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	95.7	25.0		
	(3-15)	(58)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1388)	(363)		
	0.4-1.2	4.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0		
	(6-17)	(58)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)		

Table continued on next page

- Maximum differential pressures for Class IV shut-off
- Metal Seated (T & S)
- Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Actuator		Spring range bar (psi)	Cage Type	Standard Cage (S)																		Low noise cage - P1			
				DN15-25 (½"-1")																					
				Valve size																					
PN9120E		Kvs (Cv)	4.0 (4.6)			4.9-6.3 (5.7-7.3)			7.2 (8.3)			10 (12)			11 (12.7)			2.5-4-6.3-10 (2.9-4.6-7.3-12)							
			Maximum pressure bar g (psi g)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D				
PN9126E		6.0																							
			(87)																						
PN9123E		6.0	5.1																						
			(87)	(74)																					
PN9220E		6.0	56.0	29.5	25.0	27.8	12.9	21.3	20.5	8.7	15.4	15.4	5.8	11.2	11.4	3.7	8.0	11.4	3.7	8.0					
			(87)	(812)	(428)	(363)	(403)	(187)	(309)	(297)	(126)	(223)	(223)	(84)	(162)	(165)	(54)	(116)	(165)	(54)	(116)				
PN9226E		6.0	31.3	4.8	19.8	13.8		7.4	9.5		4.4	6.5		2.3	4.2		0.8	4.2		0.8					
			(87)	(454)	(70)	(287)	(200)		(107)	(138)		(64)	(94)		(33)	(61)		(12)	(61)		(12)				
PN9223E		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	93.0	83.5	25.0	74.4	66.7	25.0	74.4	66.7	25.0					
			(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1349)	(1211)	(363)	(1079)	(967)	(363)	(1079)	(967)	(363)	(1079)	(967)	(363)				
PN9320E		4.0	89.6	63.1	25.0	46.7	31.8	25.0	35.4	23.6	25.0	27.5	17.9	23.3	21.2	13.5	17.9	21.2	13.5	17.9					
			(58)	(1300)	(915)	(363)	(677)	(461)	(363)	(513)	(342)	(363)	(399)	(260)	(338)	(307)	(196)	(260)	(308)	(196)	(260)				

PN9000R
- Maximum differential pressures for Class IV shut-off
- Metal Seated (T & S)
- Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)											
			DN15-25 (½"-1")											
			0.01-0.07 (0.012-0.081)			0.1-0.2 (0.12-0.23)			0.5 (0.58)			1.0 (1.2)		
			N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D
PN9120R	0.2-1.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(3-15)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
	0.4-1.2	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(6-17)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
PN9126R	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(15-29)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
PN9123R	2.0-4.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(29-58)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
PN9220R	0.2-1.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(3-15)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
	0.4-1.2	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(6-17)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
PN9226R	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(15-29)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
PN9223R	2.0-4.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(29-58)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
PN9320R	0.2-1.0	2.7	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(3-15)	(0.18)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
	0.4-1.2	2.7	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(6-17)	(39.1)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)

Table continued on next page

- Maximum differential pressures for Class IV shut-off
- Metal Seated (T & S)
- Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Actuator	Cage Type	Standard Cage (S)																					Low noise cage - P1		
	Valve size	DN15-25 (½"-1")																							
	Spring range bar (psi)	Kvs (Cv)	4.0 (4.6)			4.9-6.3 (5.7-7.3)			7.2 (8.3)			10 (12)			11 (12.7)			2.5-4-6.3-10 (2.9-4.6-7.3-12)							
Maximum pressure bar g (psi g)		N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D						
PN9120R	0.2-1.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	102.9	102.9	25.0	103.4	102.9	25.0				
	(3-15)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1492)	(1492)	(363)	(1500)	(1492)	(363)				
	0.4-1.2	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	97.9	97.9	25.0	103.4	97.9	25.0				
	(6-17)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1133)	(1133)	(363)	(1500)	(1420)	(363)				
PN9126R	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	97.5	25.0	85.8	78.1	25.0	85.8	78.1	25.0	25.0				
	(15-29)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1414)	(363)	(1244)	(413)	(363)	(1239)	(1133)	(363)	(363)				
PN9123R	2.0-4.0	6.0	103.4	103.4	25.0	75.5	60.6	25.0	58.2	46.4	25.0	45.9	36.4	25.0	36.2	28.5	25.0	36.2	28.5	25.0	25.0				
	(29-58)	(87)	(1500)	(1500)	(363)	(1095)	(879)	(363)	(844)	(673)	(363)	(666)	(528)	(363)	(525)	(1500)	(363)	(525)	(413)	(363)	(363)				
PN9220R	0.2-1.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	25.0				
	(3-15)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(1500)	(363)				
	0.4-1.2	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	25.0				
	(6-17)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(1500)	(363)				
PN9226R	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	25.0				
	(15-29)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(1500)	(363)				
PN9223R	2.0-4.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	25.0				
	(29-58)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(1500)	(363)				
PN9320R	0.2-1.0	2.7	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	25.0				
	(3-15)	(39.1)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(1500)	(363)				
	0.4-1.2	2.7	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	25.0				
	(6-17)	(39.1)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(1500)	(363)				

PN9000E
- Maximum differential pressures for Class IV shut-off
- Metal Seated (T & S)
- Spira-trol
- DN32 - 50 (1 1/4" - 2")
- Flow under

Actuator		Cage Type	Standard Cage (S)																		
			Spring range bar (psi)	DN32-50 (1½"-2")																	
				4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)		
		Kvs (Cv)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	
PN9120E		Maximum pressure bar g (psi g)																			
		6.0 (87)	7.9 (115)																		
PN9126E		6.0 (87)	57.2 (830)	31.5 (457)	25.0 (363)	30.3 (439)	15.4 (223)	23.8 (345)	17.4 (252)	7.8 (113)	13.2 (191)	13.5 (196)	5.6 (81)	10.1 (146)	9.5 (138)	3.4 (49)	6.9 (100)	3.6 (52)	0.3 (4)	2.2 (32)	
		2.0-4.0 (87)	103.4 (1500)	103.4 (1500)	25.0 (363)	78.0 (1131)	63.1 (915)	25.0 (363)	47.9 (695)	38.4 (560)	25.0 (363)	38.8 (563)	30.9 (448)	25.0 (363)	29.1 (422)	23.0 (334)	25.0 (363)	14.2 (206)	10.9 (158)	12.7 (184)	
PN9220E		6.0 (87)	33.2 (482)	7.6 (110)	22.1 (320)	16.3 (236)	1.4 (20)	9.9 (144)	8.5 (123)		4.3 (62)	6.2 (90)		2.7 (39)	3.8 (55)		1.2 (17)	0.5 (7)			
		0.4-1.2 (87)	91.4 (1326)	65.7 (953)	25.0 (363)	50.2 (728)	35.2 (510)	25.0 (363)	30.1 (437)	20.6 (299)	25.0 (363)	24.1 (350)	16.2 (235)	20.6 (299)	17.7 (257)	11.6 (168)	15.0 (218)	8.0 (116)	4.7 (68)	6.6 (96)	
		1.0-2.0 (87)	103.4 (1500)	103.4 (1500)	25.0 (363)	103.4 (1500)	103.4 (1500)	25.0 (363)	95.0 (1378)	85.5 (1240)	25.0 (363)	77.7 (1127)	69.8 (1012)	25.0 (363)	59.2 (859)	53.1 (770)	25.0 (363)	30.5 (442)	27.2 (395)	25.0 (363)	
PN9223E		6.0 (87)	103.4 (1500)	103.4 (1500)	25.0 (363)	103.4 (1500)	103.4 (1500)	25.0 (363)	103.4 (1500)	103.4 (1500)	25.0 (363)	103.4 (1500)	103.4 (1500)	25.0 (363)	103.4 (1500)	103.4 (1500)	25.0 (363)	67.9 (985)	64.6 (937)	25.0 (363)	
		0.2-1.0 (58)	89.7 (1300)	64.0 (928)	25.0 (363)	49.2 (713)	34.3 (497)	25.0 (363)	29.5 (428)	19.9 (289)	25.0 (363)	23.5 (341)	15.6 (226)	20.1 (292)	17.3 (251)	11.1 (161)	14.6 (212)	7.8 (113)	4.5 (65)	6.3 (91)	
PN9320E		4.0 (58)	103.4 (1500)	103.4 (1500)	25.0 (363)	103.4 (1500)	100.9 (1463)	25.0 (363)	72.1 (1046)	62.6 (908)	25.0 (363)	58.8 (853)	50.9 (738)	25.0 (363)	44.6 (647)	38.4 (557)	25.0 (363)	22.5 (326)	19.2 (276)	21.7 (315)	
		0.4-1.2 (58)	103.4 (1500)	103.4 (1500)	25.0 (363)	103.4 (1500)	100.9 (1463)	25.0 (363)	72.1 (1046)	62.6 (908)	25.0 (363)	58.8 (853)	50.9 (738)	25.0 (363)	44.6 (647)	38.4 (557)	25.0 (363)	22.5 (326)	19.2 (276)	21.7 (315)	

