

TWO-WAY GLOBE CONTROL VALVES

V16/2 (EN)

DESCRIPTION

The 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.
Stem guided (up to DN 50) and post guided (from DN 65 to DN 100).
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.
Silencers.

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

AVAILABLE MODELS:

V16/2G – SG iron.
V16/2S – carbon steel.
V16/2i – stainless steel.

SIZES: DN 15 to DN 100.

CONNECTIONS: V16/2G – Flanged EN 1092-2 PN 16.
V16/2S and V16/2i – Flanged EN 1092-1 PN 16 or PN 40.
Standard PN 16 DN 65 flanges are supplied with 4 holes. 8 holes, according to EN 1092-1/-2, on request.



CE MARKING – GROUP 2 (PED – European Directive)

PN 16	PN 40	Category
DN 15 to 50	DN 15 to 32	SEP
DN 65 to 100	DN 40 to 100	1 (CE marked)

BODY LIMITING CONDITIONS

V16/2G **		V16/2S *				V16/2i *			
FLANGED PN 16		FLANGED PN 16		FLANGED PN 40		FLANGED PN 16		FLANGED PN 40	
ALLOW. PRESSURE	RELATED TEMP.	ALLOW. PRESSURE	RELATED TEMP.	ALLOW. PRESSURE	RELATED TEMP.	ALLOW. PRESSURE	RELATED TEMP.	ALLOW. PRESSURE	RELATED TEMP.
16 bar	-10 °C / 50 °C	16 bar	-10 °C / 50 °C	40 bar	-10 °C / 50 °C	16 bar	-10 °C / 50 °C	40 bar	-10 °C / 50 °C
14,7 bar	200 °C	13,3 bar	200 °C	33,3 bar	200 °C	13,4 bar	200 °C	33,7 bar	200 °C
13,9 bar	250 °C	12,1 bar	250 °C	27,6 bar	300 °C	12,7 bar	250 °C	29,7 bar	300 °C
12,8 bar	300 °C	11 bar	300 °C	25,7 bar	350 °C	11,8 bar	300 °C	28,5 bar	350 °C
11,2 bar	350 °C	10,2 bar	350 °C	23,8 bar	400 °C	11,4 bar	350 °C	27,4 bar	400 °C

* Rating according to EN 1092-1:2018; ** Rating according to EN 1092-2:2007.

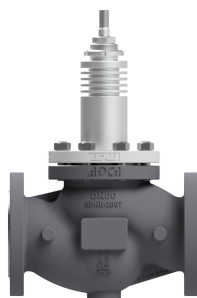
BONNET DESIGN

STANDARD



-10 °C to 250 °C

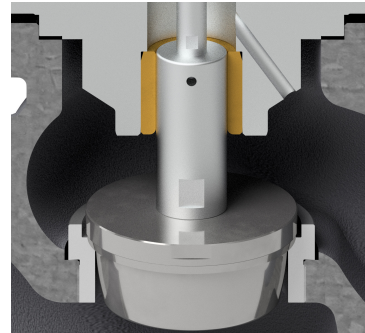
EXTENDED



Above 250 °C

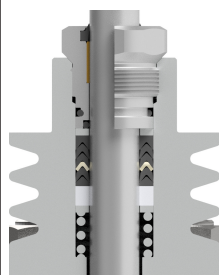
TRIM DESIGN

UNBALANCED TRIM



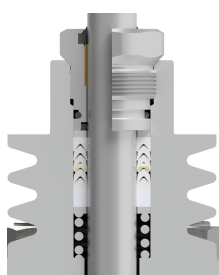
STEM SEALING

PTFE/GR V-RINGS (V1.2)



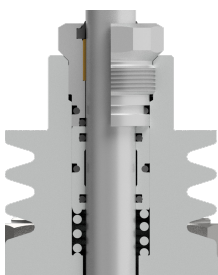
-10 °C to 220 °C

PTFE V-RINGS (V2.2)



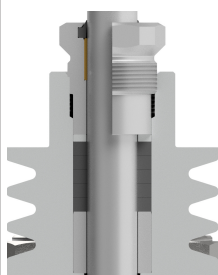
-10 °C to 180 °C

EPDM (EP1)



