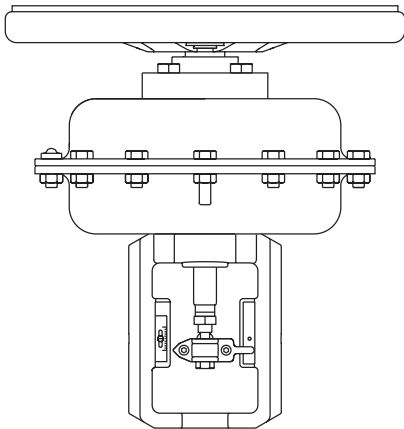
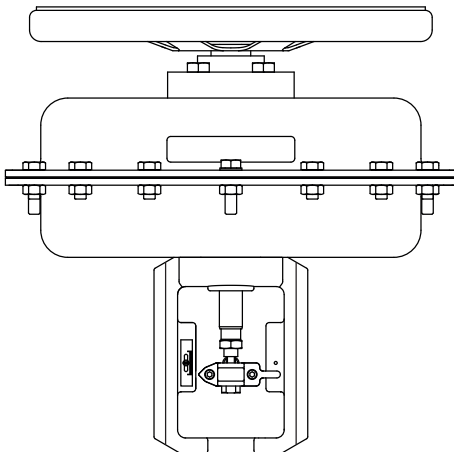


PN9100



PN9200EH



PN9336EH

Pneumatic Actuators for use with GCV Control Valves

PN9000 Series

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.

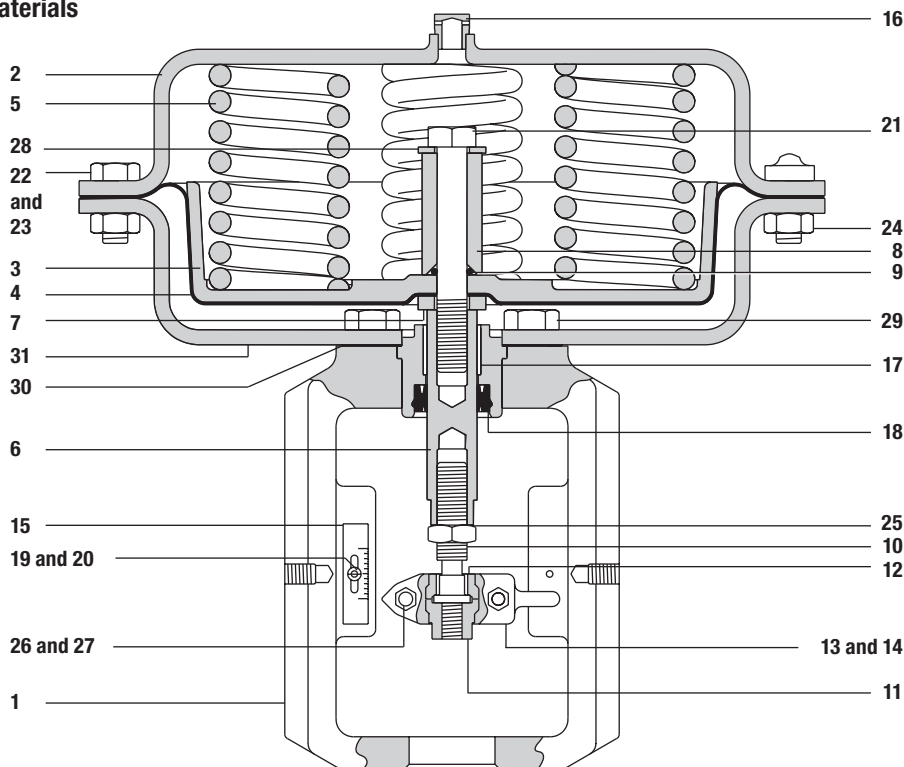
Available types	PN = Standard	Suffix E = Spring-extend
		Suffix R = Spring-retract
Optional extra	Manual handwheel	Suffix H
	Anti-corrosive bolting	Suffix S
Fast speed		Suffix F

Important note: Throughout this document, reference has been made to the PN actuator.

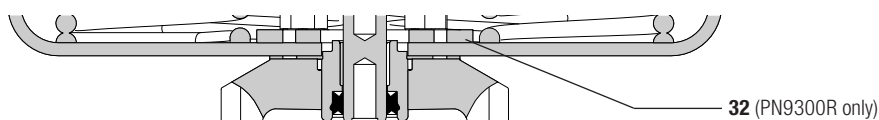
Actuator force available in relation to motive air pressure

Actuator	Area of diaphragm (cm ²)	Spring rating (bar)	Spring force E = Closed R = Opened (N)	Actuator force available in relation to motive air pressure (N)					
				1	2	3	4	5	6
PN91_0 _	96	0.2 1.0	192		968	1920	2880	3840	4800
PN91_0 _	96	0.4 1.2	384		768	1728	2688	3648	3840
PN91_6 _	96	1.0 2.0	960			960	1920	2880	3840
PN91_3 _	96	2.0 4.0	1920					960	1920
PN92_0 _	340	0.2 1.0	680		3400	6800	10200	13600	17000
PN92_0 _	340	0.4 1.2	1360		2720	6120	9520	12920	16320
PN92_6 _	340	1.0 2.0	3400			3400	6800	10200	13600
PN92_3 _	340	2.0 4.0	6800					3400	6800
PN93_0 _	670	0.2 1.0	1340		6700	13400	20100		
PN93_0 _	670	0.4 1.2	2680		5360	12060	18760		
PN93_6 _	670	1.0 2.0	6700			6700	13400		
PN93_7 _	670	2.5 3.5	16750				3350		

