

## TWO-WAY GLOBE CONTROL VALVES V16/2 (Threaded)

### DESCRIPTION

The ADCATrol V16/2 is a series of single seated, two-way globe control valves designed for simple process engineering and industrial applications with non-critical operating conditions. These valves can be assembled with pneumatic, hydraulic or electric actuators, for modulating and shut-off control tasks.

### MAIN FEATURES

Compact and cost-effective.  
Modular design to meet process requirements.  
Parabolic plug design.  
Stainless steel trim.

### OPTIONS AND

**ACCESSORIES:** Bonnet extension for high and low temperatures.  
Various stem sealing options including bellows sealing.  
Soft or stellite valve sealing.  
Reduced bore trims including microflow.

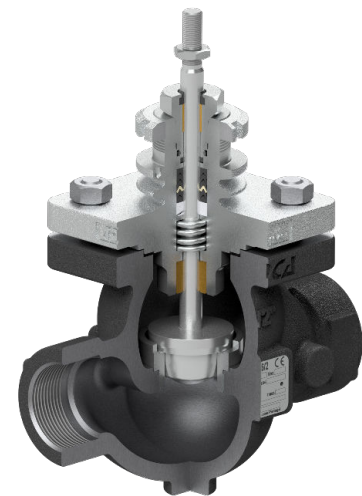
**USE:** Saturated and superheated steam.  
Hot and superheated water.  
Air, gases and others.

### AVAILABLE

**MODELS:** V16/2S – carbon steel.  
V16/2i – stainless steel.

**SIZES:** 1/2" to 2".

**CONNECTIONS:** Female threaded ISO 7 Rp or NPT.


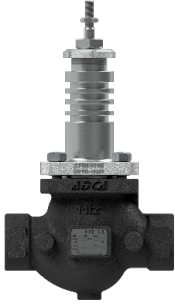


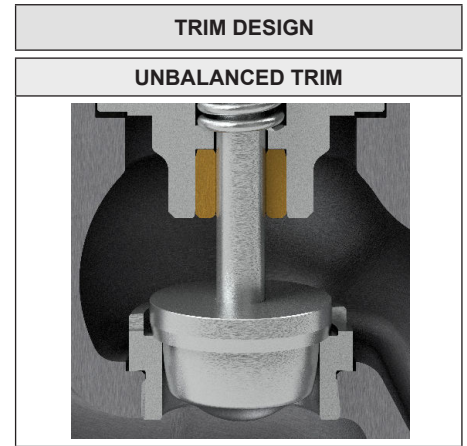
#### CE MARKING – GROUP 2 (PED – European Directive)

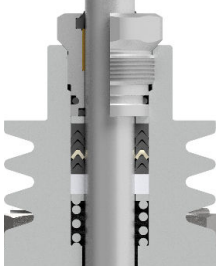

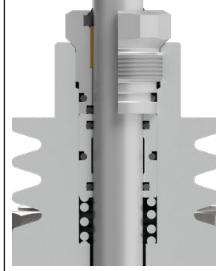
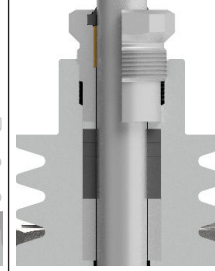
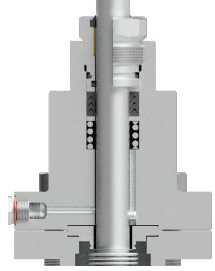
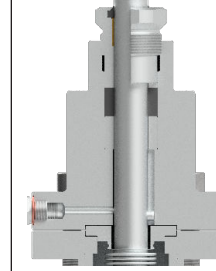
PN 40	Category
1/2" to 1"	SEP
1 1/2" and 2"	1 (CE marked)

