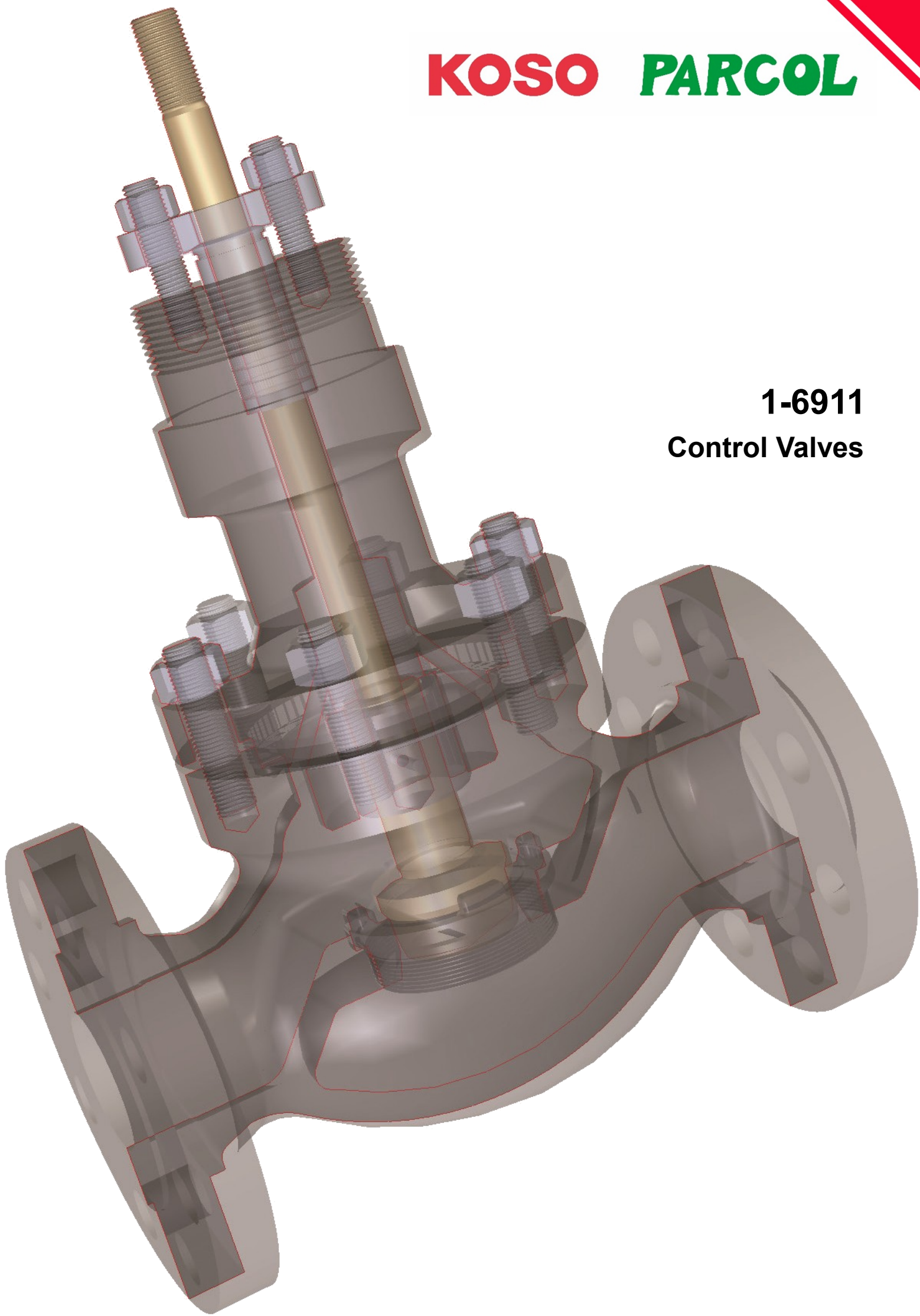


KOSO **PARCOL**

1-6911

Control Valves



1-6911 series Control valves



PARCOL 1-6911 series control valves provide the most versatile globe body type single seat available with heavy top guiding design.