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 FKM for T version
18	Seal	Polyurethane
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)	PN9000 Carbon steel (Zn. plated) Gr. 8.8
24	Nut	PN9000S Carbon steel (Zn. and A1. 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



Technical data

Temperature range	Reinforced NBR Diaphragm	- 20 °C to +110 °C
	EPDM (T version)	-20 °C to +130 °C
Maximum operating inlet pressure	PN9100	6 bar g
	PN9200	6 bar g
	PN9300E	4 bar g
	PN9300R	2.7 bar g
Air supply connection		¼" NPT
Actuator travel	PN9100	20 mm
	PN922_ and PN932_	20 mm
	PN923_ and PN933_	30 mm
Reinforced NBR diaphragm		

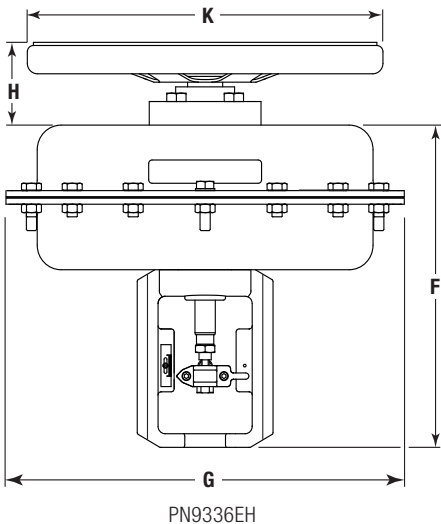
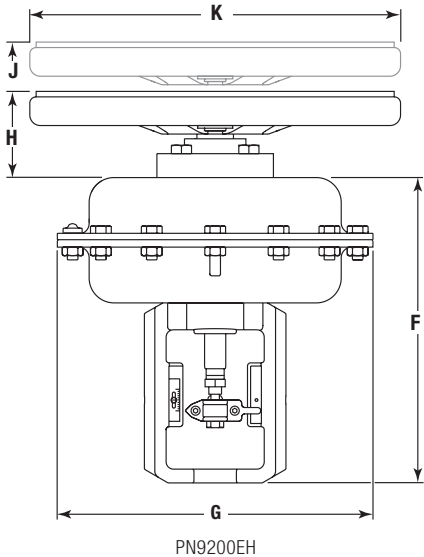
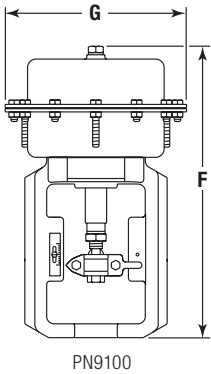
Compliance

The PN9000 series actuator, when coupled to the Spira-trol™ control valve (as defined in the Technical Information sheets TI-S45-09 and TI-S45-07), complies with the requirements of Machinery Directive 2006/42EC.

Please refer to the Installation and Maintenance Instructions for the PN9000 series (IM-S49-02) and the Spira-trol™ valve (IM-S45-08) for potential hazards and safety information relating to the installation, commissioning, maintenance and disposal of the product assembly and its component parts.

Dimensions/weights (approximate) in mm and kg

Actuator range	F	G	H	J (Handwheel lifted)	K	Weight	
						Actuator	With handwheel
PN9100E and variants	275	170	55	75	225	6	+ 5.86
PN9100R and variants	275	170	120	140	225	6	+ 2.50
PN9200E and variants	300	300	65	85	350	17	+ 7.20
PN9200R and variants	300	300	132	152	350	17	+ 3.77
PN9230E and variants	335	300	65	95	350	17	+ 3.77
PN9230R and variants	335	300	122	152	350	17	+ 3.77
PN9320E and variants	325	390	65	85	350	27	+ 7.20
PN9320R and variants	325	390	132	152	350	27	+ 3.77
PN9330E and variants	335	390	65	95	350	27	+ 7.20
PN9330R and variants	335	390	122	152	350	27	+ 3.70
PN9336E and variants	335	390	65	95	350	27	+ 7.20
PN9336R and variants	335	390	122	152	350	27	+ 3.77
PN9337E and variants	335	390	410	410	350	27	



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 GCV 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 GESTRA.

Maximum differential pressures for Class IV shut-off

- Metal Seated (T & S)
- Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN15-25 (½"-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)		
		Maximum pressure (bar 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
PN9120E	0.2-1.0	6.0	103.4			50.2														
PN9120E	0.4-1.2	6.0	103.4		25.0	103.4		25.0	96.6		25.0	67.6		17.6	26.5		0.6	12.2		
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
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
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
PN9220E	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
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
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
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
PN9320E	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