#### BODY LIMITING CONDITIONS

V16/2S		V16/2i	
ALLOWABLE PRESSURE	RELATED TEMPERATURE	ALLOWABLE PRESSURE	RELATED TEMPERATURE
40 bar	-10 °C / 50 °C	40 bar	-10 °C / 50 °C
33,3 bar	200 °C	33,7 bar	200 °C
27,6 bar	300 °C	29,7 bar	300 °C
25,7 bar	350 °C	28,5 bar	350 °C
23,8 bar	400 °C	27,4 bar	400 °C



BONNET DESIGN	
STANDARD	EXTENDED
 <p>-10 °C to 250 °C</p>	 <p>Above 250 °C</p>



STEM SEALING					
PTFE/GR V-RINGS (V1.2)	PTFE V-RINGS (V2.2)	EPDM (EP1)	GRAPHITE (G1)	BELLOWS	
				(BV1)	(BG1)
 <p>-10 °C to 220 °C</p>	 <p>-10 °C to 180 °C</p>	 <p>-10 °C to 150 °C *</p>	 <p>-10 °C to 400 °C</p>	 <p>-60 °C to 220 °C **</p>	 <p>-60 °C to 400 °C **</p>

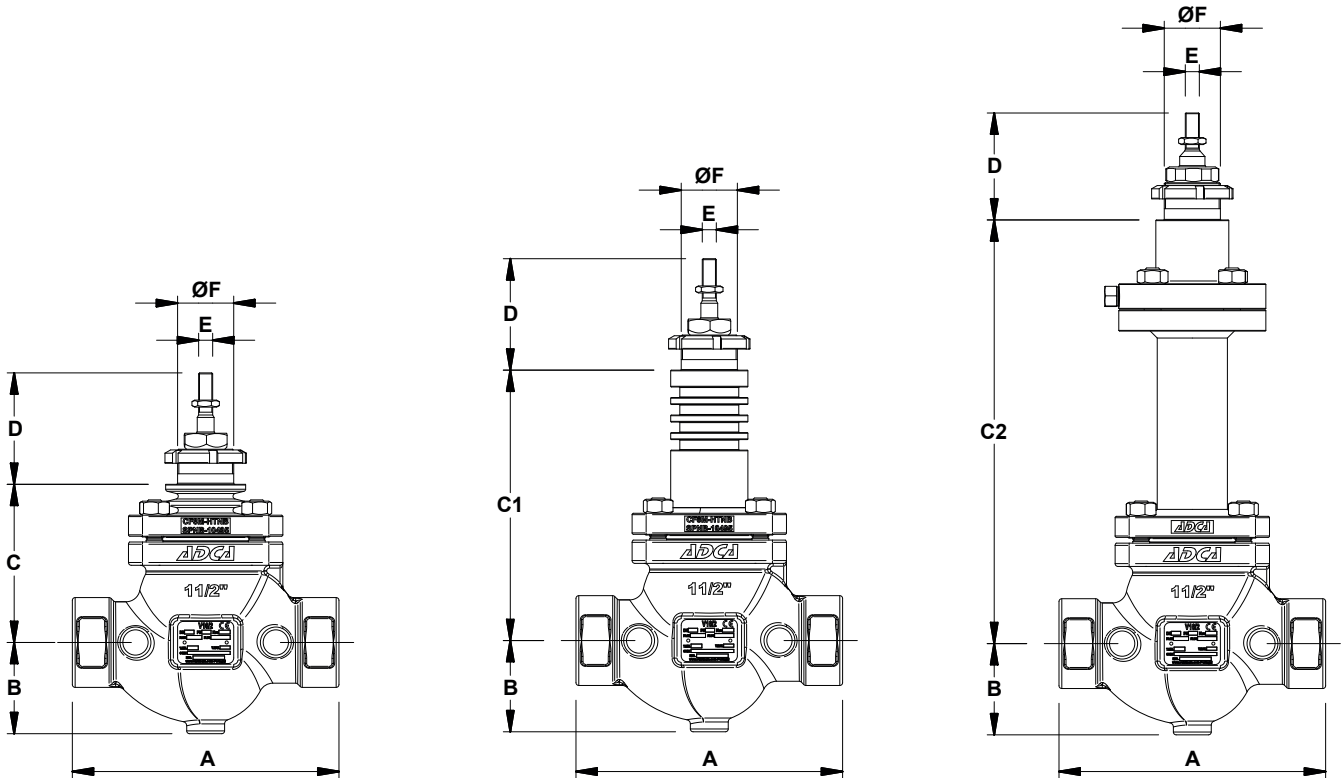
\* Up to 180 °C in steam and hot water applications.