Table continued on next page

- Maximum differential pressures for Class IV shut-off
 - Metal Seated (T & S)
 - Spira-trol
 - DN32 - 50 (1¼" - 2")
 - Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)						Low Noise Cage (P1)		
			DN32-50 (1¼"-2")								
			31-36 (36-42)			46-50 (53-58)			All Kvs		
		Valve size									
		Kvs (Cv)									
		Maximum pressure bar g (psi g)	N-P	H	D	N-P	H	D	N-P	H	D
PN9126E	1.0-2.0	6.0	2.3		1.2	1.0			1.0		
	(15-29)	(87)	(33)	(17)	(15)	(15)			(15)		
PN9123E	2.0-4.0	6.0	10.8	8.1	9.6	7.0	5.1	6.2	7.0	5.1	6.2
	(29-58)	(87)	(157)	(90)	(139)	(247)	(74)	(90)	(247)	(90)	(247)
PN9220E	0.4-1.2	6.0	5.8	3.2	4.7	3.5	1.6	2.7	3.5	1.6	2.7
	(6-17)	(87)	(84)	(39)	(68)	(51)	(23)	(39)	(51)	(39)	(51)
PN9226E	1.0-2.0	6.0	23.8	21.2	22.7	16.3	14.4	15.5	16.3	14.4	15.5
	(15-29)	(87)	(345)	(225)	(329)	(236)	(209)	(225)	(236)	(225)	(236)
PN9223E	2.0-4.0	6.0	53.8	51.2	25.0	37.7	35.8	16.0	37.7	35.8	25.0
	(29-58)	(87)	(780)	(363)	(363)	(547)	(519)	(232)	(547)	(232)	(547)
PN9320E	0.2-1.0	4.0	5.7	3.0	4.5	3.4	1.5	2.5	3.4	1.5	2.5
	(3-15)	(58)	(83)	(36)	(65)	(49)	(74)	(36)	(49)	(36)	(49)
	0.4-1.2	4.0	17.5	14.8	16.3	11.8	9.9	11.0	11.8	9.9	11.0
	(6-17)	(58)	(254)	(160)	(236)	(171)	(144)	(160)	(171)	(160)	(171)

PN9000R
- Maximum differential pressures for Class IV shut-off
- Metal Seated (T & S)
- Spira-trol
- DN32 - 50 (1 1/4" - 2")
- Flow under

Actuator		Cage Type	Standard Cage (S)																	
		Valve size	DN32-50 (1½"-2")																	
		4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)			
Spring range bar (psi)	Kvs (Cv)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	
	Maximum pressure bar g (psi g)																			
	0.2-1.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	87.7	81.6	25.0	45.9	42.6	25.0
	(3-15)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1272)	(1184)	(363)	(666)	(618)	(363)
	0.4-1.2	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	101.6	25.0	83.8	77.7	25.0	43.8	40.5	25.0
	(6-17)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1474)	(363)	(1215)	(1127)	(363)	(635)	(587)	(363)
PN9126R	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	99.5	25.0	89.3	81.4	25.0	68.2	62.1	25.0	35.3	32.0	25.0
	(15-29)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1443)	(363)	(1295)	(1181)	(363)	(989)	(901)	(363)	(515)	(464)	(363)
PN9123R	2.0-4.0	6.0	103.4	103.4	25.0	78.0	63.1	25.0	47.9	38.4	25.0	38.8	30.9	25.0	29.1	23.0	25.0	14.2	10.9	12.7
	(29-58)	(87)	(1500)	(1500)	(363)	(1131)	(915)	(363)	(695)	(560)	(363)	(563)	(448)	(363)	(422)	(334)	(363)	(206)	(158)	(184)
PN9220R	0.2-1.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(3-15)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(363)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
	0.4-1.2	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(6-17)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(363)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
PN9226R	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(15-29)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(363)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
PN9223R	2.0-4.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	67.9	64.6	25.0
	(29-58)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(363)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(985)	(937)	(363)
PN9320R	0.2-1.0	2.7	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(3-15)	(39.1)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(363)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
	0.4-1.2	2.7	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	100.4	25.0
	(6-17)	(39.1)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(363)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1456)	(363)

Table continued on next page

- Maximum differential pressures for Class IV shut-off
 - Metal Seated (T & S)
 - Spira-trol
 - DN32 - 50 (1¼" - 2")
 - Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)										Low noise cage (P1)	
		Valve size	DN32-50 (1¼"-2")											
		Kvs (Cv)	31-36 (36-42)					46-50 (53-58)					All Kvs	
		Maximum pressure bar g (psi g)	N-P	H	D	N-P	H	D	N-P	H	D			
PN9120R	0.2-1.0	6.0	36.2	33.5	25.0	25.1	23.2	24.3	25.1	23.2	24.3	25.1	23.2	24.3
	(3-15)	(87)	(525)	(486)	(363)	(364)	(336)	(352)	(364)	(364)	(364)	(364)	(364)	(352)
	0.4-1.2	6.0	34.5	31.8	25.0	23.9	22.0	23.1	23.9	22.0	23.1	23.9	22.0	23.1
	(6-17)	(87)	(500)	(461)	(363)	(346)	(319)	(335)	(346)	(346)	(346)	(346)	(346)	(335)
PN9126R	1.0-2.0	6.0	27.7	25.1	25.0	19.1	17.2	18.3	19.1	17.2	18.3	19.1	17.2	18.3
	(15-29)	(87)	(402)	(364)	(363)	(277)	(249)	(265)	(277)	(249)	(265)	(277)	(277)	(265)
PN9123R	2.0-4.0	6.0	10.8	8.1	9.6	7.0	5.1	6.2	7.0	5.1	6.2	7.0	5.1	6.2
	(29-58)	(87)	(157)	(117)	(139)	(102)	(74)	(90)	(102)	(74)	(90)	(102)	(102)	(90)
PN9220R	0.2-1.0	6.0	103.4	103.4	25.0	101.8	99.9	25.0	101.8	99.9	25.0	101.8	99.9	25.0
	(3-15)	(87)	(1500)	(1500)	(363)	(1476)	(1449)	(363)	(1476)	(1449)	(363)	(1476)	(1476)	(363)
	0.4-1.2	6.0	103.4	103.4	25.0	97.5	95.7	25.0	97.5	95.7	25.0	97.5	95.7	25.0
	(6-17)	(87)	(1500)	(1500)	(363)	(1414)	(1388)	(363)	(1414)	(1388)	(363)	(1414)	(1414)	(363)
PN9226R	1.0-2.0	6.0	103.4	103.4	25.0	80.4	78.6	25.0	80.4	78.6	25.0	80.4	78.6	25.0
	(15-29)	(87)	(1500)	(1500)	(363)	(1166)	(1140)	(363)	(1166)	(1140)	(363)	(1166)	(1166)	(363)
PN9223R	2.0-4.0	6.0	53.8	51.2	25.0	37.7	35.8	25.0	37.7	35.8	25.0	37.7	35.8	25.0
	(29-58)	(87)	(780)	(743)	(363)	(547)	(519)	(363)	(547)	(519)	(363)	(547)	(547)	(363)
PN9320R	0.2-1.0	2.7	94.3	91.6	25.0	66.5	64.7	25.0	66.5	64.7	25.0	66.5	64.7	25.0
	(3-15)	(39.1)	(1368)	(1329)	(363)	(965)	(938)	(363)	(965)	(938)	(363)	(965)	(965)	(363)
	0.4-1.2	2.7	82.5	79.8	25.0	58.1	56.2	25.0	58.1	56.2	25.0	58.1	56.2	25.0
	(6-17)	(39.1)	(1196)	(1157)	(363)	(843)	(815)	(363)	(843)	(815)	(363)	(843)	(843)	(363)

- Maximum differential pressures for Class IV shut-off

- Metal Seated (T & S)

- Spira-trol

- DN65 - 100 (2½" - 4")

- Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)																				
			DN65-100 (2½"-4")																		DN100 (4")		
			Valve size			16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
Kvs (Cv)	Maximum pressure bar g (psi g)	P	H	D	N-P	H	D	P	H	D	P	H	D	P	H	D	P	H	D	P	H	D	
PN9230E	0.2-1.0	6.0	2.8		1.2																		
	(3-15)	(87)	(41)		(17)																		
	0.4-1.2	6.0	16.6	6.3	15.0	5.4	0.9	4.7	3.2														
	(6-17)	(87)	(241)	(91)	(218)	(78)	(13)	(68)	(46)														
PN9236E	1.0-2.0	6.0	58.2	47.8	25.0	23.4	18.9	22.7	16.0	12.8	15.5	8.2	6.4	7.9	4.7	3.5	4.5	2.5	1.8	2.4			
	(15-29)	(87)	(844)	(693)	(363)	(339)	(274)	(329)	(232)	(186)	(225)	(119)	(93)	(115)	(68)	(51)	(22)	(36)	(26)	(35)			
PN9233E	2.0-4.0	6.0	103.4	103.4	16.0	53.4	48.9	25.0	37.4	34.2	25.0	20.2	18.4	19.9	12.4	11.2	6.5	7.3	6.6	7.2			
	(29-58)	(87)	(1500)	(1500)	(232)	(775)	(709)	(363)	(542)	(496)	(363)	(293)	(267)	(289)	(180)	(162)	(94)	(106)	(96)	(104)			
PN9330E	0.2-1.0	4.0	16.2	5.9	14.6	5.2	0.7	4.5	3.0		2.5	0.9		0.6									
	(3-15)	(58)	(235)	(86)	(212)	(75)	(10)	(65)	(44)		(36)	(13)		(9)									
	0.4-1.2	4.0	43.5	33.2	25.0	17.0	12.5	16.3	11.5	8.3	11.0	5.6	3.8	5.3	31.0	1.9	2.9	1.5	0.7	1.4			
	(6-17)	(58)	(631)	(482)	(363)	(247)	(181)	(236)	(167)	(120)	(160)	(81)	(55)	(77)	(450)	(28)	(42)	(22)	(10)	(20)			
PN9336E	1.0-2.0	4.0	103.4	103.4	25.0	52.5	48.0	25.0	36.7	33.5	25.0	19.8	18.0	19.5	12.2	11.0	12.2	7.1	6.4	7.0			
	(15-29)	(58)	(1500)	(1500)	(363)	(1197)	(696)	(363)	(532)	(486)	(363)	(287)	(261)	(283)	(177)	(160)	(180)	(103)	(93)	(102)			
PN9337E	2.5-3.5	4.0	103.4	103.4	25.0	103.4	103.4	25.0	99.9	96.7	25.0	55.4	53.6	25.0	34.9	33.8	25.0	21.3	20.6	21.2			
	(36)-3.5	(58)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1149)	(1403)	(363)	(804)	(777)	(363)	(506)	(490)	(363)	(309)	(299)	(307)			

Table continued on next page

- Maximum differential pressures for Class IV shut-off
- Metal Seated (T & S)
 - Spira-trol
 - DN65 - 100 (2½" - 4")
 - Flow under

Actuator	Spring range bar (psi)	Cage Type	Low Noise Cage (P1)							
		Valve size	DN65-100 (2½"-4")				DN100 (4")			
		Kvs (Cv)	All Kvs				All Kvs			
		Maximum pressure bar g (psi g)	P	H	D	P	H	D	P	D
PN9230E	0.2-1.0	6.0								
	(3-15)	(87)								
	0.4-1.2	6.0								
	(6-17)	(87)								
PN9236E	1.0-2.0	6.0	4.7	3.5	4.5	2.5	1.8	2.4		
	(15-29)	(87)	(51)	(65)	(36)	(26)	(35)	(35)		
PN9233E	2.0-4.0	6.0	12.4	11.2	12.2	7.3	6.6	7.2		
	(29-58)	(87)	(162)	(177)	(106)	(96)	(104)	(104)		
PN9330E	0.2-1.0	4.0								
	(3-15)	(58)								
	0.4-1.2	4.0	3.1	1.9	2.9	1.5	0.7	1.4		
	(6-17)	(58)	(28)	(42)	(22)	(10)	(20)	(20)		
PN9336E	1.0-2.0	4.0	12.2	11.0	12.0	7.1	6.4	7		
	(15-29)	(58)	(160)	(174)	(103)	(93)	(102)	(102)		
PN9337E	2.5-3.5	4.0	34.9	33.8	25.0	21.3	20.6	21.2		
	(36)-3.5	(58)	(490)	(363)	(309)	(299)	(307)	(307)		

- Maximum differential pressures for Class IV shut-off**- Metal Seated (T & S)****- Spira-trol****- DN65 - 100 (2½" - 4")****- Flow under**

Actuator		Cage Type	Standard Cage (S)																		
		Valve size	DN65-100 (2½"-4")																		
		16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)				
PN9230R	Spring range bar (psi)	Maximum pressure bar g (psi g)	P	H	D	N-P	H	D	P	H	D	P	H	D	P	H	D	P	H	D	
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	101.5	98.3	25.0	56.3	54.5	25.0	35.5	34.3	25.0	21.7	20.9	21.6	
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(440)	(1426)	(363)	(817)	(790)	(363)	(515)	(497)	(363)	(314)	(303)	(313)	
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	97.2	94.0	25.0	53.9	52.1	25.0	33.9	32.8	25.0	20.7	20.0	20.6	
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1363)	(1363)	(363)	(782)	(756)	(363)	(492)	(476)	(363)	(300)	(290)	(299)	
PN9236R	(15-29)	6.0	103.4	103.4	25.0	103.4	103.4	25.0	80.1	76.9	25.0	44.2	42.4	25.0	27.8	26.6	25.0	16.9	16.2	16.8	
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1162)	(1115)	(363)	(641)	(613)	(363)	(403)	(386)	(363)	(245)	(235)	(244)	
PN9233R	(29-58)	6.0	103.4	103.4	25.0	53.4	48.9	25.0	37.4	34.2	25.0	20.2	18.4	19.9	12.4	11.2	12.2	7.3	6.6	7.2	
		(87)	(1500)	(1500)	(363)	(775)	(702)	(363)	(542)	(914)	(363)	(293)	(267)	(363)	(180)	(162)	(177)	(106)	(96)	(104)	
PN9330R	0.2-1.0	2.7	103.4	103.4	25.0	93.8	89.3	25.0	66.2	63.0	25.0	36.4	34.6	25.0	22.8	21.6	22.6	13.8	13.0	13.6	
	(3-15)	(39.1)	(1500)	(1500)	(363)	(1360)	(1295)	(363)	(960)	(792)	(363)	(528)	(502)	(289)	(331)	(313)	(328)	(200)	(189)	(202)	
	0.4-1.2	2.7	103.4	103.4	25.0	82.0	77.5	25.0	57.8	54.6	25.0	31.7	29.8	25.0	19.7	18.6	19.6	11.9	11.1	11.7	
PN9336R	(15-29) <td>(6-17)</td> <td>(39.1)</td> <td>(1500)</td> <td>(1500)</td> <td>(363)</td> <td>(1189)</td> <td>(1124)</td> <td>(363)</td> <td>(838)</td> <td>(303)</td> <td>(363)</td> <td>(460)</td> <td>(432)</td> <td>(363)</td> <td>(286)</td> <td>(270)</td> <td>(284)</td> <td>(173)</td> <td>(160)</td> <td>(170)</td>	(6-17)	(39.1)	(1500)	(1500)	(363)	(1189)	(1124)	(363)	(838)	(303)	(363)	(460)	(432)	(363)	(286)	(270)	(284)	(173)	(160)	(170)
		1.0-2.0	2.7	84.5	74.1	25.0	34.8	30.3	25.0	24.1	20.9	23.6	12.7	10.9	12.4	7.6	6.5	7.4	4.3	3.6	4.2
		(39.1)	(1226)	(1075)	(363)	(505)	(439)	(363)	(350)	(303)	(342)	(184)	(158)	(180)	(110)	(94)	(107)	(62)	(52)	(61)	

Table continued on next page

- Maximum differential pressures for Class IV shut-off
- Metal Seated (T & S)
 - Spira-trol
 - DN65 - 100 (2½" - 4")
 - Flow under

Actuator	Spring range bar (psi)	Cage Type	Low Noise Cage (P1)					
			DN65-80 (2½"-3")			DN100		
			All Kvs			All Kvs		
			P	H	D	P	H	D
PN9230R	0.2-1.0	Valve size	35.5	34.3	25.0	21.7	20.9	21.6
	(3-15)	Kvs (Cv)	(515)	(497)	(55)	(315)	(303)	(313)
	0.4-1.2	Maximum pressure bar g (psi g)	33.9	32.8	25.0	20.7	20.0	20.6
	(6-17)		(492)	(476)	(55)	(300)	(290)	(299)
PN9236R	1.0-2.0		27.8	26.6	25.0	16.9	16.2	16.8
	(15-29)		(403)	(386)	(55)	(235)	(235)	(244)
PN9233R	2.0-4.0		12.4	11.2	12.2	7.3	6.6	7.2
	(29-58)		(180)	(162)	(27)	(106)	(96)	(104)
PN9330R	0.2-1.0		22.8	21.6	22.6	13.8	13.0	13.6
	(3-15)		(331)	(313)	(59)	(200)	(189)	(197)
	0.4-1.2		19.7	18.6	19.6	11.9	11.1	11.7
	(6-17)		(286)	(270)	(43)	(173)	(161)	(170)
PN9336R	1.0-2.0		7.6	6.5	7.4	4.3	3.6	4.2
	(15-29)		(110)	(94)	(16)	(52)	(52)	(61)