1-6911 series valves have an unusual combination of premium features that suit them for a wide range of applications, including viscous fluids and slurries, with reduced costs.

Due to their simple construction and reduced number of parts, maintenance becomes easier and less expensive. The 1-6911 series control valves can be supplied with a wide range of pneumatic actuators, on request, electric or hydraulic ones for on-off or continuous control duty.

Features and Advantages

Features	Advantages
Large free-flow passages with smooth body contour and no dead zones.	<ul style="list-style-type: none"> - Higher Cv values - Reduced erosion and contamination - Permit handling of slurries and viscous fluids
Heavy top guiding When the valve is open the plug is out of seat.	<ul style="list-style-type: none"> - Simple and cheaper construction - Compact plug design and smooth, contour assures a higher stability. - Reduced possibility of seizures.
Optimized seat diameters 1-6911 valves are provided with minimum seat diameter above which there are no substantial increases of Cv.	<ul style="list-style-type: none"> - Higher allowable pressure drops - Reduced sizes of actuators - Better seat tightness when plug is in closed position.
Fewer body and trim parts Standard trim includes four parts only: plug, seat, stem and pin.	<ul style="list-style-type: none"> - Low maintenance cost - Reduced inventory - Easier trim replacement - Less possibility of damages
Wide range of components and accessories	<ul style="list-style-type: none"> - Higher versatility - Wide possibility of application
Wide selection of reduced capacity trims for each body size and large material selection. PARCOL 1-X-290 multispring pneumatic actuators are available and in addition electric ones and all possible accessories.	Safe and reliable

Packing Type	Description	Temperature limits for standard bonnet ⁽¹⁾ ⁽²⁾	Maximum Pressure ⁽²⁾
TFK	PTFE aramid fibers reinforced	-10 ÷ +250 °C	150 bar
GRF	Pure Flexible Graphite	-10 ÷ +650 °C	400 bar
VTC	25% Glass loaded PTFE V-ring	-10 ÷ +210 °C	250 bar

⁽¹⁾ Inlet valve fluid temperature

⁽²⁾ Values listed for continuous service.

⁽³⁾ For additional information, please refer to PARCOL bulletin 1-VII "Packings for Control Valves".

Main Specifications

Body

- Type : Globe, single seat
- Construction : Casting
Forgings available ($\leq 2''$)
- Material : - standard: ASTM A216 WCB,
ASTM A351 CF8M
- on request:
Cr-Mo steel, special stainless
steel.
- Size : 1/2" to 6"
- Connection : - flanged, UNI, ANSI, DIN

- Rating : ANSI 150 - ANSI 300
PN 16 - PN 50

Bonnet

- Joint : Stud bolted
- Type : Standard, plain type
- Material : The same as the bodies, forgings
or castings
- Packing box : Bolted type.

Guide Bushing

- Type : Long, heavy and precision fitted into
the bonnet.
- Material : Refer to materials of construction
table.

Plug

- Size : Full or reduced as per Cv table.
- Form : $\leq 12\text{mm}$: Micro-flow
 $\geq 1/2''$: Contoured
Characteristic:
 - Linear
 - Equal percentage
 - Quick opening
- Guiding : Top guided
- Material : See materials of construction table.
Standard construction AISI 316 with
or without stellite coatings.
Other materials on request.

Stem

- Type : Threaded and pinned to the valve
plug.
- Material : Highly polished AISI 316 with
maximum surface roughness 0.4 Ra
Other materials on request.

Seat

- Type : Screwed into the valve body.
- Material : The same as the valve plug.
- Leakage : IEC 60534-4 (ANSI B16.104)
Class IV, V.