Actuator	Spring range bar	Cage Type	Standard Cage (S)															Low noise cage - P1		
		Valve size	DN15-25 (½"-1")																	
		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)	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	0.2-1.0	6.0																		
PN9120E	0.4-1.2	6.0	5.1																	
PN9126E	1.0-2.0	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
PN9123E	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
PN9220E	0.2-1.0	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
PN9220E	0.4-1.2	6.0	91.4	64.9	25.0	47.7	32.7	25.0	36.2	24.4	25.0	28.1	18.6	24.0	21.7	14.0	18.4	21.7	14.0	18.4
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	93.0	83.5	25.0	74.4	66.7	25.0	74.4	66.7	25.0
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
PN9320E	0.2-1.0	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
PN9320E	0.4-1.2	4.0	103.4	103.4	25.0	103.4	98.4	25.0	88.1	76.3	25.0	70.1	60.6	25.0	55.8	48.1	25.0	55.8	48.1	25.0

- Maximum differential pressures for Class IV shut-off

- Metal Seated (T & S)
 - Spira-trol
 - DN15 - 25 (½" - 1")
 - Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN15-25 (½"-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)		
		Maximum pressure (bar 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	103.4	25.0	103.4	103.4	25.0
PN9120R	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
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
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	103.4	103.4	25.0	103.4	103.4	25.0
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
PN9220R	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	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
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
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
PN9320R	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

Actuator	Spring range bar	Cage Type	Standard Cage (S)															Low noise cage - P1		
		Valve size	DN15-25 (½"-1")																	
		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)	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	25.0	103.4	102.9	25.0
PN9120R	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	25.0	103.4	97.9	25.0
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
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
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
PN9220R	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	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
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
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
PN9320R	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

- Maximum differential pressures for Class IV shut-off

- Metal Seated (T & S)
- Spira-trol
- DN32 - 50 (1¼" - 2")
- Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN32-50 (1¼"-2")																	
		Kvs (Cv)	4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)		
		Maximum pressure (bar 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
PN9120E	0.4-1.2	6.0	7.9																	
PN9126E	1.0-2.0	6.0	57.2	31.5	25.0	30.3	15.4	23.8	17.4	7.8	13.2	13.5	5.6	10.1	9.5	3.4	6.9	3.6	0.3	2.2
PN9123E	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
PN9220E	0.2-1.0	6.0	33.2	7.6	22.1	16.3	1.4	9.9	8.5		4.3	6.2		2.7	3.8		1.2	0.5		
PN9220E	0.4-1.2	6.0	91.4	65.7	25.0	50.2	35.2	25.0	30.1	20.6	25.0	24.1	16.2	20.6	17.7	11.6	15.0	8.0	4.7	6.6
PN9226E	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	95.0	85.5	25.0	77.7	69.8	25.0	59.2	53.1	25.0	30.5	27.2	25.0
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	67.9	64.6	25.0
PN9320E	0.2-1.0	4.0	89.7	64.0	25.0	49.2	34.3	25.0	29.5	19.9	25.0	23.5	15.6	20.1	17.3	11.1	14.6	7.8	4.5	6.3
PN9320E	0.4-1.2	4.0	103.4	103.4	25.0	103.4	100.9	25.0	72.1	62.6	25.0	58.8	50.9	25.0	44.6	38.4	25.0	22.5	19.2	21.7

Actuator	Spring range bar	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)	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		
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
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
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
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
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
PN9320E	0.4-1.2	4.0	17.5	14.8	16.3	11.8	9.9	11.0	11.8	9.9	11.0

- Maximum differential pressures for Class IV shut-off

- Metal Seated (T & S)
- Spira-trol
- DN32 - 50 (1¼" - 2")
- Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN32-50 (1¼"-2")																	
		Kvs (Cv)	4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)		
		Maximum pressure (bar 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	87.7	81.6	25.0	45.9	42.6	25.0
PN9120R	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
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
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
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
PN9220R	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	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
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
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
PN9320R	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

Actuator	Spring range bar	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)	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
PN9120R	0.4-1.2	6.0	34.5	31.8	25.0	23.9	22.0	23.1	23.9	22.0	23.1
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
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
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
PN9220R	0.4-1.2	6.0	103.4	103.4	25.0	97.5	95.7	25.0	97.5	95.7	25.0
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
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
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
PN9320R	0.4-1.2	2.7	82.5	79.8	25.0	58.1	56.2	25.0	58.1	56.2	25.0

- Maximum differential pressures for Class IV shut-off

- Metal Seated (T & S)
 - Spira-trol
 - DN65 - 100 (2½" - 4")
 - Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN65-100 (2½"-4")															DN100 (4")		
		Kvs (Cv)	16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
		Maximum pressure (bar g)	P	H	D	N-P	H	D	P	H	D	P	H	D	P	H	D			
PN9230E	0.2-1.0	6.0	2.8		1.2															
PN9230E	0.4-1.2	6.0	16.6	6.3	15.0	5.4	0.9	4.7	3.2		2.7	0.9		0.7						
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
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
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						
PN9330E	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
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
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

Actuator	Spring range bar	Cage Type	Low Noise Cage (P1)					
		Valve size	DN65-100 (2½"-4")			DN100 (4")		
		Kvs (Cv)	All Kvs			All Kvs		
		Maximum pressure (bar g)	P	H	D	P	H	D
PN9230E	0.2-1.0	6.0						
PN9230E	0.4-1.2	6.0						
PN9236E	1.0-2.0	6.0	4.7	3.5	4.5	2.5	1.8	2.4
PN9233E	2.0-4.0	6.0	12.4	11.2	12.2	7.3	6.6	7.2
PN9330E	0.2-1.0	4.0						
PN9330E	0.4-1.2	4.0	3.1	1.9	2.9	1.5	0.7	1.4
PN9336E	1.0-2.0	4.0	12.2	11.0	12.0	7.1	6.4	7
PN9337E	2.5-3.5	4.0	34.9	33.8	25.0	21.3	20.6	21.2