- Maximum differential pressures for Class VI shut-off

- Resilient Seated (P & Steam-Tight)

- Spira-trol

- DN15 - 25 (½" - 1")

- Flow under

Cage Type		Standard Cage (S)											
		DN15-25 (½"-1")											
Actuator	Spring range bar (psi)	Valve size											
		0.01-0.07 (0.012-0.081)			0.1-0.2 (0.12-0.23)			0.5 (0.58)			1.0 (1.2)		
PN9126E	Kvs (Cv)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D
		19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
PN9123E	Maximum pressure bar g (psi g)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
		19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
PN9220E	1.0-2.0	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
	(15-29)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
	1.0-2.0	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
	(15-29)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
PN9320E	0.2-1.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(3-15)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
	0.4-1.2	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(6-17)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
PN9320E	0.2-1.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(3-15)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)

Table continued on next page

- Maximum differential pressures for Class VI shut-off
 - Resilient Seated (P & Steam-Tight)
 - Spira-trol
 - DN15 - 25 (½" - 1")
 - Flow under

		Cage Type	Standard Cage (S)																		Low noise cage (P1-A1)									
			DN15-25 (½"-1")																											
			4.0 (4.6)			4.9-6.3 (5.7-7.3)			7.2 (8.3)			10 (12)			11 (12.7)			2.5-4-6.3-10 (2.9-4.6-7.3-12)												
Actuator	Spring range bar (psi)	Valve size	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	
		Kvs (Cv)																												
		Maximum pressure bar g (psi g)																												
		6.0	19.0	19.0	19.0	19.0	19.0	17.6	19.0	19.0	19.0	13.8	19.0	18.6	10.9	15.3	18.6	10.9												
		(87)	(276)	(276)	(276)	(276)	(276)	(255)	(276)	(276)	(276)	(200)	(276)	(270)	(158)	(222)	(270)	(158)												
PN9126E	1.0-2.0	6.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	15.3
	(15-29)																													(222)
	1.0-2.0	6.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	4.7	19.0	
PN9123E	(15-29)	(87)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(68)	(276)	
	0.2-1.0	6.0	19.0	18.1	19.0	19.0	8.9	17.4	18.3	6.6	13.2	14.5	4.9	10.3	11.4	3.6	8.0	11.4	3.6										8.0	
	(3-15)	(87)	(276)	(263)	(276)	(276)	(276)	(129)	(252)	(263)	(96)	(191)	(210)	(71)	(149)	(165)	(52)	(165)	(52)										(116)	
PN9220E	0.4-1.2	6.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	
	(6-17)	(87)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)		(276)	
	0.2-1.0	4.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	
PN9320E	(3-15)	(58)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)		(276)	

PN9000E
- Maximum differential pressures for Class VI shut-off
- Resilient Seated (P & Steam-Tight)
- Spira-trol
- DN32 - 50 (1¼" - 2")
- Flow under

Cage Type		Standard Cage (S)														
		DN32-50 (1¼"-2")														
		4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)		
Actuator	Spring range bar (psi)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D
		Maximum pressure bar g (psi g)	Kvs (Cv)	Valve size												
PN9126E	1.0-2.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(15-29)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
PN9123E	2.0-4.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(29-58)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
PN9220E	0.2-1.0	19.0	17.4	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(3-15)	(276)	(129)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
	0.4-1.2	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(6-17)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
PN9226E	1.0-2.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(15-29)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
PN9320E	0.2-1.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(3-15)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)
	0.4-1.2	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(6-17)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)	(276)

Table continued on next page

- Maximum differential pressures for Class VI shut-off
- Resilient Seated (P & Steam-Tight)
- Spira-trol
- DN32 - 50 (1¼" - 2")
- Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)						Low Noise Cage (P1-A1-P2-A2)			
			DN32-50 (1¼"-2")						All Kvs			
			31-36 (36-42))			46-50 (53-58)						
			N-P	H	D	N-P	H	D	N-P	H	D	D
PN9126E	1.0-2.0	6.0	5.5	2.8	4.3	3.6	1.7	2.8	3.6	1.7	2.8	
	(15-29)	(87)	(80)	(41)	(62)	(52)	(25)	(41)	(25)	(25)	(41)	
PN9123E	2.0-4.0	6.0	13.9	11.3	12.8	9.7	7.8	8.8	9.7	7.8	8.8	
	(29-58)	(87)	(202)	(164)	(186)	(141)	(113)	(128)	(113)	(113)	(128)	
PN9220E	0.2-1.0	6.0	3.0	0.4	1.9	1.9		1.1	1.9		1.1	
	(3-15)	(87)	(44)	(6)	(28)	(28)		(16)	(28)		(16)	
	0.4-1.2	6.0	9.0	6.4	7.9	6.1	4.3	5.3	6.1	4.3	5.3	
	(6-17)	(87)	(131)	(93)	(115)	(88)	(62)	(77)	(62)	(62)	(77)	
PN9226E	1.0-2.0	6.0	19.0	19.0	19.0	19.0	17.1	18.2	19.0	17.1	18.2	
	(15-29)	(87)	(276)	(276)	(276)	(276)	(248)	(264)	(248)	(248)	(264)	
PN9320E	0.2-1.0	4.0	8.8	6.2	7.7	6.0	4.1	5.2	6.0	4.1	5.2	
	(3-15)	(58)	(128)	(90)	(112)	(87)	(59)	(75)	(59)	(59)	(75)	
	0.4-1.2	4.0	8.8	6.2	7.7	6.0	4.1	5.2	6.0	4.1	5.2	
	(6-17)	(58)	(128)	(90)	(112)	(87)	(59)	(75)	(59)	(59)	(75)	

PN9000E
es for Class VI shut-off
ated (P & Steam-Tight)
- Spira-trol
- DN65 - 100 (2½" - 4")
- Flow under

[illegible]

Table continued on next page

- Maximum differential pressures for Class VI shut-off
- Resilient Seated (P & Steam-Tight)
- Spira-trol
- DN65 - 100 (2½" - 4")
- Flow under

Actuator	Spring range bar (psi)	Cage Type	Low Noise Cage (P1-A1-P2-A2)					
			DN65-80 (2½"-3")			DN100 (4")		
			All Kvs			All Kvs		
			N-P	H	D	N-P	H	D
PN9230E	0.2-1.0 (3-15)	Valve size Kvs (Cv) Maximum pressure bar g (psi g)						
		6.0 (87)						
PN9230E	0.4-1.2 (6-17)	6.0 (87)	1.7 (25)	0.5 (7)	1.5 (22)	0.9 (13)		0.8 (12)
PN9236E	1.0-2.0 (15-29)	6.0 (87)	6.3 (91)	5.1 (74)	6.1 (88)	3.7 (54)	3.0 (44)	3.6 (52)
PN9233E	2.0-4.0 (29-58)	6.0 (87)	14.0 (203)	12.8 (186)	5.0 (73)	8.5 (123)	7.8 (113)	8.4 (122)
PN9330E	0.2-1.0 (3-15)	4.0 (58)	1.6 (23)	0.5 (7)	1.4 (20)	0.8 (12)		0.7 (10)
	0.4-1.2 (6-17)	4.0 (58)	4.7 (68)	3.5 (51)	4.5 (65)	2.7 (39)	2.0 (29)	2.6 (38)
PN9336E	1.0-2.0 (15-29)	4.0 (58)	13.8 (200)	12.6 (183)	13.6 (197)	8.4 (122)	7.7 (112)	8.3 (120)
PN9337E	2.5-3.5 (36)-3.5	4.0 (58)				19.0 (276)	19.0 (276)	19.0 (276)

PN9000E
- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Cage Type		Standard Cage (S)											
		DN15-25 (½"-1")											
		0.01-0.07 (0.012-0.081)			0.1-0.2 (0.12-0.23)			0.5 (0.58)			1.0 (1.2)		
Actuator	Spring range bar (psi)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D
		Maximum pressure bar g (psi g)											
PN9120E	0.2-1.0	6.0	4.0		4.0			4.0			4.0		
	(3-15)	(87)	(58)		(58)			(58)			(58)		
	0.4-1.2	6.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0		4.0
	(6-17)	(87)	(58)	(58)	(58)		(58)	(58)		(58)	(58)		(58)
PN9126E	1.0-2.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(15-29)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9123E	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(29-58)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9220E	0.2-1.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(3-15)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(6-17)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)

Table continued on next page

PN9000E
- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

		Cage Type	Standard Cage (S)																		Low Noise Cage (P1)		
			DN15-25 (½"-1")																				
Actuator	Spring range bar (psi)	Valve size	4.0 (4.6)			4.9-6.3 (5.7-7.3)			7.2 (8.3)			10 (12)			11 (12.7)			2.5-4-6-3-10 (2.9-4.6-7.3-12)					
			N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D			
	Maximum pressure bar g (psi g)																						
			4.0			3.3				2.5			1.9			1.5			1.5				
			(87)	(58)		(48)				(36)			(28)			(22)			(22)				
PN9120E	0.4-1.2	6.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		3.9	4.0		3.1	4.0		3.1			
	(6-17)	(87)	(58)		(58)	(58)		(58)	(58)		(58)	(58)		(57)	(58)		(45)	(58)		(45)			
	1.0-2.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
PN9126E	(15-29)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)			
	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
PN9123E	(29-58)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)			
	0.2-1.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
PN9220E	(3-15)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)			
	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
	(6-17)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)			