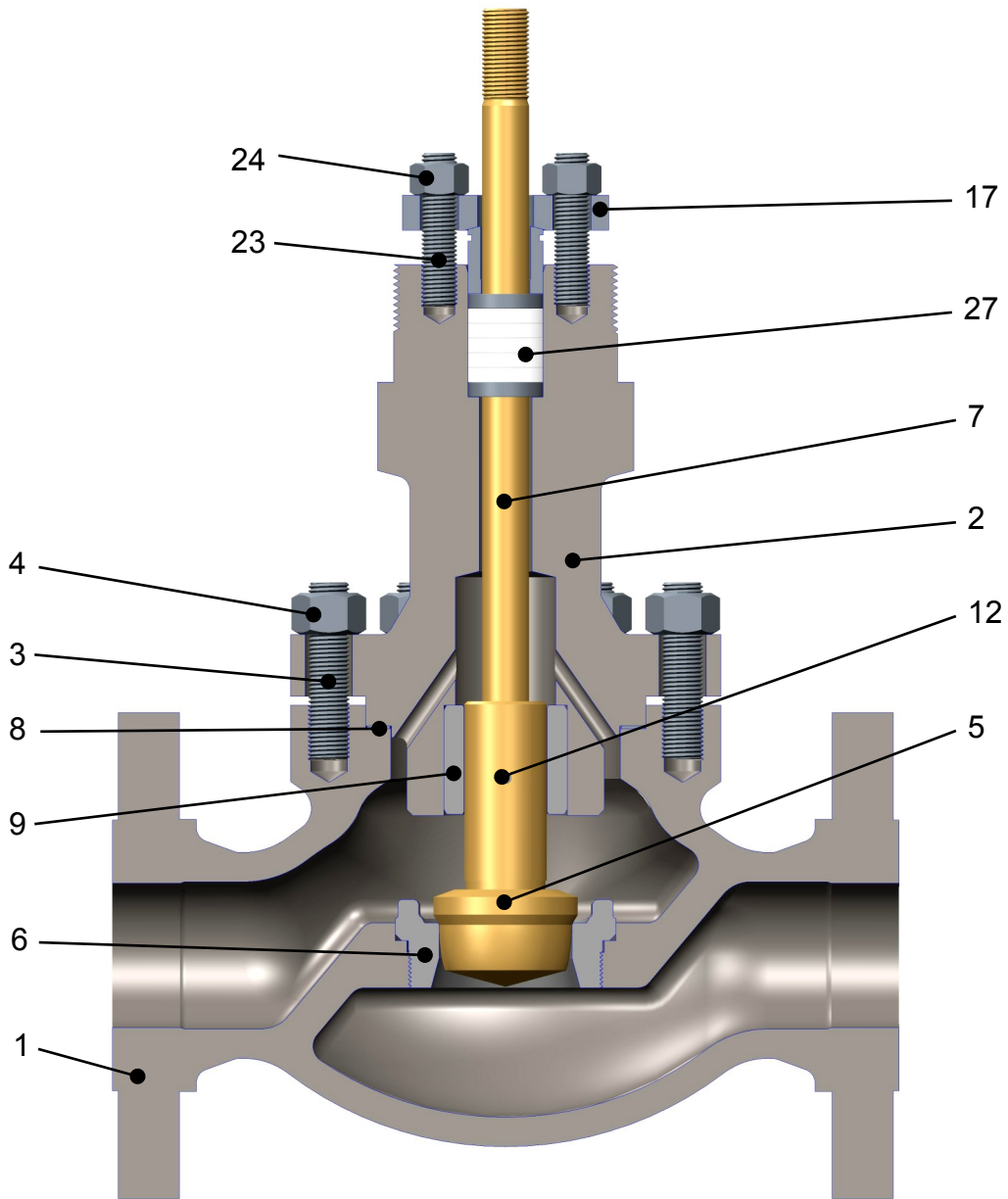
Flow coefficient Cv - Contoured plug

Valve Size inch.	Port Size inch.	Seat Dia. mm	Travel mm	Equal Percentage		Linear	
				Flow to Open	Flow to Close	Flow to Open	Flow to Close
1/2	1/2	15	17	5.81	6.1	5.57	5.85
3/4	3/4	19	17	9.99	10.5	9.95	10.4
	1/2	15	17	6.04	6.28	5.59	5.87
1	1	23	17	12.9	13.5	13.1	13.7
	3/4	19	17	10.4	10.8	10.2	10.6
	1/2	15	17	6.48	6.74	5.59	5.82
1.1/2	1.1/2	35	25	28.6	30	29.1	30.5
	1.1/4	28	25	22	22.9	22.4	23.3
	1	23	25	15.1	15.7	15.1	15.7
	3/4	19	25	10.4	10.8	10.2	10.6
	1/2	15	25	6.48	6.74	5.59	5.87
	1/2	15	25	2.69	2.79	2.69	2.79
2	2	45	25	45.8	48	47.1	49.5
	1.1/2	35	25	33.1	34.5	34.3	35.7
	1.1/4	28	25	23.7	24.6	24.8	25.8
	1	23	25	15.1	15.7	15.1	15.7
	3/4	19	25	10.4	10.8	10.2	10.6
	1/2	15	25	6.48	6.74	5.59	5.87
	1/2	15	25	2.69	2.8	2.69	2.79
3	3	72	34	112	118	111	117
	2.1/2	60	34	88.4	92	88.5	92
	2	45	34	58.1	60.4	58	60.3
	1.1/2	35	34	33.1	34.5	34.3	35.7
	1.1/4	28	34	23.7	24.6	24.8	25.8
	1	23	34	15.1	15.7	15.1	15.7
4	4	86	45	187	196	-	-
	3	72	45	138	144	138	144
	2.1/2	60	45	107	111	107	111
	2	45	45	58.1	60.4	58	60.3
	1.1/2	35	45	33.1	34.5	34.3	35.7
	1.1/4	28	45	23.7	24.6	24.8	25.8
6	6	130	60	388	407	-	-
	5	110	60	312	325	-	-
	4	86	60	232	242	-	-
	3	72	60	138	144	176	183