- Maximum differential pressures for Class IV shut-off

- Metal Seated (T & S)
- Spira-trol
- DN65 - 100 (2½" - 4")
- Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN65-100 (2½"-4")																	
		Kvs (Cv)	16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
		Maximum pressure (bar g)	P	H	D	N-P	H	D	P	H	D	P	H	D	P	H	D	P	H	D
PN9230R	0.2-1.0	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
PN9230R	0.4-1.2	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
PN9236R	1.0-2.0	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
PN9233R	2.0-4.0	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
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
PN9330R	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	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

Actuator	Spring range bar	Cage Type	Low Noise Cage (P1)					
		Valve size	DN65-80 (2½"-3")			DN100		
		Kvs (Cv)	All Kvs			All Kvs		
		Maximum pressure (bar g)	P	H	D	P	H	D
PN9230R	0.2-1.0	6.0	35.5	34.3	25.0	21.7	20.9	21.6
PN9230R	0.4-1.2	6.0	33.9	32.8	25.0	20.7	20.0	20.6
PN9236R	1.0-2.0	6.0	27.8	26.6	25.0	16.9	16.2	16.8
PN9233R	2.0-4.0	6.0	12.4	11.2	12.2	7.3	6.6	7.2
PN9330R	0.2-1.0	2.7	22.8	21.6	22.6	13.8	13.0	13.6
PN9330R	0.4-1.2	2.7	19.7	18.6	19.6	11.9	11.1	11.7
PN9336R	1.0-2.0	2.7	7.6	6.5	7.4	4.3	3.6	4.2

- Maximum differential pressures for Class VI shut-off

- Resilient Seated (P & Steam-Tight)

- Spira-trol

- DN15 - 25 (½" - 1")

- Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN15-25 (½"-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)		
		Maximum pressure (bar 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	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
PN9123E	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
PN9220E	0.2-1.0	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
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
PN9320E	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

Actuator	Spring range bar	Cage Type	Standard Cage (S)														
		Valve size	DN15-25 (½"-1")														
		Kvs (Cv)	4.0 (4.6)			4.9-6.3 (5.7-7.3)			7.2 (8.3)			10 (12)			11 (12.7)		
		Maximum pressure (bar g)	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	19.0	19.0	19.0	19.0	19.0	19.0	19.0	17.6	19.0	19.0	13.8	19.0	18.6	10.9	15.3
PN9123E	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	16.0	19.0	19.0	19.0
PN9220E	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
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
PN9320E	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

Actuator	Spring range bar	Cage Type	Low noise cage (P1-A1)			
		Valve size	DN15-25 (½"-1")			
		Kvs (Cv)	2.5-4-6.3-10 (2.9-4.6-7.3-12)			
		Maximum pressure (bar g)	N-P	H	B	D
PN9126E	1.0-2.0	6.0	18.6	10.9		15.3
PN9123E	1.0-2.0	6.0	19.0	19.0	4.7	19.0
PN9220E	0.2-1.0	6.0	11.4	3.6		8.0
PN9220E	0.4-1.2	6.0	19.0	19.0		19.0
PN9320E	0.2-1.0	4.0	19.0	19.0		19.0

- 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	Cage Type	Standard Cage (S)																	
		Valve size	DN32-50 (1¼"-2")																	
		Kvs (Cv)	4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)		
		Maximum pressure (bar 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	1.0-2.0	6.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	13.8	19.0	19.0	11.1	15.6	14.0	8.2	11.7	7.1	3.8	
PN9123E	2.0-4.0	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	17.7	14.4	16.3	
PN9220E	0.2-1.0	6.0	19.0	17.4	19.0	19.0	8.9	19.0	14.5	4.9	10.3	11.6	3.7	8.2	8.6	2.5	6.0	4.0	0.7	2.6
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	16.4	19.0	11.5	8.2	10.0
PN9226E	1.0-2.0	6.0																		
PN9320E	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	15.9	19.0	11.3	8.0	9.9
PN9320E	0.4-1.2	4.0																		

Actuator	Spring range bar	Cage Type	Standard Cage (S)						Low Noise Cage (P1-A1-P2-A2)		
		Valve size	DN32-50 (1¼"-2")								
		Kvs (Cv)	31-36 (36-42))			46-50 (53-58)			All Kvs		
		Maximum pressure (bar g)	N-P	H	D	N-P	H	D	N-P	H	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
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
PN9220E	0.2-1.0	6.0	3.0	0.4	1.9	1.9		1.1	1.9		1.1
PN9220E	0.4-1.2	6.0	9.0	6.4	7.9	6.1	4.3	5.3	6.1	4.3	5.3
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
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
PN9320E	0.4-1.2	4.0	8.8	6.2	7.7	6.0	4.1	5.2	6.0	4.1	5.2

