Armstrong®

CONTROL VALVES

3-WAY SMD SERIES

SMD Series - Control Valves

Product Features

Armstrong Delta2 - SMD SERIES is a 3-way globe 2-seats Control Valve with a robust construction designed with many options for a wide range of process applications and easy maintenance.

- Available Size From DN15 To DN200 And From 1/2” To 8”
- Available Pressure Rating DIN From PN10 To PN40
- Available Pressure Rating Ansi From 150lbs To 300 lbs.

Materials

Full range of materials and special alloys are available for valve body and trim including hardening treatment. Special NACE design and material construction for Sour Service with a Compliance Declaration in accordance to NACE regulations.

Guiding

Valve guiding is top and seats for standard LV plug and is made on plug shaft and profile to guarantee a larger guiding and plug stability for accurate control application.

Trim

Standard construction includes LV plug and threaded replaceable seat. Small sizes adopt parabolic plug instead of LV style.

Packing

Standard packing offers an internal self-adjusting spring system that provide Low Emissions according to latest environmental regulations. In case of Emission Free request a bellow seal bonnet with different pressure ratings and materials is available.

Severe Service

Single stage Low-Noise cage for the most of valve design and trim size is available. Single stage Cavitation Control cage for the most of valve design and trim size is also available.

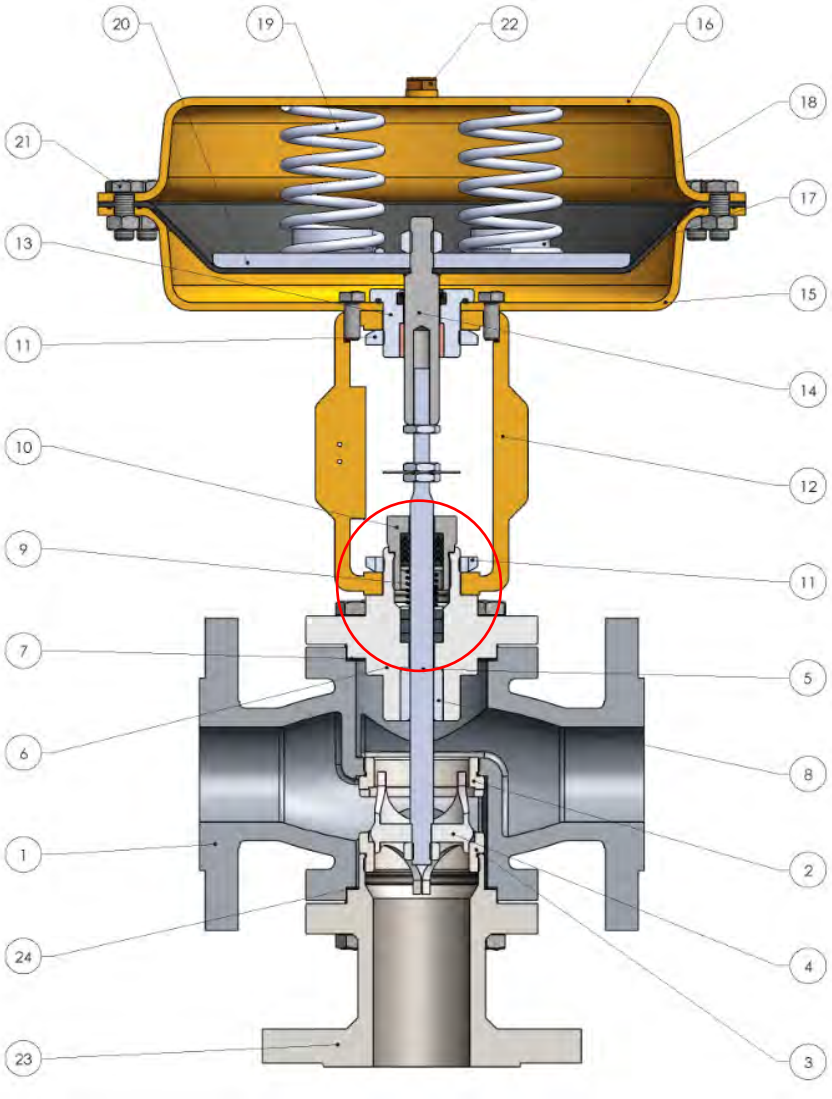
SPECIAL DESIGN

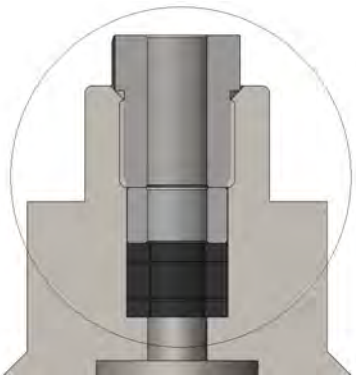
- Very High Temperature Special Design
- Cryogenic Temperature Special Design
- High Cycle ON/OFF Application with Special Design
- Dangerous, Toxic and Lethal Fluid Service Design and Cleaning
- Partial and Full Heating Jacket for Slurry and Fluid Polymerization Service
- Full Tungsten Carbide Overlaying on Trim Parts for High Abrasive

SMD Series - Control Valves

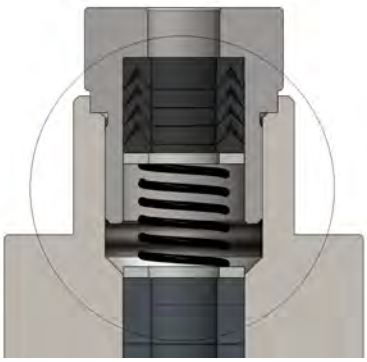
Standard Part List Mixing Version

1	Body	9	Packing	17	Actuator Diaphragm
2	Upper Seat	10	Gland Plug	18	Spring Guide
3	Lower Seat	11	Locking Ring	19	Spring
4	Plug	12	Yoke	20	Plate Diaphragm
5	Stem Plug	13	Actuator Shaft Guide	21	Actuator Bolts
6	Bonnet	14	Actuator Shaft	22	Vent Plug
7	Bonnet Gasket	15	Lower Actuator Housing	23	Stub Pipe
8	Stem Bushing Rings	16	Upper Actuator Housing	24	Stub Pipe Gasket