	2.1/2	60	60	107	111	125	129

Flow coefficient Cv - Microflow plug

Valve Size inch	Port Size inch	Seat Dia. mm	Travel mm	Equal Percentage		Linear	
				Flow to Open	Flow to Close	Flow to Open	Flow to Close
1/2 3/4 1	1/4	6	17	0.645	0.671	0.645	0.671
			17	1	1.04	1	1.04
	3/8	9	17	1.67	1.73	1.67	1.73
			17	2.52	2.62	2.52	2.63
	1/2	12	17	4	4.16	4	4.16

Valve assembly



Item	Part Name
1	Body
2	Bonnet
3	Stud
4	Nut
5	Plug
6	Seat
7	Stem
8	Gasket
9	Guide bushing
12	Pin
17	Packing flange
23	Stud
24	Nut
27	Packing

Materials of construction

Item	Part Name	Basic Class				
		A	F	G	H	L
1	Body	SA216 WCB	SA352 LCB	AISI 316	AISI 316L	AISI 304
2	Bonnet	SA105	SA350 LF2	AISI 316	AISI 316L	AISI 304
3	Stud	SA193 B7	SA193 B7	SA193 B7		
4	Nut	SA194 2H	SA194 2H	SA194 2H		
5	Plug	See Subclass Table				
6	Seat	See Subclass Table				
7	Stem	See Subclass Table				
8	Gasket	Inorganic fibers, asbestos free $\leq 300^{\circ}\text{C}$; Pure graphite reinforced steel $> 300^{\circ}\text{C}$				
9	Guide Bushing	See Subclass Table				
12	Pin	See Subclass Table				
17	Packing Flange	A105	A105	AISI 316	AISI 316	AISI 316
23	Stud	AISI 304				
24	Nut	AISI 304				
27	Packing ⁽¹⁾	TFK – PTFE Aramid fibers reinforced PTFE GRF – Flexible graphite VTC – PTFE Glass loaded PTFE V-ring				