-10 °C to 150 °C *

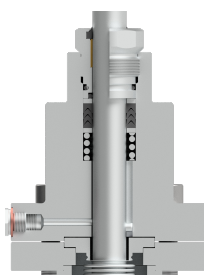
GRAPHITE (G1)



-10 °C to 400 °C

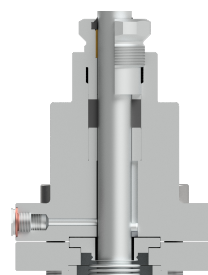
BELLOWS

(BV1)



- 60 °C to 220 °C **

(BG1)



- 60 °C to 400 °C **

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

** Maximum operating pressure: 25 bar.

PLUG DESIGN

PARABOLIC



Sealing: Metal to metal
Characteristic: Equal percentage (EQP) or linear (PL)
Flow direction: From below
Rangeability: 50:1 (EQP) or 30:1 (PL)
Leakage: Class IV, acc. to IEC 60534-4

PARABOLIC (SOFT SEALING)

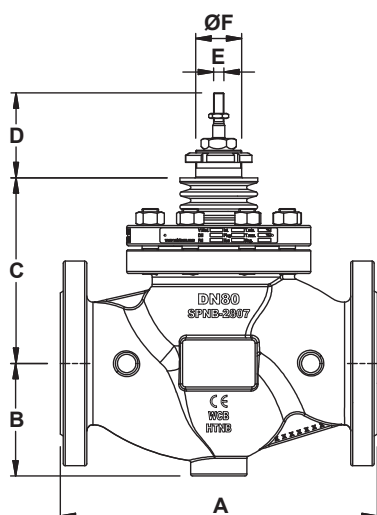


Sealing: PTFE/GR
Characteristic: Equal percentage (EQP) or linear (PL)
Flow direction: From below
Rangeability: 50:1 (EQP) or 30:1 (PL)
Leakage: Class VI, acc. to IEC 60534-4
Max. temp.: 200 °C

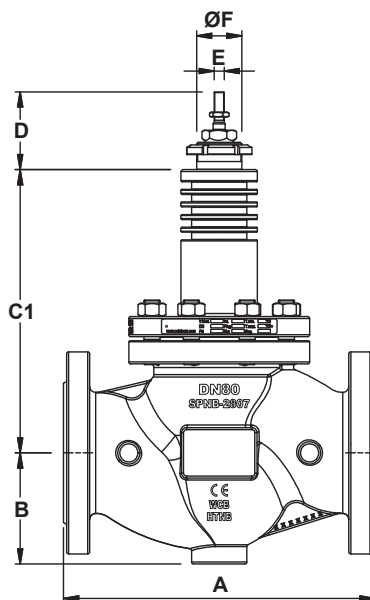
FLOW RATE COEFFICIENTS – PARABOLIC PL AND EQP PLUGS

SIZE	Kvs (m³/h)										
	2,1	2,7	4	6,3	10	16	25	40	63	100	160
DN 15	●	●	●								
DN 20	●	●	●	●							
DN 25	●	●	●	●	●						
DN 32			●	●	●	●					
DN 40				●	●	●	●				
DN 50					●	●	●	●			
DN 65						●	●	●	●		
DN 80							●	●	●	●	
DN 100								●	●	●	●
SEAT Ø (mm)	12		15	19,2	25	32	38	48	65	76	96
STROKE (mm)	20								30		

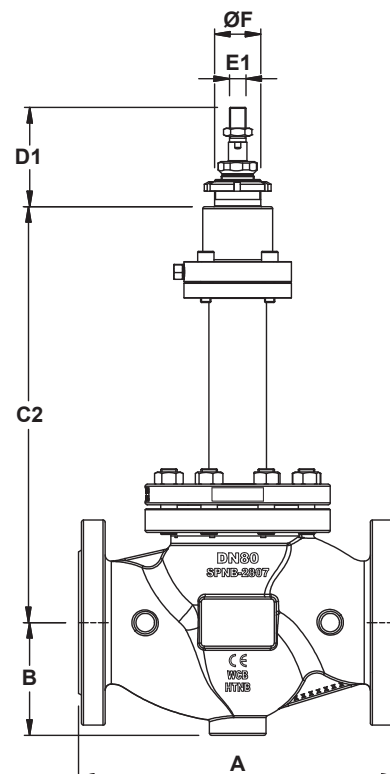
For conversion Kvs = Cv (US) x 0,865.