PN9000R
- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
- Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

		Cage Type	Standard Cage (S)																				
			DN15-25 (½"-1")																				
Actuator		Valve size	0.01-0.07 (0.012-0.081)						0.1-0.2 (0.12-0.23)			0.5 (0.58)			1.0 (1.2)			1.6 (1.8)			2.5 (2.9)		
		Maximum pressure bar g (psi g)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D
PN9120R		6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
		(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
		6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
(6-17)		(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
1.0-2.0		6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
(15-29)		(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	

Table continued on next page

- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
 - Spira-trol
 - DN15 - 25 (½" - 1")
 - Flow under

Actuator	Cage Type	Standard Cage (S)																		Low Noise Cage (P1)			
		DN15-25 (½"-1")																					
		Valve size	4.0 (4.6)			4.9-6.3 (5.7-7.3)			7.2 (8.3)			10 (12)			11 (12.7)			2.5-4.6-3-10 (2.9-4.6-7.3-12)					
Spring range bar (psi)	Kvs (Cv)																						
	Maximum pressure bar g (psi g)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	
	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
PN9120R	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
	(6-17)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
	1.0-2.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
PN9126R	(15-29)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	

PN9000E
- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
- Spira-trol
- DN32 - 50 (1¼" - 2")
- Flow under

Cage Type		Standard Cage (S)																	
		DN32-50 (1¼"-2")																	
		4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)		
Actuator	Spring range bar (psi)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D
		Maximum pressure bar g (psi g)																	
PN9120E	0.2-1.0	6.0			3.3			1.9			1.5			1.1			0.4		
	(3-15)	(87)			(48)			(28)			(22)			(22)			(6)		
	0.4-1.2	6.0		4.0	4.0		4.0	4.0		3.9	4.0		4.0	4.0		2.3	2.5		1.1
	(6-17)	(87)		(58)	(58)		(57)	(58)		(58)	(58)		(47)	(58)		(33)	(36)		(16)
PN9126E	1.0-2.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(15-29)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9123E	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(29-58)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9220E	0.2-1.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(3-15)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(6-17)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9226E	1.0-2.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(15-29)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9223E	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(29-58)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)

Table continued on next page

- Maximum differential pressures for Class VI shut-off
 - PTFE Seated (G)
 - Spira-trol
 - DN32 - 50 (1¼" - 2")
 - Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)						Low noise cage (P1)		
		Valve size	DN32-50 (1¼"-2")								
			31-36 (36-42)			46-50 (53-58)			All Kvs		
		Kvs (Cv)	N-P	H	D	N-P	H	D	N-P	H	D
		Maximum pressure bar g (psi g)									
PN9120E	0.2-1.0	6.0	0.3								
	(3-15)	(87)	(4)								
	0.4-1.2	6.0	2.0		0.8	1.3		0.5	1.3		0.5
	(6-17)	(87)	(29)		(12)	(19)		(7)	(19)		(7)
PN9126E	1.0-2.0	6.0	4.0	4.0	4.0	4.0	3.1	4.0	4.0	3.1	4.0
	(15-29)	(87)	(58)	(58)	(58)	(58)	(45)	(58)	(58)	(45)	(58)
PN9123E	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(29-58)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9220E	0.2-1.0	6.0	4.0	1.9	3.4	3.2	1.3	2.4	3.2	1.3	2.4
	(3-15)	(87)	(58)	(28)	(28)	(46)	(19)	(35)	(46)	(19)	(35)
	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(6-17)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9226E	1.0-2.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(15-29)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9223E	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(29-58)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)

PN9000R
- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
- Spira-trol
- DN32 - 50 (1¼" - 2")
- Flow under

Actuator		Cage Type	Standard Cage (S)																		
		Valve size	DN32-50 (1½"-2")																		
		Kvs (Cv)	4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)			
PN9120R		Maximum pressure bar g (psi g)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	
		0.2-1.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		(3-15)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
		0.4-1.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		(6-17)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9126R		1.0-2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
		(15-29)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9123R		2.0-4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
		(29-58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9220R		0.2-1.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
		(3-15)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
		0.4-1.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		(6-17)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)

Table continued on next page

- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
- Spira-trol
- DN32 - 50 (1¼" - 2")
- Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)						Low Noise Cage (P1)		
		Valve size	DN32-50 (1¼"-2")								
			31-36 (36-42)			46-50 (53-58)			All Kvs		
		Kvs (Cv)	N-P	H	D	N-P	H	D	N-P	H	D
		Maximum pressure bar g (psi g)									
PN9120R	0.2-1.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(3-15)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(6-17)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9126R	1.0-2.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(15-29)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9123R	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(29-58)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9220R	0.2-1.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(3-15)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(6-17)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)

PN9000E
- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
- Spira-trol
- DN65 - 100 (2½" - 4")
- Flow under

Cage Type		Standard Cage (S)																	
		DN65-100 (2½-4")																	
		16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
Actuator	Spring range bar (psi)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D
		Maximum pressure bar g (psi g)																	
PN9230E	0.2-1.0	6.0	4.0	4.0	4.0	4.0	3.4	2.9	4.0	2.4	1.5	2.1	3.7	0.9	1.3	0.8	0.5		0.4
	(3-15)	(87)	(58)	(58)	(58)	(58)	(49)	(42)	(58)	(35)	(22)		(19)	(13)	(12)	(7)			(6)
	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	2.1	3.7	2.5	3.7	2.3	1.5	0.8	1.4
	(6-17)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(57)	(30)	(54)	(36)	(19)	(33)	(22)	(12)	(20)
PN9236E	1.0-2.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.7	4.3
	(15-29)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(54)	(62)
PN9233E	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(29-58)	(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9330E	0.2-1.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	3.9	2.1	3.6	2.4	3.6	3.6	1.5	0.7	1.4
	(3-15)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(55)	(57)	(30)	(52)	(35)	(19)	(52)	(22)	(10)	(20)
	0.4-1.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.4	2.6	3.2
	(6-17)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(49)	(38)	(46)
PN9336E	1.0-2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(15-29)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9337E	2.5-3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(36)-3.5	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)

Table continued on next page

- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
- Spira-trol
- DN65 - 100 (2½" - 4")
- Flow under

Actuator	Spring range bar (psi)	Cage Type	Low Noise Cage (P1)					
			DN65-80 (2½-3")			DN100 (4")		
			All Kvs			All Kvs		
			N-P	H	D	N-P	H	D
PN9230E	0.2-1.0	Valve size	0.9		0.8	0.5		0.4
	(3-15)	Kvs (Cv)	(13)		(12)	(7)		(6)
	0.4-1.2	Maximum pressure bar g (psi g)	2.5	1.3	2.3	1.5	0.8	1.4
	(6-17)		(36)	(19)	(33)	(22)	(12)	(20)
PN9236E	1.0-2.0	6.0	4.0	4.0	4.0	4.0	3.7	4.0
	(15-29)	(87)	(58)	(58)	(58)	(58)	(54)	(58)
PN9233E	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
	(29-58)	(87)	(58)	(58)	(58)	(58)	(58)	(58)
PN9330E	0.2-1.0	4.0	2.4	1.3	3.6	1.5	0.7	1.4
	(3-15)	(58)	(35)	(19)	(52)	(22)	(10)	(20)
	0.4-1.2	4.0	4.0	4.3	4.0	3.4	2.6	3.2
	(6-17)	(58)	(58)	(62)	(58)	(49)	(38)	(46)
PN9336E	1.0-2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(15-29)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
PN9337E	2.5-3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	(36)-3.5	(58)	(58)	(58)	(58)	(58)	(58)	(58)

PN9000R
- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
- Spira-trol
- DN65 - 100 (2½" - 4")
- Flow under

Actuator		Cage Type		Standard Cage (S)																	
		Valve size		DN65-100 (2½-4")																	
				16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
Spring range bar (psi)		Kvs (Cv)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	
		Maximum pressure bar g (psi g)																			
		6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)
		6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PN9230R		(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
		(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
		6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
PN9236R		(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
		6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
		(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
PN9233R		6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
		(87)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
		2.7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
PN9330R		(39.1)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
		2.7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
		(39.1)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
		2.7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
PN9336R		(39.1)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	(58)	
		2.7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	

Table continued on next page

- Maximum differential pressures for Class VI shut-off
- PTFE Seated (G)
- Spira-trol
- DN65 - 100 (2½" - 4")
- Flow under