	Item	5	6	7	9	12
	Name	Plug	Seat	Stem	Guide Bushing	Pin
Subclass	01	AISI 316	AISI 316	AISI 316	AISI 316 Cr plated	AISI 316L
	02	AISI 316 Seat joint stellite	AISI 316 Seat joint stellite			
	03	AISI 316 Fully stellite	AISI 316 Fully stellite			
	04	AISI 316L	AISI 316L			
	05	AISI 316L Seat joint stellite	AISI 316L Seat joint stellite	AISI 316L	AISI 316L Cr plated	
	06	AISI 316L Fully stellite	AISI 316L Fully stellite			
	07	A182 F6NM Nitrided	AISI 410 35HRC			
	08	A182 F6NM Nitrided	A182 F6NM Fully stellite			
NACE MR-01-75	09	AISI 316 22HRC MAX.	AISI 316 22HRC MAX.	AISI 316 22HRC MAX.	A182 F6NM Nitrided ⁽⁷⁾	
	10	AISI 316 22HRC MAX. seat joint stellite	AISI 316 22HRC MAX. seat joint stellite			
	11	AISI 316 22HRC MAX. fully stellite	AISI 316 22HRC MAX. fully stellite			
	12	AISI 316L 22HRC MAX.	AISI 316L 22HRC MAX.			
	13	AISI 316L 22HRC MAX. seat joint stellite	AISI 316L 22HRC MAX. seat joint stellite	AISI 316L 22HRC MAX.	AISI 316L Cr plated	
	14	AISI 316L 22HRC MAX. fully stellite	AISI 316 L22HRC MAX. fully stellite			
	15	A182 F6NM 23HRC MAX. nitrided	A182 F6NM 23HRC MAX. fully stellite			
	16	MONEL K500 35HRC MAX	MONEL K500 35HRC MAX			MONEL 400

⁽¹⁾ For additional information, refer to bulletin 1-VII.

⁽²⁾ Stem welded to plug.

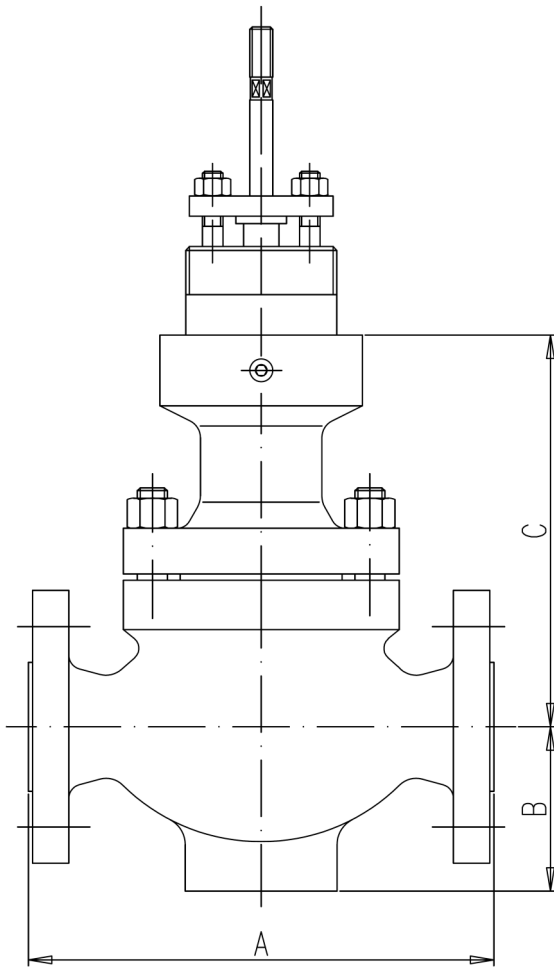
Available combinations and temperature limits - °C