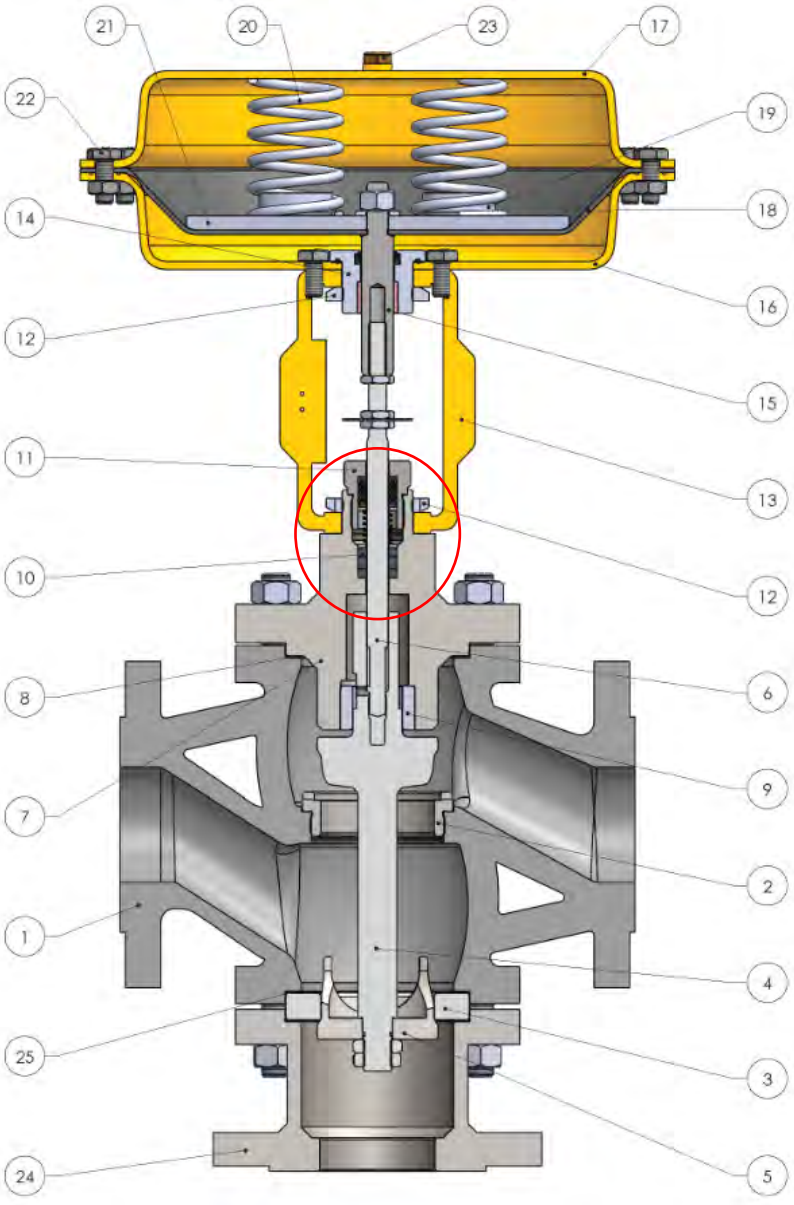
PURE GRAPHITE

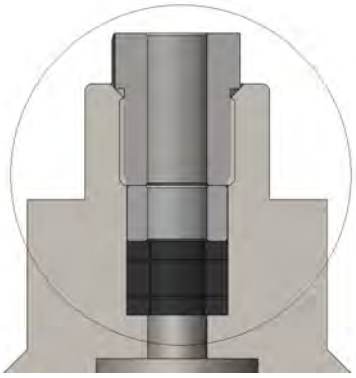


EURO

Standard Part List Diverting Version

1	Body	10	Packing	19	Spring Guide
2	Upper Seat	11	Gland Plug	20	Spring
3	Lower Seat	12	Locking Ring	21	Plate Diaphragm
4	Plug	13	Yoke	22	Actuator Bolts
5	Lower Plug	14	Actuator Shaft Guide	23	Vent Plug
6	Stem Plug	15	Actuator Shaft	24	Stub Pipe
7	Bonnet	16	Lower Actuator Housing	25	Stub Pipe Gasket
8	Bonnet Gasket	17	Upper Actuator Housing		
9	Stem Bushing Rings	18	Actuator Diaphragm		





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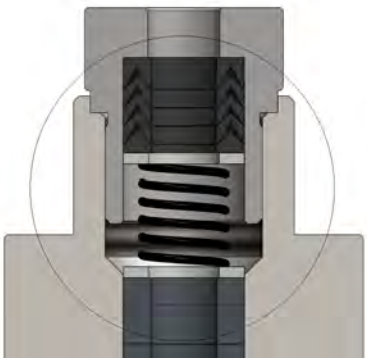
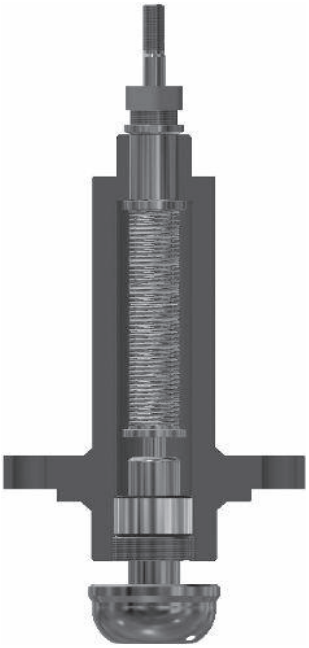


EURO

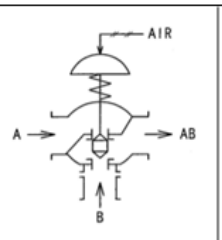
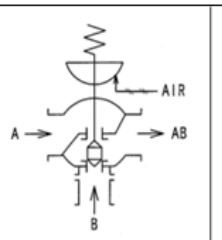
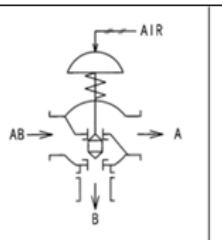
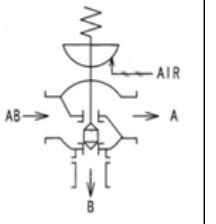
Single Stage Perforated Plug

Bellow Seal Bonnet



Guided Plug

Valve Specification

Specifications	EN / DIN	ASME
Valve Construction	EN 12516	ANSI B 16.34
Valve Body Size	DN 15, 20, 25, 32, 40, 50, 65, 80, 100, 125, 150, 200, (1)	NPS 1/2, 3/4, 1, 1-1/4, 1-1/2, 2, 2-1/2, 3, 4, 5, 6, 8, (1)
Pressure Rating	From PN10 to PN40 as per EN1092-1	From CL150 to CL300 as per ASME B16.34
End Connections (See table on page 6 for detail)	Flanged raised face per EN1092-1 (Standard) Flanged Ring Joint / Threaded Ends / Welded Ends (Optional)	Flanges raised face per ASME B16.5 (Standard) Flanged Ring Joint / Threaded Ends / Welded Ends (Optional)
Face to Face Standard	EN558-1 / DIN 3202	ANSI / ISA 75.08.01 (2)
Shutoff per IEC 60534-4 and ANSI/FCI 70-2	Metal seat - Class IV (standard) Metal seat - Class V (optional)- PTFE seat - Class VI (optional)	
Flow Direction	 a. Valve with direct-action actuator	 b. Valve with reverse-action actuator
	 c. Valve with direct-action actuator	 d. Valve with reverse-action actuator
Flow Control Characteristics	Modified Equal Percentage, Equal Percentage, Linear and Quick Open	

(1) Bigger size available on request

(2) On request (Realized only with welded flanges)

Trim Style	Port Diameters	Trim Style Description
Standard Parabolic / LV Port	Plug From 15 to 200 mm (1)	Parabolic Plug with Top shaft Guided V-Port with Linear Characteristics (LV)
Severe Service Trim (Option)	From 15 to 200 mm (1)	Low-Noise Trim and Cavitation Control Trim with Top and cage Guided

(1) Standard rangeability 50:1. Optional higher rangeabilities can be

Valve Connections

Standard EN / DIN Size	PN 10-16					PN 25-40				
	B	D	SW	BW	THD	B	D	SW	BW	THD
15	■		■		■	■	■	■		■
20	■		■		■	■	■	■		■
25	■		■		■	■	■	■		■
32	■		■		■	■	■	■		■
40	■		■		■	■	■	■		■
50	■		■	■	■	■	■	■	■	■
65	■			■		■	■		■	
80	■			■		■	■		■	
100	■			■		■	■		■	
125	■			■		■	■		■	
150	■			■		■	■		■	
200	■			■		■	■		■	

Standard Facing according to EN 1092-1 Form B1 up to PN40 and Form B2 above.