Valve with standard bonnet



Valve with extended bonnet



Bellows sealed valve

DIMENSIONS (mm)

DIMENSION	SIZE								
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
A	130	150	160	180	200	230	290	310	350
B	52	53	58	70	75	85	100	110	130
C	104	104	109	109	113	125	176	182	194
C1	169	169	189	189	193	204	276	282	314
C2	295	295	298	298	303	303	415	421	424
D	77						82		
D1	77						92		
E	M10 x 1								
E1	M10 x 1						M16 x 1,5		
ØF	M40 x 1,5						M45 x 1,5		

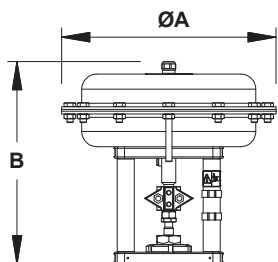
Remarks: Standard PN 16 DN 65 flanges are supplied with 4 holes. 8 holes, according to EN 1092-1/-2, on request.

WEIGHTS (kg)

	SIZE								
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
STANDARD	5,1	6	6,9	10	12,6	16,4	31,8	38,2	50,6
EXTENDED	5,8	6,7	7,6	10,9	13,9	17,6	32,5	38,9	51,1
BELLOWS	9,3	10,2	10,9	14,1	16,6	20,2	35,6	41,9	53,5

MAX. PERMISSIBLE ACTUATING THRUSTS (kN)

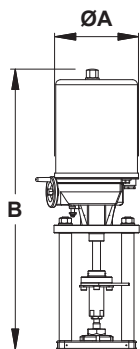
	SIZE								
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
MAX. THRUST	12								



DIMENSIONS – PA SERIES PNEUMATIC ACTUATORS (mm)								
DIMENSION	PA10	PA206	PA25	PA281	PA40	PA341	PA436	PA80
ØA	170	209	250	275	300	336	430	405
B	251	236	260	243	325	288	316 / 336 *	505
WEIGHT (kg)	6,3	6,2	10,1	9,6	18,7	14,3	24,4 / 28 *	50,4

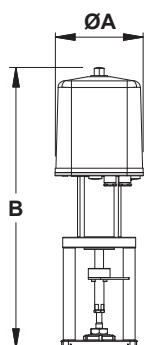
* For actuators with spring ranges 1 to 2 bar, 1,5 to 3 bar and 2 to 4 bar.

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	EL80	EL120
ØA	129	148	148	188	188
B	333	485	485	587	587
WEIGHT (kg)	2,1	8	8	13	13

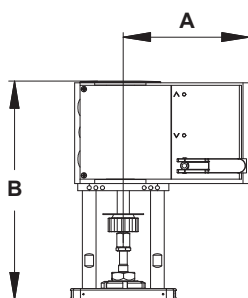
For more information, please consult IS 3.72 – EL Linear electric actuators.



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

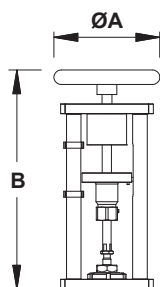
* With PEL electronic positioner.