		Subclass											DN inch.		
		01	04	02-03	05-06	07	08	09	12	10-11	13-14	15		16	
Basic class	A A216 WCB	-20 ÷ +400	/	-20 ÷ +400	/	-20 ÷ +400	-29 ÷ +400	-20 ÷ +400	/	-20 ÷ +400	/	-20 ÷ +400	-20 ÷ +400	1/2"- 2"	
		-20 ÷ +250		-20 ÷ +250		-20 ÷ +250	-20 ÷ +250	-20 ÷ +250		-20 ÷ +400		3"- 4"			
	F A352 LCB	-45 ÷ +340	/	-45 ÷ +340	/	-45 ÷ +340	-45 ÷ +340	-45 ÷ +340	/	-45 ÷ +340	/	45 ÷ +340	-45 ÷ +340	1/2"- 2"	
		-45 ÷ +250		-45 ÷ +250		-45 ÷ +250	-45 ÷ +250	-45 ÷ +250		-45 ÷ +340		3"- 4"			
	G AISI 316	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	/	/	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	1/2"- 2"
													-29 ÷ +320	3"- 4"	
													-29 ÷ +190	6"	
	H AISI 316L	/	-29 ÷ +400	/	-29 ÷ +400	/	/	/	/	-29 ÷ +400	/	-29 ÷ +400	/	-29 ÷ +400	1/2"- 2"
													-29 ÷ +320	3"- 4"	
													-29 ÷ +190	6"	
	L AISI 304	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-20 ÷ +400	-20 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	-29 ÷ +400	1/2"- 2"
						-20 ÷ +250	-20 ÷ +250						-29 ÷ +320	3"- 4"	
												-29 ÷ +190	6"		
Application	Stainless steel trim		STD Application				Stainless steel for corrosion service						MONEL TRIM		
	N.A.C.E. MR-01-75														

Notes:

- The listed temperatures are those of the fluid at valve inlet.
- The subclass corresponding to the blanks are available only on request.

Overall dimensions ⁽¹⁾ - mm



Size inch.	Travel mm	Face to Face "A" Dimension ⁽²⁾		Dimension B		Dimension C
		ANSI 150	ANSI 300	ANSI 150	ANSI 300	ANSI 150+300
1/2	17	184	190	61	61	144
3/4	17	184	194	61	61	144
1	17	184	197	65	65	155
1.1/2	25	222	235	82	82	192
2	25	254	267	87	87	196
3	34	298	317	120	120	232
4	45	352	368	135	135	279
6	60	451	473	167	170	353