\*\* Maximum operating pressure: 25 bar.

PLUG DESIGN	
PARABOLIC	PARABOLIC (SOFT SEALING)
 <p><b>Sealing:</b> Metal to metal <b>Characteristic:</b> Equal percentage (EQP) or linear (PL) <b>Flow direction:</b> From below <b>Rangeability:</b> 50:1 (EQP) or 30:1 (PL) <b>Leakage:</b> Class IV, acc. to IEC 60534-4</p>	 <p><b>Sealing:</b> PTFE/GR <b>Characteristic:</b> Equal percentage (EQP) or linear (PL) <b>Flow direction:</b> From below <b>Rangeability:</b> 50:1 (EQP) or 30:1 (PL) <b>Leakage:</b> Class VI, acc. to IEC 60534-4 <b>Max. temp.:</b> 200 °C</p>

FLOW RATE COEFFICIENTS – PARABOLIC PL AND EQP PLUGS																				
SIZE	Kvs (m³/h)																			
	0,1 *	0,16 *	0,25 *	0,5 *	1 *	1,7 *	2,1	2,7	4	6,3	10	16	25	40						
1/2"	•	•	•	•	•	•	•	•	•											
3/4"	•	•	•	•	•	•	•	•	•	•										
1"	•	•	•	•	•	•	•	•	•	•	•									
1 1/2"										•	•	•	•							
2"											•	•	•	•						
SEAT Ø (mm)	4			8			12		15		19,2		25		32		38		48	
STROKE (mm)	20																			

\* Microflow only available with linear characteristic.  
For conversion  $Kvs = Cv (US) \times 0,865$ .



Valve with standard bonnet

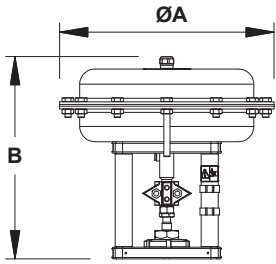
Valve with extended bonnet

Bellows sealed valve

DIMENSIONS (mm)					
DIMENSION	SIZE				
	1/2"	3/4"	1"	1 1/2"	2"
A	100	100	100	190	220
B	37,5	37,5	37,5	65	81
C	103	103	103	113	125
C1	168	168	183	193	204
C2	294	294	292	303	303
D	80				
E	M10 x 1				
ØF	M40 x 1,5				

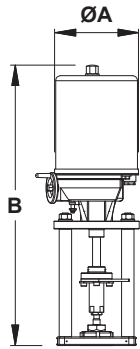
WEIGHTS (kg)					
	SIZE				
	1/2"	3/4"	1"	1 1/2"	2"
STANDARD	3,3	3,3	3,4	8,3	10,3
EXTENDED	4	4	4,1	9,6	11,6
BELLOWS	7,3	7,3	7,4	12,3	14,3

MAX. PERMISSIBLE ACTUATING THRUSTS (kN)					
	SIZE				
	1/2"	3/4"	1"	1 1/2"	2"
MAX. THRUST	5,6			12	



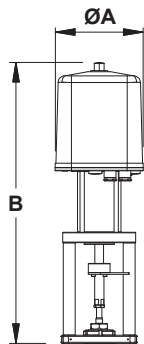
DIMENSIONS – PA SERIES PNEUMATIC ACTUATORS (mm)						
DIMENSION	PA10	PA206	PA25	PA281	PA40	PA341
ØA	170	209	250	275	300	336
B	251	236	260	243	325	288
WEIGHT (kg)	6,3	6,2	10,1	9,6	18,7	14,3

For more information, please consult IS 3.70 and IS 3.70A – PA Linear pneumatic actuators.