- 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	Cage Type	Standard Cage (S)																	
		Valve size	DN65-100 (2½-4")																	
		Kvs (Cv)	16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
		Maximum pressure (bar 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
PN9230E	0.2-1.0	6.0	7.6		6.3	2.6		1.9	1.6		1.1	0.5		0.3						
PN9230E	0.4-1.2	6.0	19.0	11.1	19.0	8.6	4.1	7.9	5.8	2.6	5.3	2.9	1.1	2.7	1.7	0.5	1.5	0.9		0.8
PN9236E	1.0-2.0	6.0				19.0	19.0	19.0	18.7	15.5	18.2	10.2	8.4	9.9	6.3	5.1	6.1	3.7	3.0	3.6
PN9233E	2.0-4.0	6.0										19.0	19.0	19.0	14.0	12.8	5.0	8.5	7.8	8.4
PN9330E	0.2-1.0	4.0	19.0	10.7	19.0	8.4	3.9	7.7	5.7	2.5	5.2	2.9	1.1	2.6	1.6	0.5	1.4	0.8		0.7
PN9330E	0.4-1.2	4.0				19.0	15.7	19.0	14.1	10.0	13.6	7.6	5.8	7.3	4.7	3.5	4.5	2.7	2.0	2.6
PN9336E	1.0-2.0	4.0										19.0	19.0	19.0	13.8	12.6	13.6	8.4	7.7	8.3
PN9337E	2.5-3.5	4.0																19.0	19.0	19.0

Actuator	Spring range bar	Cage Type	Low Noise Cage (P1-A1-P2-A2)					
		Valve size	DN65-80 (2½"-3")			DN100 (4")		
		Kvs (Cv)	All Kvs			All Kvs		
		Maximum pressure (bar g)	N-P	H	D	N-P	H	D
PN9230E	0.2-1.0	6.0						
PN9230E	0.4-1.2	6.0	1.7	0.5	1.5	0.9		0.8
PN9236E	1.0-2.0	6.0	6.3	5.1	6.1	3.7	3.0	3.6
PN9233E	2.0-4.0	6.0	14.0	12.8	5.0	8.5	7.8	8.4
PN9330E	0.2-1.0	4.0	1.6	0.5	1.4	0.8		0.7
PN9330E	0.4-1.2	4.0	4.7	3.5	4.5	2.7	2.0	2.6
PN9336E	1.0-2.0	4.0	13.8	12.6	13.6	8.4	7.7	8.3
PN9337E	2.5-3.5	4.0				19.0	19.0	19.0

- Maximum differential pressures for Class VI shut-off

- PTFE Seated (G)
Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN15-25 (½"-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)		
		Maximum pressure (bar 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
PN9120E	0.2-1.0	6.0	4.0			4.0			4.0			4.0			4.0			4.0		
PN9120E	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
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	4.0
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	4.0
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	4.0
PN9220E	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

Actuator	Spring range bar	Cage Type	Standard Cage (S)															Low Noise Cage (P1)		
		Valve size	DN15-25 (½"-1")																	
		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)	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	0.2-1.0	6.0	4.0			3.3			2.5			1.9			1.5			1.5		
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
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	4.0
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	4.0
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	4.0
PN9220E	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

- Maximum differential pressures for Class VI shut-off

- PTFE Seated (G)
 - Spira-trol
 - DN15 - 25 (½" - 1")
 - Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN15-25 (½"-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)		
		Maximum pressure (bar 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	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
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
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

Actuator	Spring range bar	Cage Type	Standard Cage (S)															Low Noise Cage (P1)		
		Valve size	DN15-25 (½"-1")																	
		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)	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	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
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
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

- Maximum differential pressures for Class VI shut-off

- PTFE Seated (G)
 - Spira-trol
 - DN32 - 50 (1¼" - 2")
 - Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN32-50 (1¼"-2")																	
		Kvs (Cv)	4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)		
		Maximum pressure (bar 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
PN9120E	0.2-1.0	6.0	4.0			3.3			1.9			1.5			1.1			0.4		
PN9120E	0.4-1.2	6.0	4.0		4.0	4.0		4.0	4.0		3.9	4.0		4.0	4.0		2.3	2.5		1.1
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	4.0
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	4.0
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	2.5	4.0
PN9220E	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
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	4.0
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	4.0

Actuator	Spring range bar	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)	N-P	H	D	N-P	H	D	N-P	H	D
PN9120E	0.2-1.0	6.0	0.3								
PN9120E	0.4-1.2	6.0	2.0		0.8	1.3		0.5	1.3		0.5
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
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
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
PN9220E	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
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

- Maximum differential pressures for Class VI shut-off

- PTFE Seated (G)
 - Spira-trol
 - DN32 - 50 (1¼" - 2")
 - Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN32-50 (1¼"-2")																	
		Kvs (Cv)	4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)		
		Maximum pressure (bar 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	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
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
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PN9220R	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

Actuator	Spring range bar	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)	N-P	H	D	N-P	H	D	N-P	H	D
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
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
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
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
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
PN9220R	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0

- Maximum differential pressures for Class VI shut-off

- PTFE Seated (G)
 - Spira-trol
 - DN65 - 100 (2½" - 4")
 - Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN65-100 (2½-4")																	
		Kvs (Cv)	16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
		Maximum pressure (bar 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
PN9230E	0.2-1.0	6.0	4.0		4.0	4.0		3.4	2.9		2.4	1.5		1.3	0.9		0.8	0.5		0.4
PN9230E	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	2.1	3.7	2.5	1.3	2.3	1.5	0.8	1.4
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	4.0	3.7	4.3
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	4.0
PN9330E	0.2-1.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.8	4.0	3.9	2.1	3.6	2.4	1.3	3.6	1.5	0.7	1.4
PN9330E	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	3.4	2.6	3.2
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	4.0
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	4.0