Standard ASME Size	Cl. 150					Cl. 300				
	RF	RTJ	SW	BW	THD	RF	RTJ	SW	BW	THD
1/2"	■		■		■	■	■	■		■
3/4"	■		■		■	■	■	■		■
1"	■		■		■	■	■	■		■
1-1/4"	■		■		■	■	■	■		■
1-1/2"	■		■		■	■	■	■		■
2"	■		■	■	■	■	■	■	■	■
2-1/2"	■			■		■	■		■	
3"	■			■		■	■		■	
4"	■			■		■	■		■	
5"	■			■		■	■		■	
6"	■			■		■	■		■	
8"	■			■		■	■		■	

Standard Facing according to ASME B16.5 Form RF (Ra 125-250 AARH Smooth Finish).

■ Available

Not available

Materials of Construction

Part Description	Basic Materials	Materials According to ASME	Materials According to DIN	Special Material
Valve Body	Ductile Iron	ASTM A395	EN-GJS-400-18-LT / 0.7043	High Temp Alloy Steel ASTM A217 WC6 / W-No. 1.7357
	Carbon Steel	ASTM A216 WCB	EN_GP-240-GH / 1.0619	Low Temp Alloy Steel ASTM A352 LCB / W-No. 1.6220
	Stainless Steel	ASTM A351 CF8M	G-X -6CrNiMo 18-10 / 1.4408	-
Plug	Stainless Steel	316L SS	X2CrNiMo 17-13-2 / 1.4404	Special materials on request
	Stainless Steel	316L SS / W.-No. 1.4404 + Partial/Full Stellite 6 Overying	X2CrNiMo 17-13-2 / 1.4404 + Partial/Full Alloy 6 Overying	Special materials on request
	Stainless Steel	316L SS / W.-No. 1.4404 + PTFE/RPTFE Soft Insert	X2CrNiMo 17-13-2 / 1.4404 + PTFE/RPTFE Soft Insert	Special materials on request
	Stainless Steel	440C SS / W-No. 1.4125 + temper hardening , 17-4PH SS / W-No. 1.4548	X105CrMo17 / 1.4125 Hard- ened, X 5 CrNiCuNb 16-4-4/ 1.4548	Special materials on request
Seat	Stainless Steel	316L SS / W-No. 1.4404	X2CrNiMo 17-13-2 / 1.4404	Special materials on request
	Stainless Steel	316L SS / W.-No. 1.4404 + Partial/Full Stellite 6 Over- laying	X2CrNiMo 17-13-2 / 1.4404	Special materials on request
	Stainless Steel	440C SS / W-No. 1.4125 + temper hardening, 17-4PH SS / W-No. 1.4548	X105CrMo17 / 1.4125 Hard- ened, X 5 CrNiCuNb 16-4-4/ 1.4548	Special materials on request
Stem	Stainless Steel	316L SS / W-No. 1.4404 Strain hardened	X2CrNiMo 17-13-2 / 1.4404 Strain hardened	Special materials on request
	Stainless Steel	316L SS / W-No. 1.4404 + Alloy 6 Overlaying	X2CrNiMo 17-13-2 / 1.4404 + Alloy 6 Overlaying	Special materials on request
	Stainless Steel	440C SS / W-No. 1.4125 Treated 17-4PH SS / W-No.1.4548 Treated	X105CrMo17 / 1.4125 Hard- ened, X 5 CrNiCuNb 16-4-4/ 1.4548	Special materials on request
Packing Gland	Chromium-Plated Brass	ASTM B687	EN 12540	316 SS available on request
Bolts	Chromium Molybendum steel	ASTM A193-B7	DIN 1652-4 Grade 42CrMo4 /W-No. 1.7225	Special materials on request
Nuts	Carbon Steel	ASTM A194-2H	DIN C45 / W-No. 1.1191	Special materials on request
Bolts	Stainless steel	ASTM A193-B8	X5CrNi18-09 / W-No. 1.4301	Special materials on request
Nuts	Stainless steel	ASTM A194-8	X5CrNi18-09 / W-No. 1.4301	Special materials on request
Packing	RPTFE	Internal Fix-loaded RPTFE V-rings + Graphite Ring with 316 SS spring. (1) (2)		
	RPTFE	Internal Live-loaded RPTFE V-rings + Graphite Ring with 316 SS spring. (1) (2)		
	RPTFE(EURO)	Packing Internal Fix-loaded RPTFE V-rings + Triple Reinforced Graphite Rings with 316 SS spring. (1) (2)		
	RPTFE(EURO)	Packing Internal Live-loaded RPTFE V-rings + Triple Reinforced Graphite Rings with 316 SS spring. (1) (2)		
	Graphite	Internal Live-loaded Triple Reinforced Graphite Rings with 316 SS spring. (2)		
Bonnet Gasket	Several option	Laminated Graphite or Virgin PTFE & Spyrometallic SS/graphite or Inconel/graphite		

(1) = 15% Glass or 25% Graphite PTFE reinforced rings.

(2) = Low Emission packing available on request.

Materials of Construction

Multi-Spring Diaphragm Actuator Materials				
Actuator Housing	Carbon Steel (Standard)	Stainless Steel rough finish	Stainless Steel satinated finish	Stainless Steel polished finish
Yoke Type	Cast Iron (Standard)	Low Temperature Carbon Steel	Carbon Steel Pillar Yoke	Stainless Steel Pillar Yoke
Diaphragm	Reinforced NBR (Standard)	Reinforced NBR (Standard)	Reinforced Silicon (FKM on request)	Reinforced Silicon (FKM on request)
Bolting	Carbon Steel B7/2H (Standard)	Stainless Steel B8/8	Carbon Steel NACE B7M/2HM	Stainless Steel NACE B8M/8M
Exhaust Screw Cap	Synterized Brass (Standard)	Synterized Brass (Standard)	Stainless Steel	Stainless Steel
Coating	Epoxy powder RAL 1028 (Standard)	Surface sandblasting and Inorganic zinc	Surface sandblasting and Inorganic zinc	Several Corrosion resistant coatings

(1) = Special materials available on request

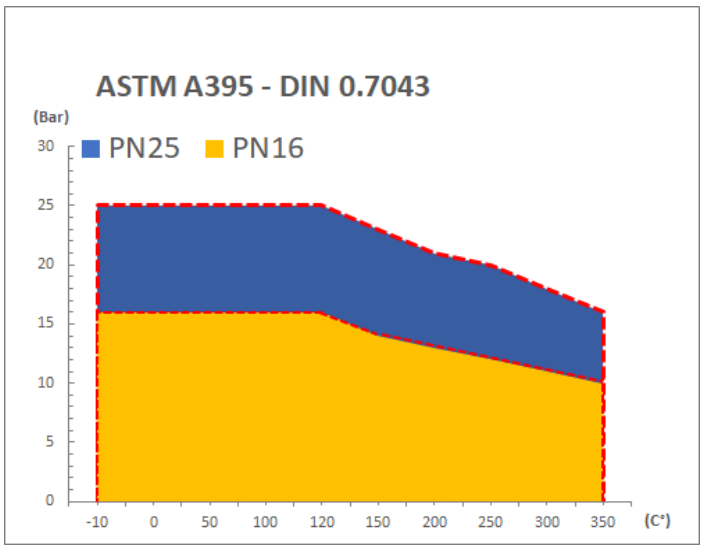
Multi-Spring Piston Actuator Materials				
Actuator Housing	Carbon Steel (Standard)		Stainless Steel - rough finish	
Yoke Type	Carbon Steel Pillar Yoke		Stainless Steel Pillar Yoke	
Piston Seal Rings	Reinforced NBR (Standard)		Energized Fluoro-silicon or FKM as Special on request	
Bolting	Carbon Steel B7/2H (Standard)	Stainless Steel B8/8	Carbon Steel NACE B7M/2HM	Stainless Steel NACE B8M/8M
Exhaust Screw Cap	Synterized Brass (Standard)		Stainless Steel	
Coating	Epoxy powder RAL 1028 (Standard)		Painted on Request	