Actuator	Spring range bar (psi)	Cage Type	Low Noise Cage (P1)					
			DN65-80 (2½-3")			DN100 (4")		
			All Kvs			All Kvs		
			N-P	H	D	N-P	H	D
PN9230R	0.2-1.0	Valve size	4.0	4.0	4.0	4.0	4.0	4.0
	(3-15)	Kvs (Cv)	(58)	(58)	(58)	(58)	(58)	(58)
	0.4-1.2	Maximum pressure bar g (psi g)	4.0	4.0	4.0	4.0	4.0	4.0
	(6-17)		(58)	(58)	(58)	(58)	(58)	(58)
PN9236R	1.0-2.0		4.0	4.0	4.0	4.0	4.0	4.0
	(15-29)		(58)	(58)	(58)	(58)	(58)	(58)
PN9233R	2.0-4.0		4.0	4.0	4.0	4.0	4.0	4.0
	(29-58)		(58)	(58)	(58)	(58)	(58)	(58)
PN9330R	0.2-1.0		4.0	4.0	4.0	4.0	4.0	4.0
	(3-15)		(58)	(58)	(58)	(58)	(58)	(58)
	0.4-1.2		4.0	4.0	4.0	4.0	4.0	4.0
	(6-17)		(58)	(58)	(58)	(58)	(58)	(58)
PN9336R	1.0-2.0		4.0	4.0	4.0	4.0	4.0	4.0
	(15-29)		(58)	(58)	(58)	(58)	(58)	(58)

PN9000E
- Maximum differential pressures for Class IV shut-off
- Hard Facing (W)
- Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Actuator	Cage Type	Standard Cage (S)																							
	Valve size	DN15-25 (1/2"-1")																							
	Kvs (Cv)	0.01-0.07 (0.012-0.081)			0.1-0.2 (0.12-0.23)			0.5 (0.58)			1.0 (1.2)			1.6 (1.8)			2.5 (2.9)								
PN9120E	Maximum pressure bar g (psi g)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D			
	6.0	92.8																							
	(87)	(1346)																							
	6.0	103.4		25.0	103.4		25.0	64.6		39.8				6.5											
	(87)	(1500)		(363)	(1500)		(363)	(940)		(577)				(94)											
PN9126E	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	61.4	25.0	69.5	31.3	25.0						
	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(891)	(363)	(1008)	(454)	(363)						
PN9123E	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	25.0	25.0			
	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)			
PN9220E	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	62.6	25.0	103.4	38.0	25.0	65.4	5.7	25.0	33.8		25.0						
	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	6(38)	(363)	(1500)	(1500)	(363)	(1500)	(83)	(363)	(490)		(363)						
	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	82.2	17.3						
	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1192)	(251)						
PN9226E	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	25.0	25.0			
	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)			
PN9223E	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	25.0	25.0			
	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)			
PN9320E	4.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	79.7	25.0						
	(58)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1156)	(363)						
	4.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	25.0	25.0			
	(58)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)			

Table continued on next page

- Maximum differential pressures for Class IV shut-off
- Hard Facing (W)
- Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)																		Low Noise Cage (P1-A1)	
			Valve size	DN15-25 (½" -1")																		
				4.0 (4.6)			4.9-6.3 (5.7-7.3)			7.2 (8.3)			10 (12)			11 (12.7)			2.5-4-6.3-10 (2.9-4.6-7.3-12)			
			N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D		
PN9126E	1.0-2.0	6.0	42.7	16.2	25.0	17.8	2.9	11.3	11.6		6.5	7.4		3.2	4.2		0.8	4.2		0.8		
	(15-29)	(87)	(619)	(235)	(363)	(258)	(42)	(164)	(168)		(94)	(107)		(46)	(61)		(12)	(61)		(12)		
PN9123E	2.0-4.0	6.0	103.4	101.1	25.0	65.5	50.6	25.0	49.3	37.5	25.0	37.9	28.4	25.0	29.0	21.3	25.0	29.0	21.3	25.0		
	(29-58)	(87)	(1500)	(1466)	(363)	(950)	(734)	(363)	(715)	(544)	(363)	(550)	(412)	(363)	(421)	(309)	(363)	(421)	(309)	(363)		
PN9220E	0.2-1.0	6.0	17.9		6.5	3.8			0.6													
	(3-15)	(87)	(260)		(94)	(55)			(9)													
	0.4-1.2	6.0	78.1	51.5	25.0	37.7	22.7	25.0	27.3	15.5	25.0	20.1	10.6	16.0	14.5	6.8	11.2	14.5	6.8	11.2		
	(6-17)	(87)	(1133)	(747)	(363)	(547)	(329)	(363)	(396)	(225)	(363)	(292)	(154)	(232)	(210)	(99)	(162)	(210)	(99)	(162)		
PN9226E	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	95.7	25.0	85.0	75.5	25.0	67.2	59.5	25.0	67.2	59.5	25.0		
	(15-29)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1388)	(363)	(1233)	(1095)	(363)	(975)	(863)	(363)	(975)	(863)	(363)		
PN9223E	2.0-4.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0		
	(29-58)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)		
PN9320E	0.2-1.0	4.0	76.3	49.8	25.0	36.7	21.8	25.0	26.5	14.7	25.0	19.5	9.9	15.3	14.0	6.3	10.7	14.0	6.3	10.7		
	(3-15)	(58)	(1107)	(722)	(363)	(532)	-316	(363)	(384)	(213)	(363)	(283)	(144)	(222)	(203)	(91)	(155)	(203)	(91)	(155)		
	0.4-1.2	4.0	103.4	103.4	25.0	103.3	88.4	25.0	79.2	67.4	25.0	62.1	52.6	25.0	48.6	40.9	25.0	48.6	40.9	25.0		
	(6-17)	(58)	(1500)	(1500)	(363)	(1500)	(1282)	(363)	(1149)	(978)	(363)	(901)	(763)	(363)	(705)	(593)	(363)	(705)	(593)	(363)		

- Maximum differential pressures for Class IV shut-off

- Hard Facing (W)

- Spira-trol

- DN15 - 25 (½" - 1")

- Flow under

		Standard Cage (S)																		
		DN15-25 (½"-1")																		
Cage Type		0.01-0.07 (0.012-0.081)			0.1-0.2 (0.12-0.23)			0.5 (0.58)			1.0 (1.2)			1.6 (1.8)			2.5 (2.9)			
Valve size		N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	
Actuator	Spring range bar (psi)	Kvs (Cv)	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
		Maximum pressure bar g (psi g)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
PN9120R	(6-17)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
PN9126R	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
		2.0-4.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
		(29-58)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
PN9220R	(3-15)	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
PN9226R	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0

Table continued on next page

- Maximum differential pressures for Class IV shut-off
- Hard Facing (W)
- Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)																		Low Noise Cage (P1-A1)
			DN15-25 (½"-1")																		
			4.0 (4.6)			4.9-6.3 (5.7-7.3)			7.2 (8.3)			10 (12)			11 (12.7)			2.5-4-6.3-10 (2.9-4.6-7.3-12)			
		Valve size	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	
PN9120R	0.2-1.0		Maximum pressure bar g (psi g)																		
			6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	95.7	25.0	103.4	95.7	25.0
	(3-15)		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1388)	(363)	(1500)	(1388)	(363)
	0.4-1.2		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	98.4	90.7	25.0	98.4	90.7	25.0
PN9126R	(6-17)		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1427)	(1315)	(363)	(1427)	(1315)	(363)
	1.0-2.0		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	99.0	89.5	25.0	78.6	70.9	25.0	78.6	70.9	25.0
	(15-29)		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1436)	(1298)	(363)	(1140)	(1028)	(363)	(1140)	(1028)	(363)
	2.0-4.0		6.0	103.4	101.1	25.0	65.5	50.6	25.0	49.3	37.5	25.0	37.9	28.4	25.0	29.0	21.3	25.0	29.0	21.3	25.0
PN9123R	(29-58)		(87)	(1500)	(363)	(363)	(950)	(734)	(363)	(715)	(544)	(363)	(550)	(412)	(363)	(421)	(309)	(363)	(421)	(309)	(363)
	0.2-1.0		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(3-15)		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
	0.4-1.2		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
PN9226R	(6-17)		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)
	1.0-2.0		6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0
	(15-29)		(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)

PN9000E
- Maximum differential pressures for Class IV shut-off
- Hard Facing (W)
- Spira-trol
- DN32 - 50 (1¼" - 2")
- Flow under