Actuator	Spring range bar	Cage Type	Low Noise Cage (P1)					
		Valve size	DN65-80 (2½-3")			DN100 (4")		
		Kvs (Cv)	All Kvs			All Kvs		
		Maximum pressure (bar g)	N-P	H	D	N-P	H	D
PN9230E	0.2-1.0	6.0	0.9		0.8	0.5		0.4
PN9230E	0.4-1.2	6.0	2.5	1.3	2.3	1.5	0.8	1.4
PN9236E	1.0-2.0	6.0	4.0	4.0	4.0	4.0	3.7	4.0
PN9233E	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
PN9330E	0.2-1.0	4.0	2.4	1.3	3.6	1.5	0.7	1.4
PN9330E	0.4-1.2	4.0	4.0	4.3	4.0	3.4	2.6	3.2
PN9336E	1.0-2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
PN9337E	2.5-3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0

- Maximum differential pressures for Class VI shut-off

- PTFE Seated (G)
 - Spira-trol
 - DN65 - 100 (2½" - 4")
 - Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN65-100 (2½-4")																	
		Kvs (Cv)	16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
		Maximum pressure (bar 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
PN9230R	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
PN9230R	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
PN9236R	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
PN9233R	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
PN9330R	0.2-1.0	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	0.4-1.2	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	1.0-2.0	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

Actuator	Spring range bar	Cage Type	Low Noise Cage (P1)					
		Valve size	DN65-80 (2½-3")			DN100 (4")		
		Kvs (Cv)	All Kvs			All Kvs		
		Maximum pressure (bar g)	N-P	H	D	N-P	H	D
PN9230R	0.2-1.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
PN9230R	0.4-1.2	6.0	4.0	4.0	4.0	4.0	4.0	4.0
PN9236R	1.0-2.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
PN9233R	2.0-4.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
PN9330R	0.2-1.0	2.7	4.0	4.0	4.0	4.0	4.0	4.0
PN9330R	0.4-1.2	2.7	4.0	4.0	4.0	4.0	4.0	4.0
PN9336R	1.0-2.0	2.7	4.0	4.0	4.0	4.0	4.0	4.0

- Maximum differential pressures for Class IV shut-off

- Hard Facing (W)
 - Spira-trol
 - DN15 - 25 (½" - 1")
 - Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN15-25 (½"-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)		
		Maximum pressure (bar 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
PN9120E	0.2-1.0	6.0	92.8																	
PN9120E	0.4-1.2	6.0	103.4		25.0	103.4		25.0	64.6			39.8			6.5					
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	61.4	25.0	69.5	31.3	25.0
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
PN9220E	0.2-1.0	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
PN9220E	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	82.2	17.3
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
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
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	79.7	25.0
PN9320E	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

Actuator	Spring range bar	Cage Type	Standard Cage (S)															Low Noise Cage (P1-A1)		
		Valve size	DN15-25 (½"-1")																	
		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)	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
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
PN9220E	0.2-1.0	6.0	17.9		6.5	3.8			0.6											
PN9220E	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
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
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
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
PN9320E	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

- Maximum differential pressures for Class IV shut-off - Hard Facing (W)

- Spira-trol
- DN15 - 25 (½" - 1")
- Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN15-25 (½"-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)		
		Maximum pressure (bar 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	103.4	25.0	103.4	103.4	25.0
PN9120R	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
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
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	103.4	103.4	25.0	103.4	103.4	25.0
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
PN9220R	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	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

Actuator	Spring range bar	Cage Type	Standard Cage (S)															Low Noise Cage (P1-A1)		
		Valve size	DN15-25 (½"-1")																	
		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)	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	95.7	25.0	103.4	95.7	25.0
PN9120R	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	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
PN9123R	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
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
PN9220R	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	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

- Maximum differential pressures for Class IV shut-off

- Hard Facing (W)
 - Spira-trol
 - DN32 - 50 (1¼" - 2")
 - Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN32-50 (1¼"-2")																	
		Kvs (Cv)	4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)		
		Maximum pressure (bar 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	1.0-2.0	6.0	40.8	15.1	25.0	17.8	2.9	11.3	7.4		3.2	4.4		1.0	1.5					
PN9123E	2.0-4.0	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
PN9220E	0.2-1.0	6.0	16.8		5.7	3.8														
PN9220E	0.4-1.2	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
PN9226E	1.0-2.0	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
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	16.0	103.4	103.4	25.0	62.0	58.7	25.0
PN9320E	0.2-1.0	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
PN9320E	0.4-1.2	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