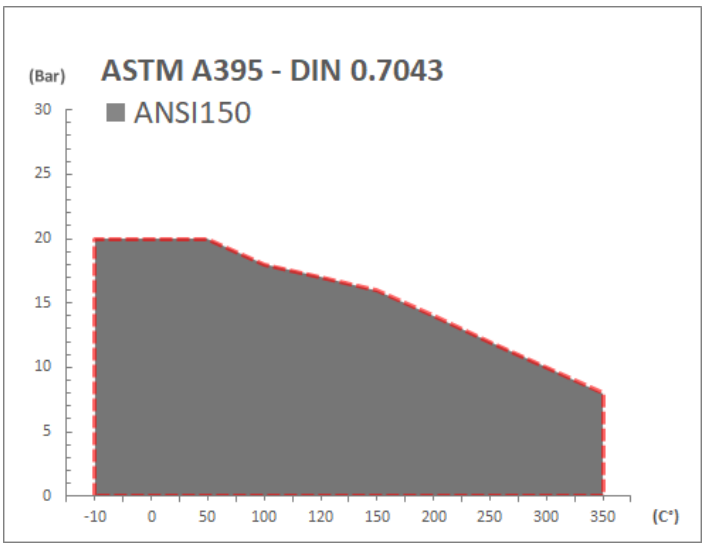
Armstrong® Pressure and Temperature Ratings

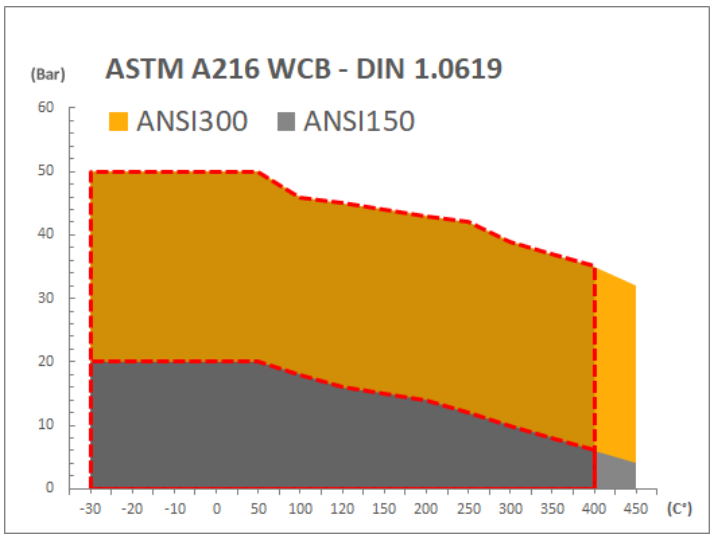
Body&Bonnet Standard	Bonnet Style	Packing	Body Gasket	Trim Style	Temperature °C Min	Temperature °C Max
DIN 0.7043 ASTM A395 (GJS400-18) Ductile Iron	Standard	RPTFE Graphite	Graphite laminate or PTFE	Soft (All Severe Service Trim)	-10	210
	HT Extension	Graphite	Graphite laminated	Metal (All Severe Service Trim)	-10	350
	Bellow Seal	RPTFE	Graphite laminate or PTFE	Soft (All Severe Service Trim)	-10	210
		Graphite	Graphite laminated	Metal (All Severe Service Trim)	-10	350
DIN 1.0619 ASTM A216 WCB Carbon Steel	Standard	RPTFE Graphite	Graphite laminate or PTFE (Spyrometallic)	Soft (All Severe Service Trim)	-29	210
	HT Extension	Graphite	Graphite laminate (Spyrometallic)	Metal (All Severe Service Trim)	-29	427
	Bellow Seal	RPTFE	Graphite laminate or PTFE (Spyrometallic)	Soft (All Severe Service Trim)	-29	210
		Graphite	Graphite laminate (Spyrometallic)	Metal (All Severe Service Trim)	-29	427
DIN 1.4581 ASTM A351 CF8M Stainless Steel	Standard	RPTFE Graphite	Graphite laminate or PTFE (Spyrometallic)	Soft (All Severe Service Trim)	-60	210
	HT Extension	Graphite	Graphite laminate or PTFE (Spyrometallic)	Metal (All Severe Service Trim)	-60	600+
	Cryo Design	RPTFE Graphite	Graphite laminate (Spyrometallic)	Metal (All Severe Service Trim)	-196	210
	Bellow Seal	RPTFE	Graphite laminate or PTFE (Spyrometallic)	Soft (All Severe Service Trim)	-60	210
		Graphite	Graphite laminate (Spyrometallic)	Metal (All Severe Service Trim)	-60	600+
DIN 1.6220 ASTM A352 LCB Low Temp Alloy Steel (1)	Standard	RPTFE Graphite	Graphite laminate or PTFE (Spyrometallic)	Soft (All Severe Service Trim)	-46	210
	HT Extension	Graphite	Graphite laminate (Spyrometallic)	Metal (All Severe Service Trim)	-46	250
	Bellow Seal	RPTFE	Graphite laminate or PTFE (Spyrometallic)	Soft (All Severe Service Trim)	-46	210
		Graphite	Graphite laminate (Spyrometallic)	Metal (All Severe Service Trim)	-46	250
DIN 1.5419 ASTM A217 WC6 High Temp Alloy Steel (1)	Standard	RPTFE Graphite	Graphite laminate or PTFE (Spyrometallic)	Soft (All Severe Service Trim)	-29	210
	HT Extension	Graphite	Graphite laminate (Spyrometallic)	Metal (All Severe Service Trim)	-29	538+
	Bellow Seal	RPTFE	Graphite laminate or PTFE (Spyrometallic)	Soft (All Severe Service Trim)	-29	210
		Graphite	Graphite laminate (Spyrometallic)	Metal (All Severe Service Trim)	-29	538+

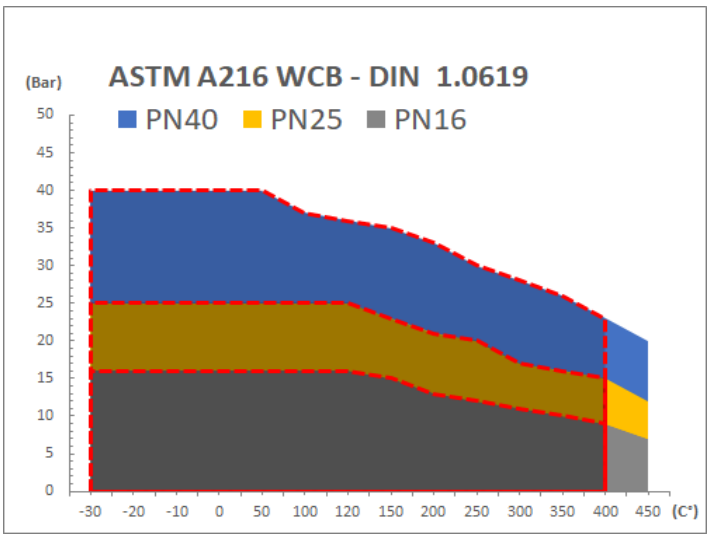
(1) = Special materials available on request