Actuator	Cage Type	Standard Cage (S)																	
	Valve size	DN32-50 (1½"-2")																	
	Kvs (Cv)	4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)		
PN9126E	Maximum pressure bar g (psi g)	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D
	6.0	40.8	15.1	25.0	17.8	2.9	11.3	7.4					3.2	4.4		1.0	1.5		
	(87)	(592)	(219)	(363)	(258)	(42)	(164)	(107)					(46)	(64)		(15)	(22)		
	6.0	103.4	97.2	25.0	65.5	50.6	25.0	37.9	28.4	25.0	29.7	21.8	16.0	21.1	15.0	18.4	8.3	5.0	6.8
	(87)	(1500)	(1410)	(363)	(950)	(734)	(363)	(550)	(412)	(431)	(431)	(316)	(232)	(306)	(218)	(267)	(120)	(73)	(99)
PN9123E	6.0	16.8		5.7	3.8														
	(87)	(244)		(83)	(55)														
	6.0	75.0	49.3	25.0	37.7	22.7	25.0	20.1	10.6	16.0	15.0	7.1	11.5	9.7	3.6	7.0	2.1		0.7
	(87)	(1088)	(715)	(363)	(547)	(329)		(292)	(154)	(218)	(218)	(103)	(167)	(141)	(52)	(102)	(30)		(10)
	6.0	103.4	103.4	25.0	103.4	103.4	25.0	85.0	75.5	25.0	68.6	60.7	16.0	51.2	45.1	25.0	24.6	21.3	23.2
PN9226E	(87)	(1500)	(1500)		(1500)	(1500)		(1233)	(1095)	(363)	(995)	-880	(232)	(743)	(654)	(363)	(357)	(309)	(336)
	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	16.0	103.4	103.4	25.0	62.0	58.7	25.0
	(87)	(1500)	(1500)		(1500)	(1500)		(1500)	(1500)	(363)	(1500)	(1500)	(232)	(1500)	-1500	(363)	(899)	(851)	(363)
	4.0	73.3	47.6	25.0	36.7	21.8	25.0	19.5	9.9	15.3	14.4	6.5	11.0	9.3	3.1	6.6	1.9		0.5
	(58)	(1063)	(690)		(532)	(316)		(283)	(144)	(222)	(209)	(94)	(160)	(135)	(45)	(96)	(28)		(7)
PN9320E	4.0	103.4	103.4	25.0	103.3	88.4	25.0	62.1	52.6	25.0	49.7	41.8	16.0	36.6	30.4	25.0	16.7	13.3	15.2
	(58)	(1500)	(1500)		(1500)	(1282)		(901)	(763)	(363)	(721)	(606)	(232)	(531)	(441)	(363)	(242)	(193)	(220)

Table continued on next page

- Maximum differential pressures for Class IV shut-off
 - Hard Facing (W)
 - Spira-trol
 - DN32 - 50 (1¼" - 2")
 - Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)						Low Noise Cage (P1-P2-P3-A1-A2)		
			DN32-50 (1¼"-2")								
			31-36 (36-42)			46-50 (53-58)			All Kvs		
			N-P	H	D	N-P	H	D	N-P	H	D
PN9123E	2.0-4.0	Valve size									
	(29-58)	Kvs (Cv)	5.5	2.9	4.4	2.6	0.7	1.7	2.6	0.7	1.7
		Maximum pressure bar g (psi g)	(80)	(42)	(64)	(38)	(10)	(25)	(38)	(10)	(25)
PN9220E	0.2-1.0										
	(3-15)										
	0.4-1.2		0.6								
	(6-17)		(9)								
PN9226E	1.0-2.0		18.6	15.9	17.4	11.9	10.0	11.0	11.9	10.0	11.0
	(15-29)		(270)	(231)	(252)	(173)	(145)	(160)	(173)	(145)	(160)
PN9223E	2.0-4.0		48.6	45.9	25.0	33.2	31.4	25.0	33.2	31.4	25.0
	(29-58)		(705)	(666)	(363)	(482)	(455)	(363)	(482)	(455)	(363)
PN9320E	0.2-1.0		0.4								
	(3-15)		(6)								
	0.4-1.2		12.2	9.6	11.1	7.3	5.4	6.5	7.3	5.4	6.5
	(6-17)		(177)	(139)	(161)	(106)	(78)	(94)	(106)	(78)	(94)

PN9000R
- Maximum differential pressures for Class IV shut-off
- Hard Facing (W)
- Spira-trol
- DN32 - 50 (1 1/4" - 2")
- Flow under

Actuator	Cage Type	Standard Cage (S)																		
	Valve size	DN32-50 (1½"-2")																		
	Spring range bar (psi)	4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)			
		N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	
PN9120R	Kvs (Cv)	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	97.6	73.6	25.0	40.0	36.7	25.0
	Maximum pressure bar g (psi g)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1416)	(1067)	(363)	(580)	(532)	(363)
	6.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	100.4	92.5	25.0	75.8	69.7	25.0	37.9	34.6	25.0	
	(87)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1456)	(1342)	(363)	(1099)	(1011)	(363)	(550)	(502)	(363)	
PN9126R	1.0-2.0	103.4	103.4	25.0	103.4	103.4	25.0	99.0	89.5	25.0	80.2	72.3	25.0	60.2	54.1	25.0	29.4	26.1	25.0	
	(15-29)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1436)	(1298)	(363)	(1163)	(1049)	(363)	(873)	(785)	(363)	(426)	(379)	(363)	
PN9123R	2.0-4.0	103.4	97.2	25.0	65.5	50.6	25.0	37.9	28.4	25.0	29.7	21.8	25.0	21.1	15.0	18.4	8.3	5.0	6.8	
	(29-58)	(1500)	(1410)	(363)	(950)	(734)	(363)	(55)	(412)	(363)	(431)	(316)	(363)	(306)	(218)	(267)	(120)	(73)	(99)	
PN9220R	0.2-1.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	
	(3-15)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	
	0.4-1.2	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	
	(6-17)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	
PN9226R	1.0-2.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	
	(15-29)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	
PN9223R	2.0-4.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	62.0	58.7	25.0	
	(29-58)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(899)	(851)	(363)	
PN9320R	0.2-1.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	
	(3-15)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	
	0.4-1.2	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	103.4	103.4	25.0	
	(6-17)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	

Table continued on next page

- Maximum differential pressures for Class IV shut-off
 - Hard Facing (W)
 - Spira-trol
 - DN32 - 50 (1¼" - 2")
 - Flow under

Actuator	Spring range bar (psi)	Cage Type	Standard Cage (S)						Low Noise Cage (P1-P2-P3-A1-A2)		
			DN32-50 (1¼"-2")						All Kvs		
			31-36 (36-42)			46-50 (53-58)			N-P	H	D
			N-P	H	D	N-P	H	D			
PN9120R	0.2-1.0	Valve size	30.9	28.3	25.0	20.7	18.8	19.8	20.7	18.8	19.8
	(3-15)	Kvs (Cv)	(448)	(410)	(363)	(300)	(273)	(287)	(300)	(273)	(287)
	0.4-1.2	Maximum pressure bar g (psi g)	29.2	26.6	25.0	19.5	17.6	18.6	19.5	17.6	18.6
	(6-17)	(87)	(424)	(386)	(309)	(283)	(270)	(270)	(283)	(270)	(270)
PN9126R	1.0-2.0	6.0	22.5	19.8	21.3	14.6	12.7	13.8	14.6	12.7	13.8
	(15-29)	(87)	(326)	(287)	(64)	(212)	(184)	(200)	(212)	(184)	(200)
PN9123R	2.0-4.0	6.0	5.5	2.9	4.4	2.6	0.7	1.7	2.6	0.7	1.7
	(29-58)	(87)	(80)	(42)	(363)	(38)	(10)	(25)	(38)	(10)	(25)
PN9220R	0.2-1.0	6.0	103.4	103.4	25.0	97.4	95.5	25.0	97.4	95.5	25.0
	(3-15)	(87)	(1500)	(1500)	(363)	(1413)	(1385)	(363)	(1413)	(1385)	(363)
	0.4-1.2	6.0	103.4	103.4	25.0	93.1	91.2	25.0	93.1	91.2	25.0
	(6-17)	(87)	(1500)	(1500)	(363)	(1350)	(1323)	(363)	(1350)	(1323)	(363)
PN9226R	1.0-2.0	6.0	103.4	103.4	25	76.0	74.1	25.0	76.0	74.1	25.0
	(15-29)	(87)	(1500)	(1500)	(363)	(1102)	(1075)	(363)	(1102)	(1075)	(363)
PN9223R	2.0-4.0	6.0	48.6	45.9	25	33.2	31.4	25.0	33.2	31.4	25.0
	(29-58)	(87)	(705)	(666)	(363)	(482)	(455)	(363)	(482)	(455)	(363)
PN9320R	0.2-1.0	2.7	89	86.4	25	62.1	60.2	25.0	62.1	60.2	25.0
	(3-15)	(39.1)	(1291)	(1253)	(363)	(901)	(751)	(363)	(901)	(751)	(363)
	0.4-1.2	2.7	77.2	74.6	25	53.7	51.8	25.0	53.7	51.8	25.0
	(6-17)	(39.1)	(1120)	(1082)	(363)	(779)	(751)	(363)	(779)	(751)	(363)

- Maximum differential pressures for Class IV shut-off

- Hard Facing (W)