Actuator	Spring range bar	Cage Type	Standard Cage (S)						Low Noise Cage (P1-P2-P3-A1-A2)		
		Valve size	DN32-50 (1¼"-2")								
		Kvs (Cv)	31-36 (36-42)			46-50 (53-58)			All Kvs		
		Maximum pressure (bar g)	N-P	H	D	N-P	H	D	N-P	H	D
PN9123E	2.0-4.0	6.0	5.5	2.9	4.4	2.6	0.7	1.7	2.6	0.7	1.7
PN9220E	0.2-1.0	6.0									
PN9220E	0.4-1.2	6.0	0.6								
PN9226E	1.0-2.0	6.0	18.6	15.9	17.4	11.9	10.0	11.0	11.9	10.0	11.0
PN9223E	2.0-4.0	6.0	48.6	45.9	25.0	33.2	31.4	25.0	33.2	31.4	25.0
PN9320E	0.2-1.0	4.0	0.4								
PN9320E	0.4-1.2	4.0	12.2	9.6	11.1	7.3	5.4	6.5	7.3	5.4	6.5

- Maximum differential pressures for Class IV shut-off

- Hard Facing (W)
 - Spira-trol
 - DN32 - 50 (1¼" - 2")
 - Flow under

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN32-50 (1¼"-2")																	
		Kvs (Cv)	4.0 (4.6)			6.3 (7.3)			10 (12)			16 (18)			17.5 - 18 (20.2-21)			25 (29)		
		Maximum pressure (bar 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	97.6	25.0	79.7	73.6	25.0	40.0	36.7	25.0
PN9120R	0.4-1.2	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
PN9126R	1.0-2.0	6.0	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
PN9123R	2.0-4.0	6.0	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
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
PN9220R	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	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
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	62.0	58.7	25.0
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
PN9320R	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	97.8	94.5	25.0

Actuator	Spring range bar	Cage Type	Standard Cage (S)						Low Noise Cage (P1-P2-P3-A1-A2)		
		Valve size	DN32-50 (1¼"-2")								
		Kvs (Cv)	31-36 (36-42)			46-50 (53-58)			All Kvs		
		Maximum pressure (bar g)	N-P	H	D	N-P	H	D	N-P	H	D
PN9120R	0.2-1.0	6.0	30.9	28.3	25.0	20.7	18.8	19.8	20.7	18.8	19.8
PN9120R	0.4-1.2	6.0	29.2	26.6	25.0	19.5	17.6	18.6	19.5	17.6	18.6
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
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
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
PN9220R	0.4-1.2	6.0	103.4	103.4	25.0	93.1	91.2	25.0	93.1	91.2	25.0
PN9226R	1.0-2.0	6.0	103.4	103.4	25	76.0	74.1	25.0	76.0	74.1	25.0
PN9223R	2.0-4.0	6.0	48.6	45.9	25	33.2	31.4	25.0	33.2	31.4	25.0
PN9320R	0.2-1.0	2.7	89	86.4	25	62.1	60.2	25.0	62.1	60.2	25.0
PN9320R	0.4-1.2	2.7	77.2	74.6	25	53.7	51.8	25.0	53.7	51.8	25.0

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

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN65-100 (2½-4")																	
		Kvs (Cv)	16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
		Maximum pressure (bar 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
PN9230E	0.4-1.2	6.0	8.6		7.0															
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
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
PN9330E	0.2-1.0	4.0	8.2		6.6															
PN9330E	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			
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
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

Actuator	Spring range bar	Cage Type	Low Noise Cage (P1-A1-P2-A2-P3)					
		Valve size	DN65-80 (2½-3")			DN100 (4")		
		Kvs (Cv)	All Kvs			All Kvs		
		Maximum pressure (bar g)	N-P	H	D	N-P	H	D
PN9236E	1.0-2.0	6.0	2.0	0.9	1.8	0.4		0.3
PN9233E	2.0-4.0	6.0	9.7	8.6	9.5	5.2	4.5	5.1
PN9330E	0.2-1.0	4.0						
PN9330E	0.4-1.2	4.0	0.4		0.2			
PN9336E	1.0-2.0	4.0	9.5	8.3	9.3	5.0	4.3	4.9
PN9337E	2.5-3.5	4.0	32.2	31.1	25.0	19.2	18.5	19.1

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

Actuator	Spring range bar	Cage Type	Standard Cage (S)																	
		Valve size	DN65-100 (2½-4")																	
		Kvs (Cv)	16 (18)			25 (29)			36 (42)			63-73-90 (73-85-104)			100-117 (116-135)			160-180 (185-208)		
		Maximum pressure (bar 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
PN9230R	0.2-1.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	97.1	93.9	25.0	52.9	51.1	25.0	32.8	31.7	25.0	19.6	18.8	19.4
PN9230R	0.4-1.2	6.0	103.4	103.4	25.0	103.4	103.4	25.0	92.8	89.6	25.0	50.5	48.7	25.0	31.3	30.1	25.0	18.6	17.9	18.5
PN9236R	1.0-2.0	6.0	103.4	103.4	25.0	103.4	103.4	25.0	75.7	72.5	25.0	40.9	39.1	25.0	25.1	24.0	24.9	14.8	14.0	14.7
PN9233R	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
PN9330R	0.2-1.0	4.0	103.4	103.4	25.0	88.6	84.1	25.0	61.8	58.6	25.0	33.1	31.3	25.0	20.1	19.0	19.9	11.6	10.9	11.5
PN9330R	0.4-1.2	4.0	103.4	103.4	25.0	76.8	72.3	25.0	53.4	50.2	25.0	28.3	26.5	25.0	17.1	15.9	16.9	9.8	9.0	9.6
PN9336R	1.0-2.0	4.0	76.5	66.1	25.0	29.5	25.0	25.0	19.7	16.5	19.2	9.4	7.6	9.1	4.9	3.8	4.8	2.1	1.5	2.1