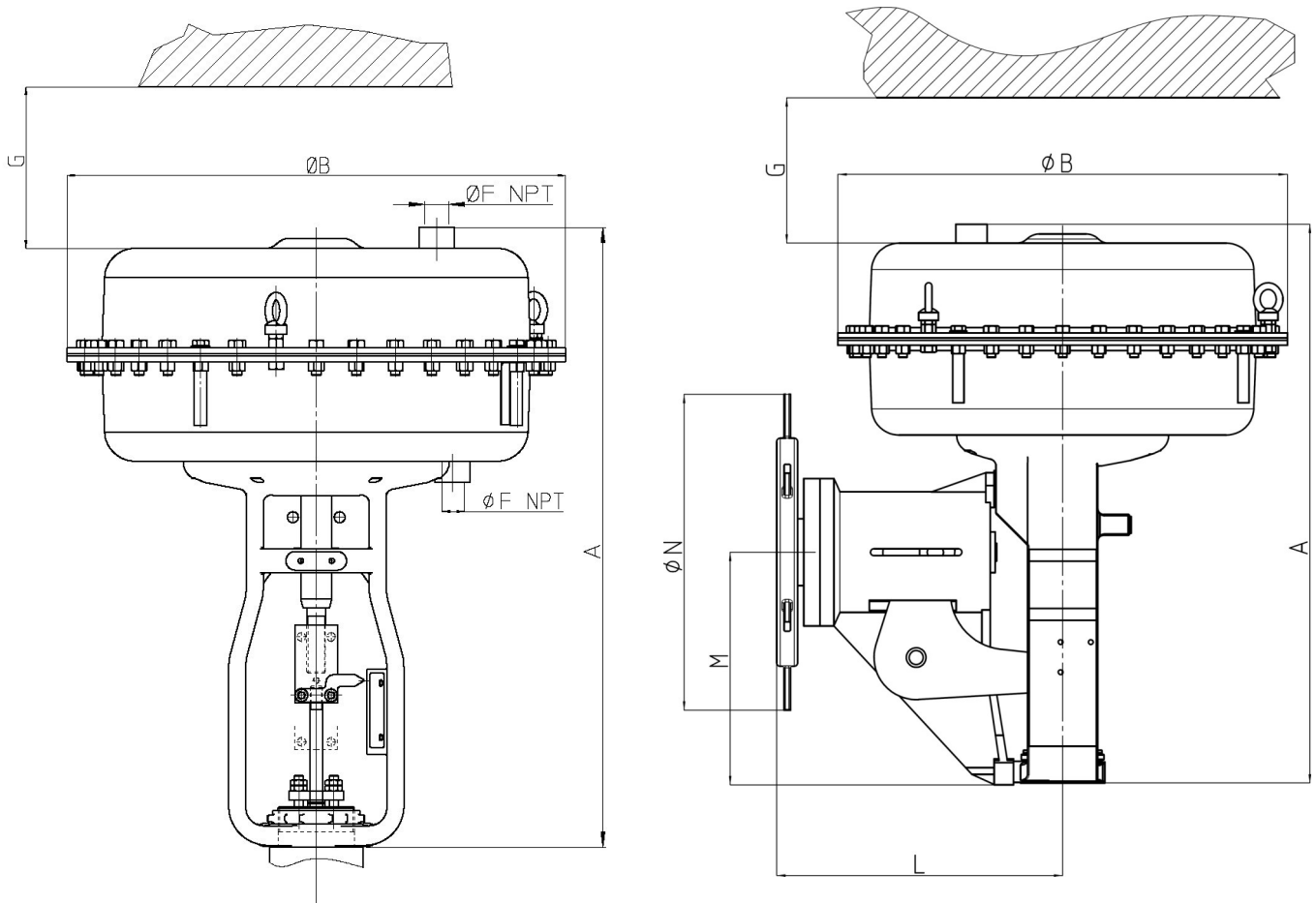
Weights - kg

Size inch.	ANSI 150	ANSI 300
1/2	12	12
3/4	12	12
1	13	14
1.1/2	23	23
2	28	28
3	42	53
4	62	73
6	123	152

⁽¹⁾ ANSI 150 overall dimensions are also valid for PN16
ANSI 300 overall dimensions are also valid for PN25-40

⁽²⁾ A" ± 1.5 mm
Tolerance on face to face "A" dimension: ± 1.5 mm.

1-X-290 Multi-spring pneumatic diaphragm actuator overall dimensions - mm



Dimension	Actuator Size				
	D25	D33	D39	D46	D63
A	487	510	574	644	796
B	262	333	395	465	640
D	M12	M12	M18x1.5	M18x1.5	M24x2
F	1/4"	1/2"	3/4"	3/4"	1"
G	150	150	250	250	300
L	300	300	365	365	455
M	200	200	252	252	330
N	380	380	470	570	570

Weights - kg

Actuator Size	Direct	Reverse	Handwheel (To be added)	
			Side Mounted	Top Mounted
D25	15	15	+10	+6
D33	22	22	+10	+6
D39	33	33	+19	+15
D46	54	54	+19	+15
D63	120	120	+13	-

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