DIMENSIONS – EL SERIES ELECTRIC ACTUATORS (mm)			
DIMENSION	EL12	EL20	EL45
ØA	129	148	148
B	333	485	485
WEIGHT (kg)	2,1	8	8

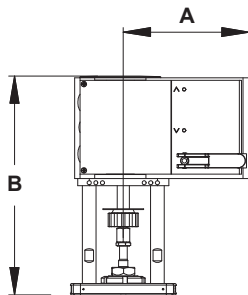
For more information, please consult IS 3.72 – EL Linear electric actuators.



DIMENSIONS – ELR SERIES ELECTRIC ACTUATORS (mm)			
DIMENSION	ELR2.1	ELR2.2	ELR2.3
ØA	162	162	162
B	518 / 555 *	536 / 573 *	557 / 593 *
WEIGHT (kg)	8,7	9,3	10

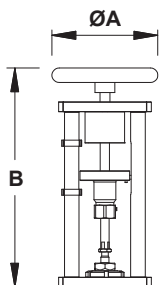
\* With PEL electronic positioner.

For more information, please consult IS 3.73 – ELR Linear electric actuators fail safe.



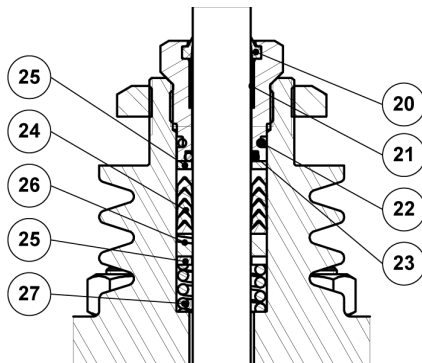
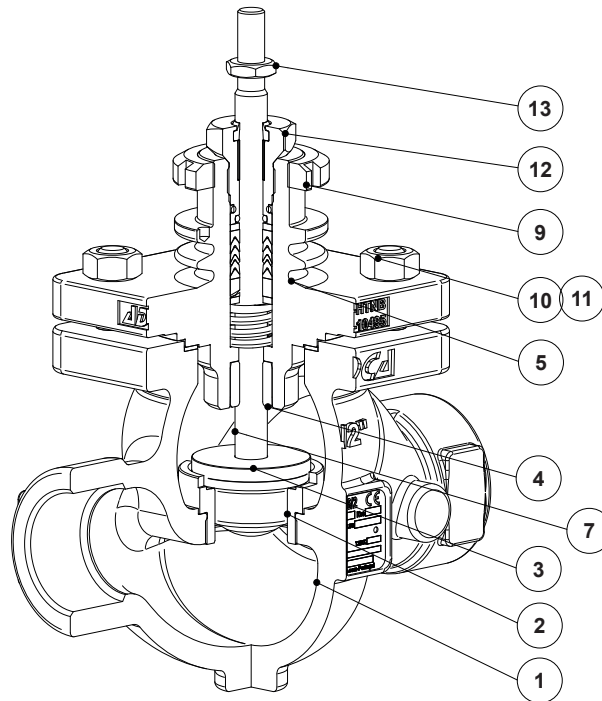
DIMENSIONS – AV SERIES ELECTRIC ACTUATORS (mm)		
DIMENSION	AVM234S	AVF234S
A	166	166
B	314	314
WEIGHT (kg)	4,1	4,1

For more information, please consult IS 3.74 – AVM234S-AVF234S Linear electric actuators.