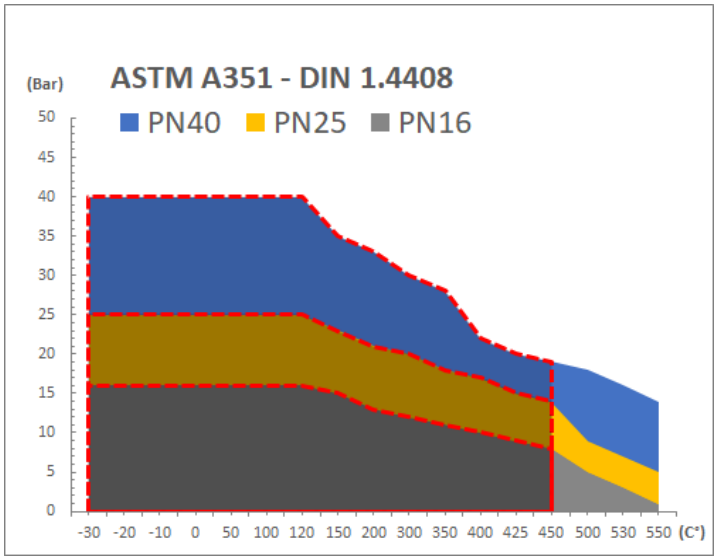
Pressure and Temperature Curves

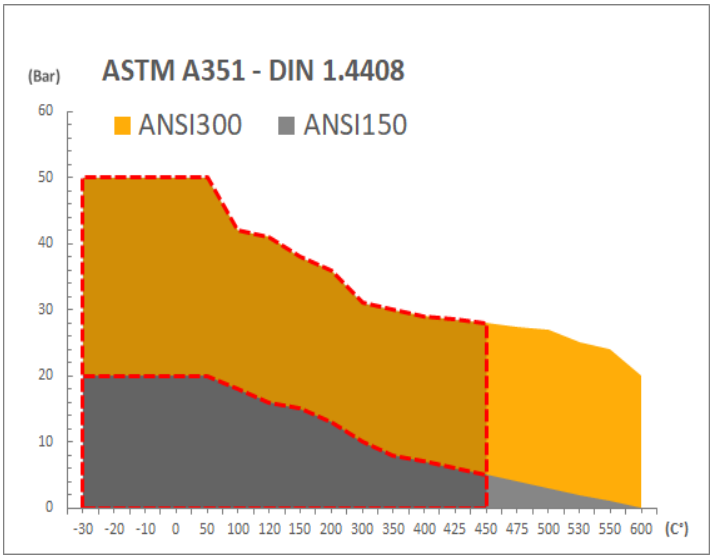












Armstrong® Flow Coefficient Table

KV (CV)	Seat Diameter mm (inch)	Stroke mm (inch)	Nominal Diameter											
			15 1/2"	20 3/4"	25 1"	32 1.1/4"	40 1.1/2"	50 2"	65 2.1/2"	80 3"	100 4"	125 5"	150 6"	200 8"
4,18 (4,95)	15 (1/2)	16 (5/8)												
5,94 (6,93)	20 (3/4)	16 (5/8)												
10,45 (12,1)	25 (1.0)	16 (5/8)												
16,94 (19,8)	32 (1.1/4)	19 (3/4)												
24,42 (29,7)	40 (1.1/2)	19 (3/4)												
44 (44,66)	50 (2.0)	19 (3/4)												
68,64 (79,97)	65 (2.1/2)	25 (1.0)												
98,12 (114,4)	80 (3.0)	25 (1.0)												
150,7 (176)	100 (4.0)	28 (1.1/9)												
248,6 (289,3)	125 (5.0)	45 (1.7/9)												
347,6 (404,8)	150 (6.0)	50 (2.0)												
610,5 (711,7)	200 (8.0)	50 (2.0)												

Available

Standard

KV = flowrate in m^3/h with 1 bar of differential Pressure

CV = flowrate in USGPM with 1 psi of differential Pressure

Options:

- Special Trim Styles for different flow directions and severe service on request.
- Partial Hard Facing through Overlaying or Treatments available for all Port Size.
- Full Hard Facing through Overlaying or Treatments available for all Port Size.
- Special Soft Seating for Port Size ≥ 40mm available on request.

Pneumatic Actuators Specifications

Actuator type	Ambient Temperature Limits with Standard Materials	Ambient Temperature Limits with Special Materials	Rating	Maximum Allowable Stem Thrust (1)			
				Stem size 12 mm	Stem size 16 mm	Stem size 20 mm	Stem size 24 mm
S.200	-20°C to +70°C	-40°C to +70°C or -20°C to +100°C	PN6	10,8 KN (Max port 32mm)	18,4 KN (Max port 32mm)		
S.275	-20°C to +70°C	-50°C to +70°C or -20°C to +120°C	PN6	10,8 KN (Max port 50mm)	18,4 KN (Max port 50mm)	31,2 KN (Max port 50mm)	
S.335	-20°C to +70°C	-50°C to +70°C or -20°C to +120°C	PN6	10,8 KN (Max port 80mm)	18,4 KN (Max port 100mm)	31,2 KN (Max port 100mm)	44,8 KN (Max port 100mm)
S.430	-20°C to +70°C	-50°C to +70°C or -20°C to +120°C	PN6	10,8 KN (Max port 80mm)	18,4 KN (Max port 100mm)	31,2 KN (Max port 100mm)	44,8 KN (Max port 100mm)
S.430s	-20°C to +70°C	-50°C to +70°C or -20°C to +120°C	PN6		18,4 KN (Max port 200mm)	31,2 KN (Max port 200mm)	44,8 KN (Max port 200mm)
S.500	-20°C to +70°C	-50°C to +70°C or -20°C to +120°C	PN6		18,4 KN (Max port 200mm)	31,2 KN (Max port 300mm)	44,8 KN (Max port 300mm)
P.250	-30°C to +80°C	-50°C to +80°C or -30°C to +150°C	PN16			31,2 KN (Max port 300mm)	44,8 KN (Max port 300mm)
P.390	-30°C to +80°C	-50°C to +80°C or -30°C to +150°C	PN16			31,2 KN (Max port 300mm)	44,8 KN (Max port 300mm)

(1) = Data calculated with standard construction and 316L SS Stem material.

Special Materials will be considered where the application requires.

Notes:

Minimum Air supply pressure necessary depends on spring range case by case.

Delta 2 suggests to consider minimum 0,2 Bar of over-pressure as safety factor to ensure the full stroke of the valve.

Top Handwheel and fixed or adjustable stroke limit stop devices are available for all actuators size.

Heavy Duty Side Handwheel available on request.

Armstrong Pneumatic Actuators Pressure Drop Table

Pressure Drop Table According to ANSI FCI 70.2 Class IV
Metal to Metal - Unbalanced Trim

Type	Eff. Area cm² (in²)	Spring Range Barg (PSIG)	Valve Nominal Size											
			15	20	25	32	40	50	65	80	100	125	150	200
S.200	130 (20)	0.2 - 1.0 (3 - 15)	12	10	9	3								
		0.4 - 2.0 (6 - 30)	24	20	16	4								
S.275	300 (47)	0.2 - 1.0 (3 - 15)	28	25	16	8	6	4						
		0.4 - 2.0 (6 - 30)	52	47	25	16	12	6						
S.335	470 (73)	0.2 - 1.0 (3 - 15)	58	58	49	19	16	10	4	3	1			
		0.4 - 2.0 (6 - 30)	101	101	82	38	26	18	6	4	2			
S.430	740 (115)	0.2 - 1.0 (3 - 15)	91	89	57	48	37	26	8	5	4	1		
		0.4 - 2.0 (6 - 30)	101	101	101	63	48	37	15	9	6	2		
S.430s	740 (115)	0.4 - 1.4 (6 - 20)						52	13	8	4	2		
		0.8 - 2.0 (12 - 30)						68	21	14	10	5	3	1
S.500	740 (115)	0.4 - 1.4 (6 - 20)							26	12	9	5	2	1
		0.8 - 2.0 (12 - 30)							36	21	18	11	5	3

Pressure Drop Table According to ANSI FCI 70.2 Class VI
Soft Seat - Unbalanced Trim