- Spira-trol

- DN65 - 100 (2½" - 4")

- Flow under

Actuator	Spring range bar bar (psi)	Cage Type	Standard Cage (S)																		
			Valve size	DN65-100 (2½-4")																	
				16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
			N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	N-P	H	D	
PN9230E	0.4-1.2	6.0	8.6		7.0																
	(6-17)	(87)	(125)		(102)																
PN9236E	1.0-2.0	6.0	50.2	39.8	25.0	18.1	13.6	17.4	11.5	8.3	11.0	4.8	3.0	4.5	2.0	0.9	1.8	0.4		0.3	
	(15-29)	(87)	(728)	(577)	(363)	(263)	(197)	(252)	(167)	(120)	(160)	(70)	(44)	(65)	(29)	(13)	(26)	(6)		(4)	
PN9233E	2.0-4.0	6.0	103.4	103.4	25.0	48.1	43.6	25.0	32.9	29.7	25.0	16.9	15.0	16.6	9.7	8.6	9.5	5.2	4.5	5.1	
	(29-58)	(87)	(1500)	(1500)	(363)	(698)	(632)	(363)	(477)	(431)	(363)	(245)	(218)	(241)	(141)	(125)	(138)	(75)	(65)	(74)	
PN9330E	0.2-1.0	4.0	8.2		6.6																
	(3-15)	(58)	(119)		(96)																
	0.4-1.2	4.0	35.5	25.2	25.0	11.8	7.3	11.1	7.0	3.8	6.5	2.3	0.5	2.0	0.4		0.2				
	(6-17)	(58)	(515)	(370)	(363)	(171)	(171)	(161)	(102)	(55)	(94)	(33)	(7)	(29)	(6)		(3)				
PN9336E	1.0-2.0	4.0	103.4	103.4	25.0	47.2	42.7	25.0	32.3	29.1	15.9	16.5	14.7	16.2	9.5	8.3	9.3	5.0	4.3	4.9	
	(15-29)	(58)	(1500)	(1500)	(363)	(685)	(685)	(363)	(468)	(422)	(231)	(239)	(213)	(235)	(138)	(120)	(135)	(73)	(62)	(71)	
PN9337E	2.5-3.5	4.0	103.4	103.4	25.0	103.4	103.4	25.0	95.5	92.3	25.0	52.0	50.2	25.0	32.2	31.1	25.0	19.2	18.5	19.1	
	(36)-3.5	(58)	(1500)	(1500)	(363)	(1500)	(1500)	(363)	(1385)	(1339)	(363)	(754)	(728)	(363)	(467)	(451)	(363)	(278)	(268)	(277)	

Table continued on next page

- Maximum differential pressures for Class IV shut-off
- Hard Facing (W)
- Spira-trol
- DN65 - 100 (2½" - 4")
- Flow under

Actuator	Spring range bar (psi)	Cage Type	Low Noise Cage (P1-A1-P2-A2-P3)					
			DN65-80 (2½-3")			DN100 (4")		
			All Kvs			All Kvs		
			N-P	H	D	N-P	H	D
PN9236E	1.0-2.0	Valve size	2.0	0.9	1.8	0.4		0.3
	(15-29)	Kvs (Cv)	(29)	(13)	(26)	(6)		(4)
		Maximum pressure bar g (psi g)						
PN9233E	2.0-4.0		9.7	8.6	9.5	5.2	4.5	5.1
	(29-58)		(141)	(125)	(138)	(75)	(65)	(74)
PN9330E	0.2-1.0							
	(3-15)							
	0.4-1.2		0.4		0.2			
	(6-17)		(6)		(3)			
PN9336E	1.0-2.0		9.5	8.3	9.3	5.0	4.3	4.9
	(15-29)		(138)	(120)	(135)	(73)	(62)	(71)
PN9337E	2.5-3.5		32.2	31.1	25.0	19.2	18.5	19.1
	(36)-3.5		(467)	(451)	(363)	(278)	(268)	(277)

Cage Type		Standard Cage (S)														
		DN65-100 (2½-4")														
		16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)		
Actuator	Spring range bar (psi)	N-P			H			D			N-P			H		
		D			N-P			H			D			N-P		
PN9230R	Kvs (Cv)	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
	Maximum pressure bar g (psi g)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)
	6.0	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
	(87)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)
PN9236R	6.0	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
	(87)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)
	1.0-2.0	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
	(15-29)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)
PN9233R	6.0	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
	(87)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)
	2.0-4.0	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
	(29-58)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)
PN9330R	4.0	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
	(58)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)
	0.4-1.2	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
	(6-17)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)
PN9336R	4.0	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
	(58)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)
	1.0-2.0	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4	103.4
	(15-29)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)	(1500)

Table continued on next page

- Maximum differential pressures for Class IV shut-off
- Hard Facing (W)
- Spira-trol
- DN65 - 100 (2½" - 4")
- Flow under

Actuator	Spring range bar (psi)	Cage Type	Low Noise Cage (P1-A1-P2-A2-P3)					
			DN65-80 (2½-3")			DN100 (4")		
			All Kvs			All Kvs		
			N-P	H	D	N-P	H	D
PN9230R	0.2-1.0	Valve size	32.8	31.7	25.0	19.6	18.8	19.4
	(3-15)	Kvs (Cv)	(476)	(460)	(363)	(284)	(284)	(284)
	0.4-1.2	Maximum pressure bar g (psi g)	31.3	30.1	25.0	18.6	17.9	18.5
	(6-17)		(454)	(437)	(363)	(270)	(270)	(270)
PN9236R	1.0-2.0		25.1	24.0	24.9	14.8	14.0	14.7
	(15-29)		(364)	(348)	(361)	(215)	(215)	(215)
PN9233R	2.0-4.0		9.7	8.6	9.5	5.2	4.5	5.1
	(29-58)		(141)	(125)	(138)	(75)	(75)	(75)
PN9330R	0.2-1.0		20.1	19.0	19.9	11.6	10.9	11.5
	(3-15)		(292)	(276)	(289)	(168)	(168)	(168)
	0.4-1.2		17.1	15.9	16.9	9.8	9.0	9.6
	(6-17)		(248)	(231)	(245)	(142)	(142)	(142)
PN9336R	1.0-2.0		4.9	3.8	4.8	2.1	1.5	2.1
	(15-29)		(71)	(55)	(70)	(30)	(30)	(30)

PN9000 series selection guide:

Before making your PN9000 series selection please reference pages 6 to 26 - Sizing data

How to use the sizing data:

The tables supply guidance as to the sizing of the PN9000 when it is used on a SPIRA-TROL control valve.

Two conditions are illustrated in tabular form:

Class IV shut-off - Providing shut-off of the valve to the requirements of BS 5793-4 (IEC 60534-4) class IV.

Class VI shut-off - Providing shut-off of the valve to the requirements of BS 5793-4 (IEC 60534-4) class VI.

To select a suitable actuator:

- Identify the column containing the valve and gland material selected.
- Identify the maximum operating pressure condition, including any transient pressures likely to occur, within the selected column.
- Read back to the left hand side of the table to identify the suitable actuator for the application.

For conditions outside of those illustrated please contact Spirax Sarco.

Type	PN = Polyester powder coated (standard)		PN
Series	9 = 9000 series		9
Actuator size	1 = 100 cm²	(39.3"²)	3
	2 = 340 cm²	(133"²)	
	3 = 670 cm²	(263"²)	
Valve travel	2 = 20 mm	(0.78")	3
	3 = 30 mm	(1.18")	
Spring rating	0 = 0.2 to 1.0 bar (option for 0.4 to 1.2 bar) (2.9 to 14 psi (option for 2.8 to 17.4 bar))		7
	3 = 2.0 to 4.0 bar	(29 to 58 psi)	
	6 = 1.0 to 2.0 bar	(14.5 to 19 psi)	
	7 = 2.5 to 3.5 bar (PN933_ series only	(36.2 to 50.7 psi (PN933_ series only)	
Spring action	E = Spring-extend		E
	R = Spring-retract		
Yoke type (DN15 - DN50)	Blank = Spira-trol™ K and L Series (M34)		
	B = Spira-trol™ J Series (M50)		
Manual override	H = Handwheel (optional)		
Anti-corrosive bolting	S = Anti-corrosive bolting (optional)		
Fast Speed	F = version with the higher capacity of speed (possible only PN92_ and PN93_)		
Diaphragm	Blank = Standard		
	T = High Temperature EPDM diaphragm		

How to order / selection example:

1 off Spirax Sarco PN9337E pneumatic actuator.

Spare parts

The only spares available are clearly indicated below and are common for both spring-extend and spring-retract versions.

Available spares

Stem seal kit	17, 18, 30
Diaphragm kit	4, 9
Travel indicator kit	15, 19, 20
Spring kit	5
Linkage kit (Spira-trol™ valves)	10, 13, 14, 26, 27

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the actuator model.

Example: 1 - Stem seal kit for a PN9123E pneumatic actuator.