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



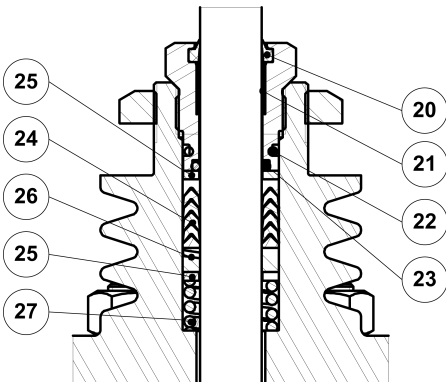
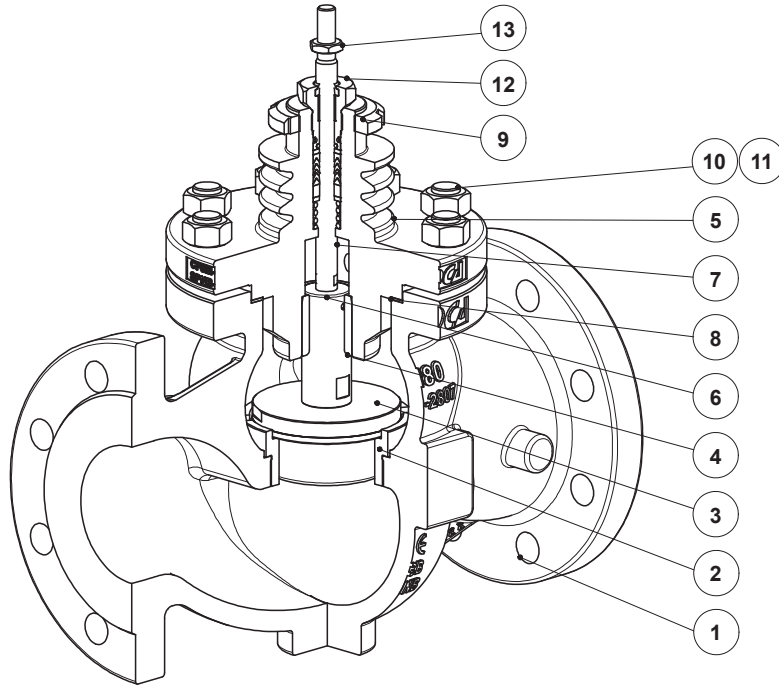
DIMENSIONS – AV SERIES ELECTRIC ACTUATORS (mm)		
DIMENSION	AVM234S	AVF234S
A	166	166
B	314	314
WEIGHT (kg)	4,1	4,1