Type	Eff. Area cm² (in²)	Spring Range Barg (PSIG)	Valve Nominal Size											
			15	20	25	32	40	50	65	80	100	125	150	200
S.200	130 (20)	0.2 - 1.0 (3 - 15)	12	10	9	3								
		0.4 - 2.0 (6 - 30)	24	20	16	4								
S.275	300 (47)	0.2 - 1.0 (3 - 15)	28	25	16	8	6	4						
		0.4 - 2.0 (6 - 30)	52	47	25	16	12	6						
S.335	470 (73)	0.2 - 1.0 (3 - 15)	58	58	49	19	16	10	4	3	1			
		0.4 - 2.0 (6 - 30)	101	101	82	38	26	18	6	4	2			
S.430	740 (115)	0.2 - 1.0 (3 - 15)	91	89	57	48	37	26	8	5	4	1		
		0.4 - 2.0 (6 - 30)	101	101	101	63	48	37	15	9	6	2		
S.430s	740 (115)	0.4 - 1.4 (6 - 20)						52	13	8	4	2		
		0.8 - 2.0 (12 - 30)						68	21	14	10	5	3	1
S.500	740 (115)	0.4 - 1.4 (6 - 20)							26	12	9	5	2	1
		0.8 - 2.0 (12 - 30)							36	21	18	11	5	3

Notes:
Above values are valid per standard valve construction, in case of special valve consult the factory.

Air Supplied Pressure
(Barg)

Electrical Actuators
Maximum Shutoff Pressure Table

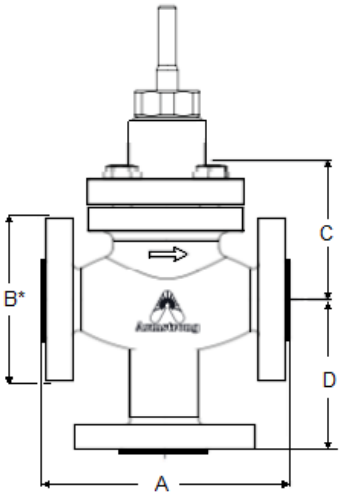
Pressure Drop Table According to ANSI FCI 70.2 Class IV
Metal to Metal - Unbalanced Trim

Type	Action	Thrust KN	Data Sheet	Valve Nominal											
				15	20	25	32	40	50	65	80	100	125	150	200
AVM234	On/Off Control	2,5	51.377	52	52	45	31	20	13	8	5	3	2	1,4	0,7
AVF234	On/Off Control	2,0	51.378	52	52	39	23	16	10	6	4	2,3	1,4		
ST0PA	Control	1,0	STR0PA	52	34	21	13	8	5	3	2	1,3			
ST01PA	Control	5,0	STR01PA	52	52	52	52	39	26	16	10	7	4	3	2
ST1PA	Control	7,5	STR1P	52	52	52	52	52	38	23	16	9	6	4	3
ST2PA	Control	17,0	STR2P	52	52	52	52	52	52	52	34	22	14	9	7
STMINI	On/Off	1,0	ST MINI	52	34	21	13	8	5	3	2	1,3			
ST01	On/Off	5,0	ST.01	52	52	52	52	39	26	16	10	6	4	3	2
ST1	On/Off	7,5	ST1	52	52	52	52	52	38	23	16	9	6	4	3
ST2	On/Off	17,0	ST2	52	52	52	52	52	52	52	34	22	14	9	7

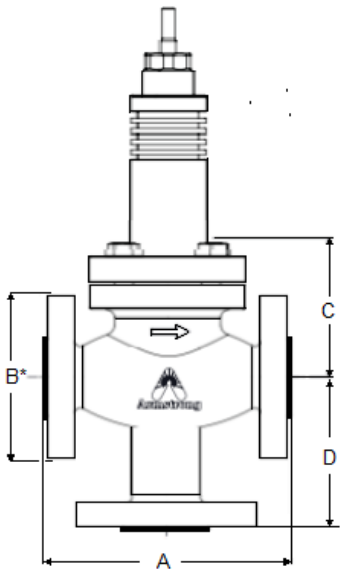
Pressure Drop Table According to ANSI FCI 70.2 Class VI
Soft Seat - Unbalanced Trim

Type	Action	Thrust KN	Data Sheet	Valve Nominal											
				15	20	25	32	40	50	65	80	100	125	150	200
AVM234	On/Off Control	2,5	51.377	52	52	45	31	20	13	8	5	3	2	1,4	0,7
AVF234	On/Off Control	2,0	51.378	52	52	39	23	16	10	6	4	2,3	1,4		
ST0PA	Control	1,0	STR0PA	52	34	21	13	8	5	3	2	1,3			
ST01PA	Control	5,0	STR01PA	52	52	52	52	39	26	16	10	7	4	3	2
ST1PA	Control	7,5	STR1P	52	52	52	52	52	38	23	16	9	6	4	3
ST2PA	Control	17,0	STR2P	52	52	52	52	52	52	52	34	22	14	9	7
STMINI	On/Off	1,0	ST MINI	52	34	21	13	8	5	3	2	1,3			
ST01	On/Off	5,0	ST.01	52	52	52	52	39	26	16	10	6	4	3	2
ST1	On/Off	7,5	ST1	52	52	52	52	52	38	23	16	9	6	4	3
ST2	On/Off	17,0	ST2	52	52	52	52	52	52	52	34	22	14	9	7

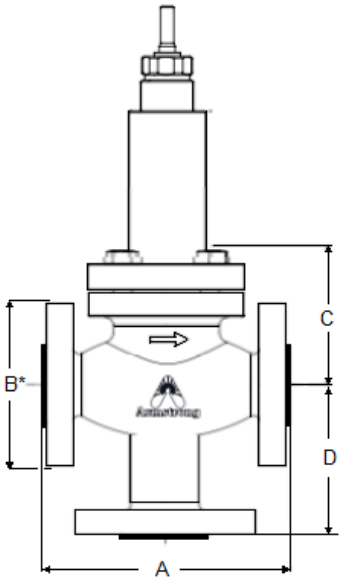
Armstrong Valve Dimensions



Standard Bonnet



High Temperature Bonnet



Bellow - Cryogenic - LeakOff (1)

Valve DN (inch)	A = Face to Face length (mm) According to EN 558-1 / DIN 3202	D = Angle Face length (mm)	C = Bonnet Height mm (2)				
	DIN PN16 to PN40 (3)	DIN PN16 to PN40 (3)	Std Bonnet	High Temp	Bellow Seal	Cryo Design	Special Leak Off
15 (1/2")	130	80	80	165	225	580	305
20 (3/4")	150	90	80	165	225	580	305
25 (1")	160	95	85	155	220	585	300
32 (1-1/4")	180	110	85	160	225	590	310
40 (1-1/2")	200	115	105	180	235	605	320
50 (2")	230	130	110	185	240	610	325
65 (2-1/2")	290	150	160	240	260	660	360
80 (3")	310	160	170	250	270	670	370
100 (4")	350	170	185	275	285	690	385
125 (5")	400	210	230	335	415	730	515
150 (6")	480	220	250	370	450	750	570
200 (8")	600	230	280	410	490	780	610

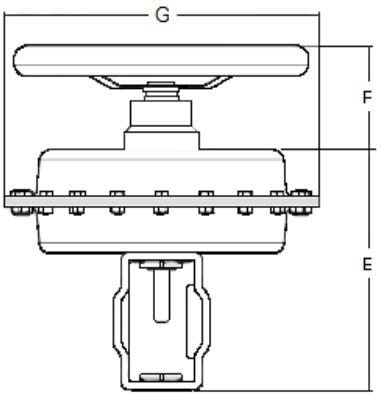
* Dimension B according to DIN-EN 1092-1 and ASME B16.5 (see page 6)

(1) Cryogenic Bonnet designed according to BS 6364 - Special Leak Off Design for Toxic and Lethal service.