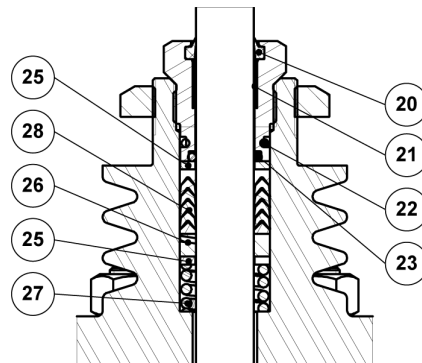


DIMENSIONS – MANUAL OPERATION HANDWHEEL (mm)	
DIMENSION	MAH
ØA	160
B	331
WEIGHT (kg)	5,6

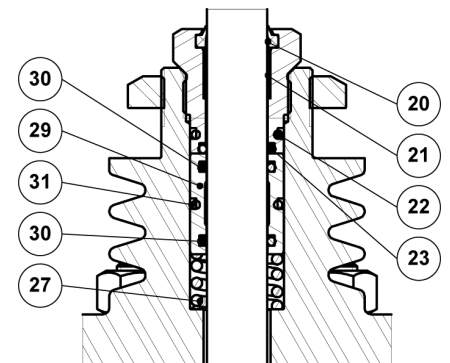
MATERIALS



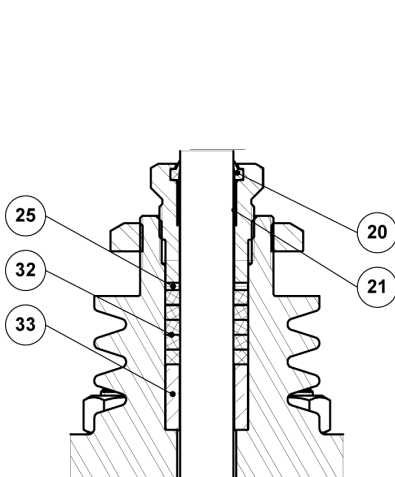
PTFE/GR V-Rings  
(V1.2)



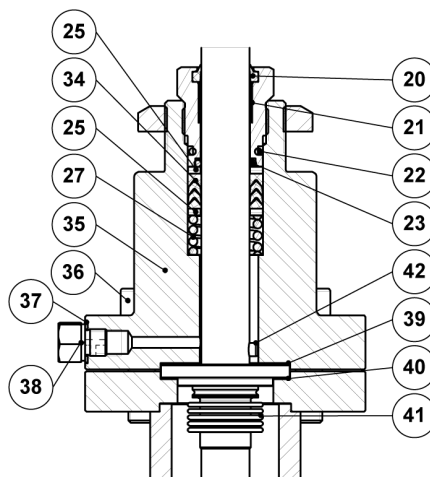
PTFE V-Rings  
(V2.2)



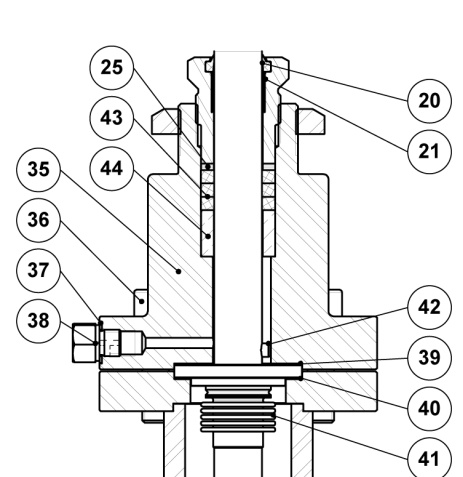
EPDM  
(EP1)



Graphite  
(G1)



Bellows sealing  
(BV1)



Bellows sealing  
(BG1)