Actuator	Spring range bar	Cage Type	Low Noise Cage (P1-A1-P2-A2-P3)					
		Valve size	DN65-80 (2½-3")			DN100 (4")		
		Kvs (Cv)	All Kvs			All Kvs		
		Maximum pressure (bar g)	N-P	H	D	N-P	H	D
PN9230R	0.2-1.0	6.0	32.8	31.7	25.0	19.6	18.8	19.4
PN9230R	0.4-1.2	6.0	31.3	30.1	25.0	18.6	17.9	18.5
PN9236R	1.0-2.0	6.0	25.1	24.0	24.9	14.8	14.0	14.7
PN9233R	2.0-4.0	6.0	9.7	8.6	9.5	5.2	4.5	5.1
PN9330R	0.2-1.0	4.0	20.1	19.0	19.9	11.6	10.9	11.5
PN9330R	0.4-1.2	4.0	17.1	15.9	16.9	9.8	9.0	9.6
PN9336R	1.0-2.0	4.0	4.9	3.8	4.8	2.1	1.5	2.1

PN9000 series selection guide:
Before making your PN9000 series selection
please reference pages 4 to 23 - 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 GCV 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 GESTRA.

Type	PN = Polyester powder coated (standard)
Series	9 = 9000 series
Actuator size	1 = 96 cm ²
	2 = 340 cm ²
	3 = 670 cm ²
Valve travel	2 = 20 mm
	3 = 30 mm
Spring rating	0 = 0.2 to 1.0 bar (option for 0.4 to 1.2 bar)
	3 = 2.0 to 4.0 bar
	5 = 0.4 to 2.0 bar (PN9100 series only)
	6 = 1.0 to 2.0 bar
	7 = 2.5 to 3.5 bar (PN933_ series only)
Spring action	E = Spring-extend
	R = Spring-retract
Yoke type (DN15 - DN50)	Blank = GCV K and L Series (M34)
	B = GCV 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

PN
9
3
3
7
E

How to order /selection example:
1 off GESTRA PN9337E pneumatic actuator.

Spare parts

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

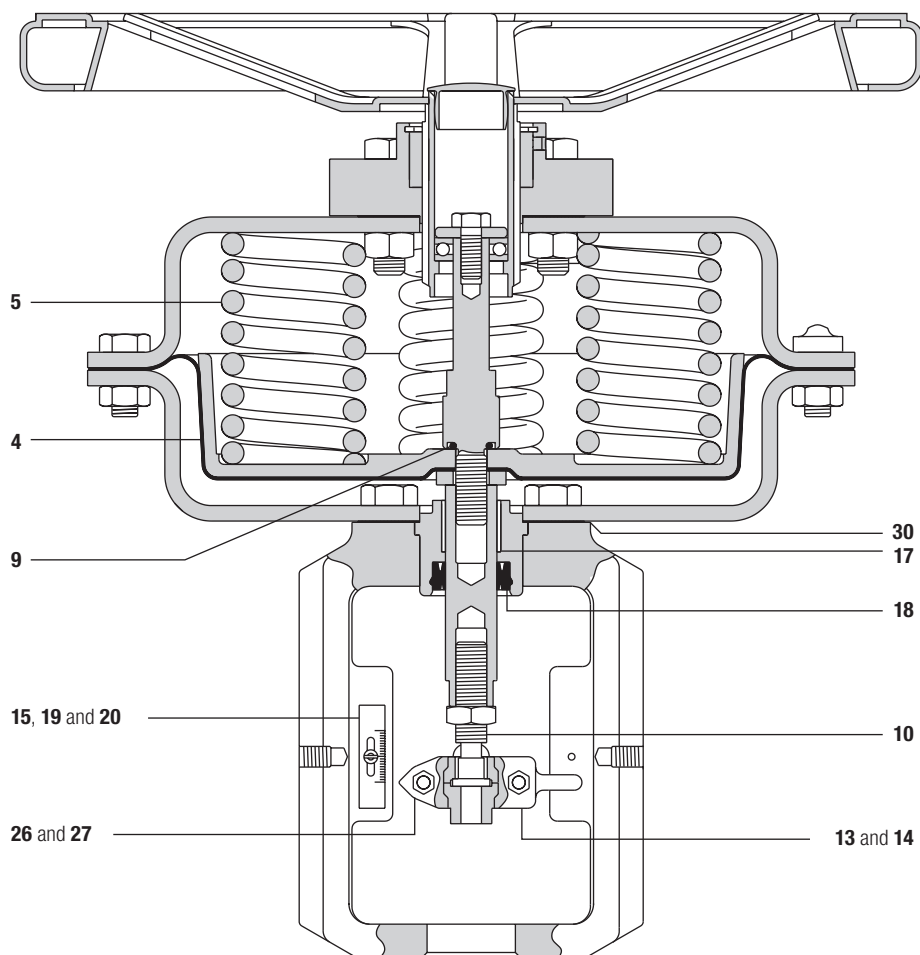
Available spares

Stem seal kit	17, 18, 30
Diaphragm kit	4, 9
Travel indicator kit	15, 19, 20
Spring kit	5
Linkage kit (suitable for Mk1 and GCV 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.



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