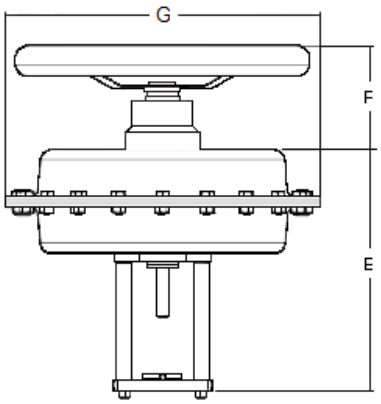
(2) Quote C could be changed for special process requirement (Ask Factory)

(3) Flanges can be finished according to ASME B16.5 #150-300 but Face to Face remain according to EN-558-1

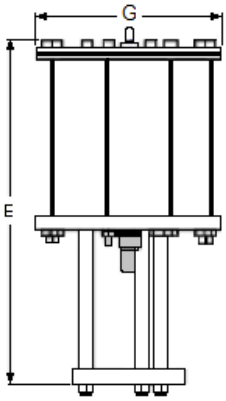
Pneumatic Actuators Dimensions



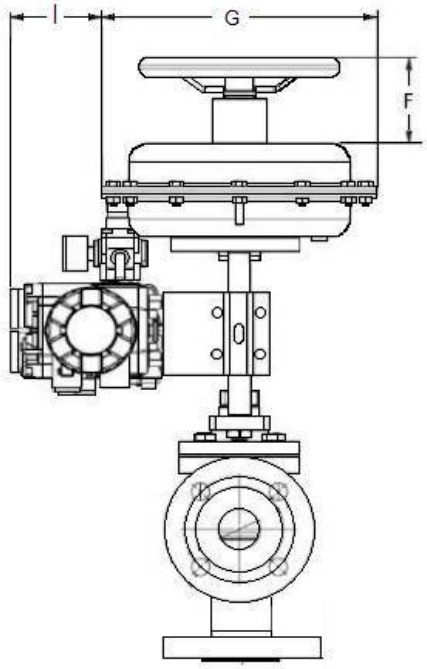
Diaphragm Actuator Cast Yoke

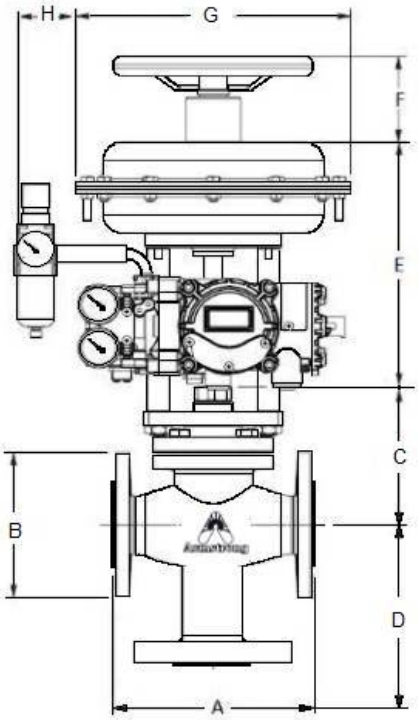


Diaphragm Actuator Pillar Yoke



Piston Actuator Pillar Yoke

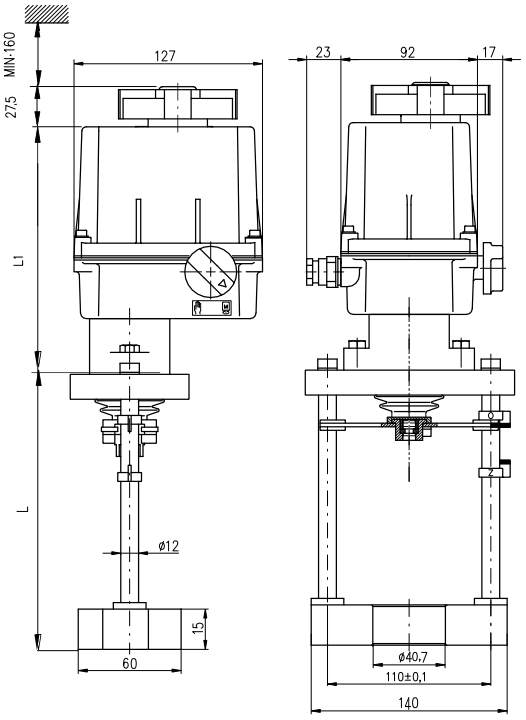




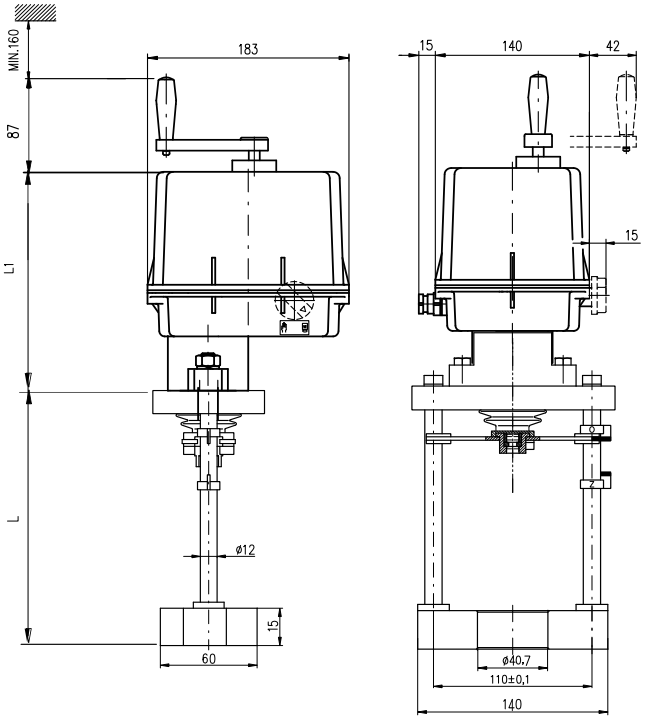
Actuator Type	E=Acuator Heigth		F= Top Hanweheel		G Actuator Diameter (mm)	H Filter Regulator (mm)	I Linear Positioner (mm)
	Cast Yoke (mm)	Pillar Yoke (mm)	Max. Heigth Reverse Action (mm)	Max. Heigth Direct Action (mm)			
S.200	235	285	120	150	205	80	75
S.275	265	315	120	150	280		
S.335	275	325	150	180	340		
S.430	335	405	150	180	435		
S.430s	380	465	200	240	435		
S.500	390	430	200	240	510		
P.250	-	557	-	-	310		
P.390	-	557	-	-	450		

The table above represent the overall dimensions of the valve including the most common accessories (H and I measurements are purely indicative and may change based on the specific models of accessories required)