**MATERIALS**

POS. N°	DESIGNATION	MATERIAL
1	Valve body (V16/2S)	A216 WCB / 1.0619
	Valve body (V16/2i)	A351 CF8M / 1.4408
2	* Seat	AISI 316L / 1.4404
3	* Valve plug	AISI 316L / 1.4404
4	Lower stem guide	Bronze CB1
5	Bonnet (V16/2S)	A351 CF8M / 1.4408; A216 WCB / 1.0619
	Bonnet (V16/2i)	A351 CF8M / 1.4408
7	* Stem	AISI 316L / 1.4404
9	Lock nut	A351 CF8 / 1.4308
10	Nuts (V16/2S)	EN 10269 steel
	Nuts (V16/2i)	Stainless steel A2-70
11	Studs (V16/2S)	EN 10269 steel
	Studs (V16/2i)	Stainless steel A2-70
12	* Packing nut	AISI 303 / 1.4305
13	Lock nut	AISI 304 / 4.4301
20	* Scraper ring	Viton; NBR
21	* Plain bearing	Bronze / PTFE
22	* O-ring	EPDM
23	* O-ring	Viton
24	* Chevron packing set	PTFE; Graphite filled PTFE
25	Washer	AISI 304 / 1.4301
26	* Stem guide	Stainless steel filled PTFE
27	* Spring	AISI 302 / 1.4310
28	* Chevron packing set	PTFE
29	O-ring guide	AISI 304 / 1.4301
30	* O-ring	EPDM
31	* O-ring	EPDM
32	* Packing set	Expanded graphite
33	Packing spacer	AISI 304 / 1.4301
34	* Safety packing set	Graphite filled PTFE
35	Bellows bonnet (V16/2S)	A105 / 1.0432; AISI 316 / 1.4401
	Bellows bonnet (V16/2i)	AISI 316 / 1.4401
36	Bolts or studs and nuts (V16/2S)	EN 10269 steel
	Bolts or studs and nuts (V16/2i)	Stainless steel A2-70
37	Gasket	Copper
38	Compression fitting	AISI 316 / 1.4401
39	* Gasket	Stainless steel / Graphite
40	* Gasket	Stainless steel / Graphite
41	* Metal bellows	AISI 316Ti / 1.4571
42	* Locking pin	AISI 303 / 1.4305
43	* Safety packing set	Expanded graphite
44	Packing spacer	AISI 304 / 1.4301

\* Available spare parts.

ORDERING CODES V16/2 a)															
<b>Valve model</b>	V1	2	S	S	1	U	1	1	1	E	FD	A	015		
Globe control valve, two-way, straight body	V1														
<b>Valve series</b>															
Series 2		2													
<b>Body material</b>															
A216 WCB / 1.0619 carbon steel			S												
A351 CF8M / 1.4408 stainless steel			I												
<b>Bonnet design</b>															
Standard			S												
Extended			E												
<b>Trim design</b>															
Unbalanced trim					1										
<b>Flow direction</b>															
Flow under the plug						U									
Flow over the plug						O									
<b>Stem sealing</b>															
PTFE/GR V-Rings (V1.2)							1								
Virgin PTFE V-Rings (V2.2)							2								
Graphite (G1)							3								
EPDM (EP1)							4								
Stainless steel bellows with PTFE/GR safety packing (BV1)							8								
Stainless steel bellows with graphite safety packing (BG1)							9								
<b>Plug design</b>															
Parabolic								1							
<b>Valve sealing</b>															
Metal to metal (class IV)										1					
Soft sealed with PTFE/GR (class VI)											3				
Stellited (class IV)												4			
<b>Characteristic</b>															
Equal percentage (EQP)												E			
Linear (PL)												L			
<b>Flow rate coefficient</b>															
Kvs 4													FD		
See table below for other Kvs value codes															
<b>Pipe connection</b>															
Female threaded ISO 7 Rp														A	
Female threaded NPT														C	
<b>Size</b>															
1/2"															015
3/4"															020
...															
<b>Special valves / Extras</b>															
Full description or additional codes have to be added in case of a non-standard combination															E

a) Codification for valve only. For actuator codes, refer to the appropriate information sheet.

FLOW RATE COEFFICIENT CODES															
<b>Kvs</b>	0,1	0,16	0,25	0,5	1	1,7	2,1	2,7	4	6,3	10	16	25	40	
<b>Code</b>	M4	M3	M2	M1	R4	R3	R2	R1	FD	FE	FF	FG	FH	FI	