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

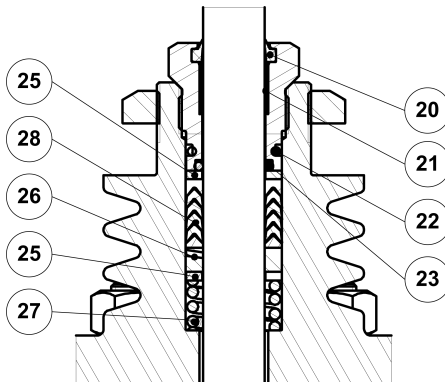


DIMENSIONS – MANUAL OPERATION HANDWHEEL (mm)	
DIMENSION	MAH
ØA	160
B	331
WEIGHT (kg)	5,6

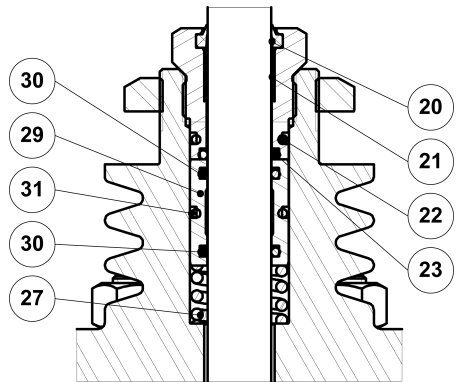
MATERIALS



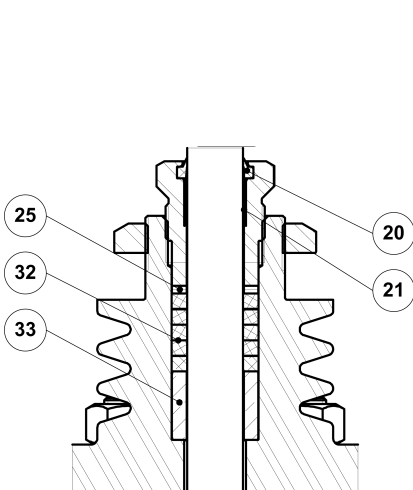
*PTFE/GR V-Rings
(V1.2)*



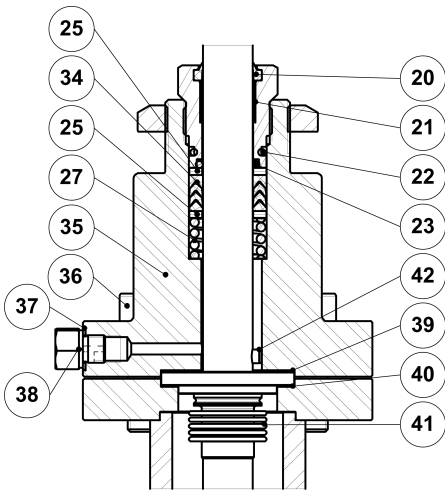
*PTFE V-Rings
(V2.2)*



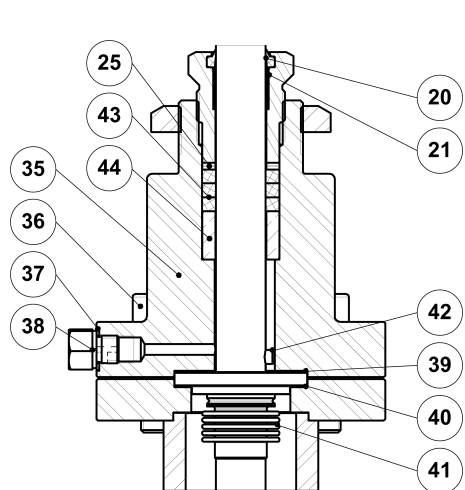
*EPDM
(EP1)*



*Graphite
(G1)*



*Bellows sealing
(BV1)*



*Bellows sealing
(BG1)*

MATERIALS

POS. N°	DESIGNATION	MATERIAL
1	Valve body (V16/2G)	GJS-400-15 / 0.7040
	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 (V16/2G and V16/2S)	A351 CF8M / 1.4408; A216 WCB / 1.0619
	Bonnet (V16/2i)	A351 CF8M / 1.4408
6	* Post stem (DN 65 to DN 100)	AISI 316L / 1.4404
7	* Stem	AISI 316L / 1.4404
8	* Gasket	Stainless steel / Graphite
9	Lock nut	A351 CF8 / 1.4308
10	Nuts (V16/2G and V16/2S)	EN 10269 steel
	Nuts (V16/2i)	Stainless steel A2-70
11	Studs (V16/2G and 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 (V16/2G and V16/2S)	A105 / 1.0432; AISI 316 / 1.4401
	Bellows bonnet (V16/2i)	AISI 316 / 1.4401
36	Bolts or studs and nuts (V16/2G and 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)

Valve model	V1	2	G	S	1	U	1	1	1	E	FD	L	015
Globe control valve, two-way, straight body	V1												
Valve series													
Series 2		2											
Body material													
GJS-400-15 / 0.7040 SG iron			G										
A216 WCB / 1.0619 carbon steel			S										
A351 CF8M / 1.4408 stainless steel			I										
Bonnet design													
Standard			S										
Extended			E										
Trim design													
Unbalanced trim					1								
Flow direction													
Flow under the plug						U							
Flow over the plug						O							
Stem sealing													
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						
Plug design													
Parabolic								1					
Valve sealing													
Metal to metal (class IV)									1				
Soft sealed with PTFE/GR (class VI)									3				
Stellited (class IV)									4				
Characteristic													
Equal percentage (EQP)										E			
Linear (PL)										L			
Flow rate coefficient													
Kvs 4											FD		
See table below for other Kvs value codes													
Pipe connection													
Flanged EN 1092-1/-2 PN 16												L	
Flanged EN 1092-1 PN 40												N	
Size													
DN 15													015
DN 20													020
...													
Special valves / Extras													
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

Kvs	2,1	2,7	4	6,3	10	16	25	40	63	100	160
Code	R2	R1	FD	FE	FF	FG	FH	FI	FJ	FL	FM