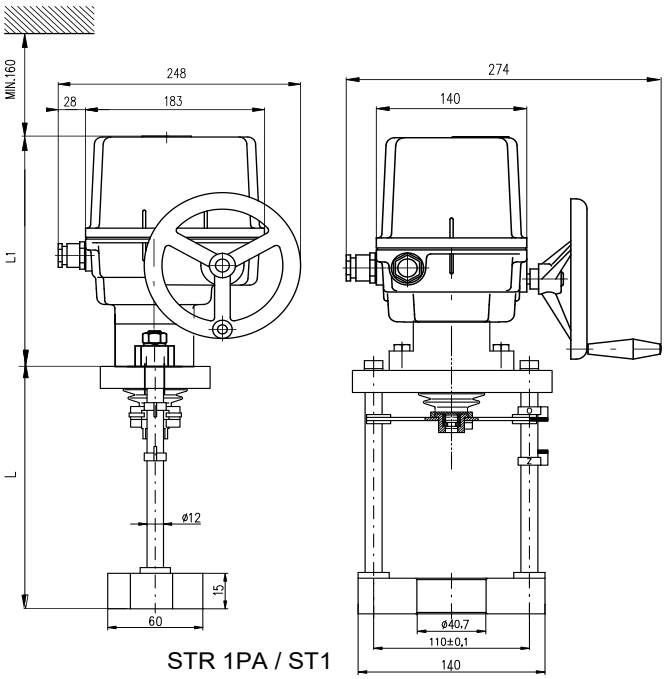
Electrical Actuators Dimensions



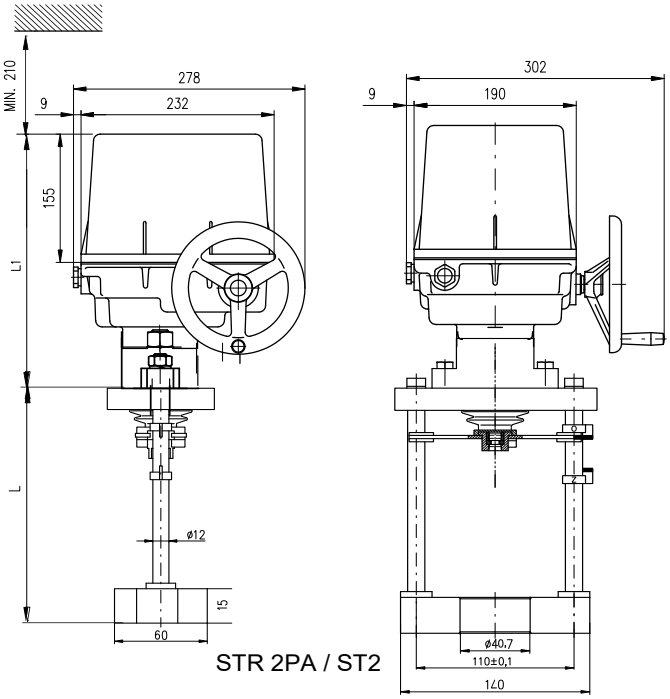
STR 0PA



STR 01PA / ST01



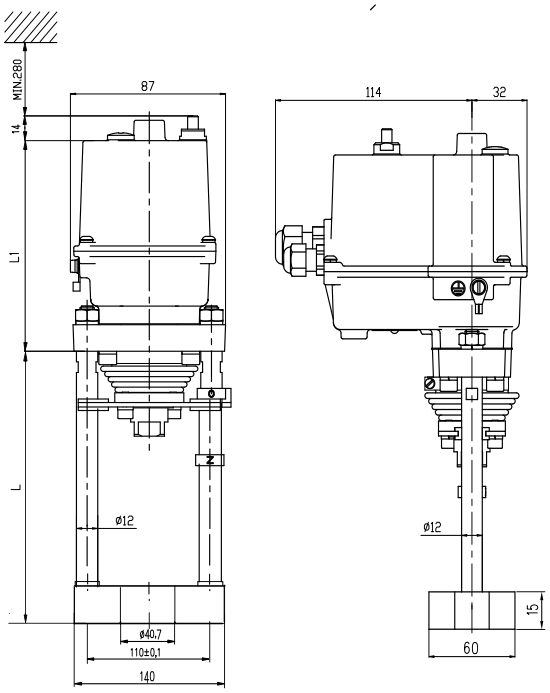
STR 1PA / ST1



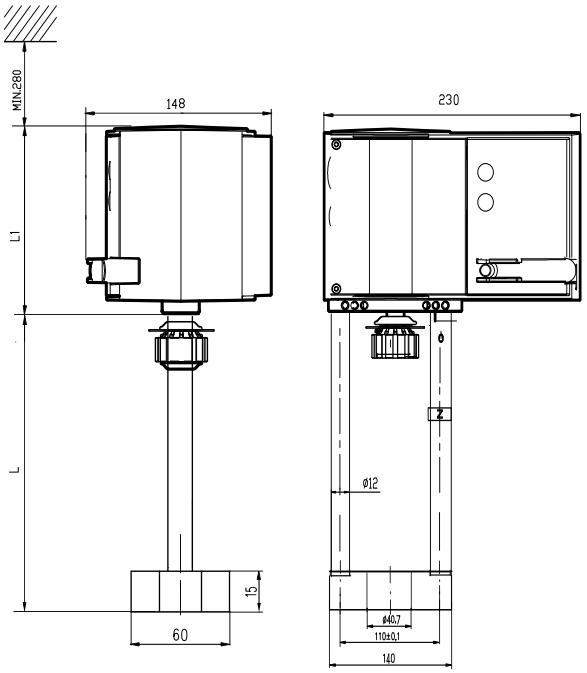
STR 2PA / ST2

Designs, materials, weights and performance ratings are approximate and subject to change without notice.
Visit **armstrong**international.com for up-to-date information.

Electrical Actuators Dimensions



STMini



AVM234 / AVF234

Model	mm	Valve Nominal Size											
		15	20	25	32	40	50	65	80	100	125	150	200
AVM234	L/L1	142											
AVF234		148											
STMini	L/L1	210											
		119											
STR 0PA	L/L1	210						245					
		165						165					
STR 01PA ST01	L/L1	210						245					
		210						210					
STR 1PA ST1	L/L1	210						245					
		248						248					
STR 2PA ST2	L/L1	210						245					
		302						302					

The table above represent the overall dimensions of the valve using standard Electrical Actuators, mesurements are purely indicative and may change based on the specific models or accessory required

How to Order

MODEL NUMBER

SMD — 15 — 1 — CS — M — ST — EU — P — 275A — NO — PTFE — PU — EQ

VALVE MATERIAL

ASTM A395	CI
ASTM A216	CS
ASTM A351	SS
ASTM A217 WC6	HTS
ASTM A352 LCB	LTS

CONNECTION TYPE

EN 1092.1 PN16	1
EN 1092.1 PN25	2
EN 1092.1 PN40	3
EN 1092.1 PN63	4
ASME B16.5 #150	5
ASME B16.5 #300	6
EN 10226 BSPT	7
ASME NPT	8
SW ASME B16.11	9
BW ASME B16.25	10

CONNECTION SIZE

IN	MM
1/2"	15
3/4"	20
1"	25
1 1/4"	32
1 1/2"	40
2"	50
2 1/2"	65
3"	80
4"	100
5"	125
6"	150
8"	200

TYPE VALVE

MIXING	M
DIVERTING	D

BONNET STYLE

STANDARD	ST
BELLOW	BE
HIGH TEMPER.	HT
CRYOGENIC	SR

PACKING

STANDARD (180°C)	ST
EURO (250°C)	EU
GRAPHITE (600°C)	GR
RPTFE (DANG. LIQ.)	RP

ACTUATOR TYPE

ELECTRICAL	E
PNEUMATIC	P

PNEUMATIC TYPE

200A	430A
200B	430B
275A	430sA
275B	430sB
335A	500A
335B	500B
NO	

ELECTRIC TYPE

AVM	STR0
AVF	STR01
STM	STR1
ST01	STR2
ST1	NO
ST2	

PLUG MATERIAL

PTFE (CI VI)
PEEK (CI VI)
METAL. (CI IV)

TRIM TYPE

PARABOLIC UNBAL.	PU
V LINEAR UNBAL.	LV

TRIM CHARACTERISTIC

EQUAL PERCENTAGE	EQ
LINEAR	LIN

Notes

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