



TDS BLOWDOWN CONTROL VALVES VPC26

DESCRIPTION

When a steam boiler is in operation there is continuous evaporation of boiler water which causes an undesirable increase in TDS (Total Dissolved Solids) concentration. A typical problem that results from this is water foaming, which leads to reduced boiler performance and wet steam. Furthermore, dissolved and suspended solids will carry over into the steam lines, contaminating valves, tubes, heat exchangers and steam traps, leading to corrosion, scaling and erosion. For these reasons, a certain amount of boiler water must be discharged continuously or periodically to ensure TDS concentration is kept within the recommended parameters.

The ADCATrol VPC26 is a control valve specially designed for this purpose and features a multi-stage trim to progressively reduce the energy of the fluid. This makes it ideal for discharge of boiler blowdown at high differential pressures where flashing is a concern.

The valve is suitable for both continuous and on/off TDS control via a PA series reverse action pneumatic actuator or AV series fail-safe spring return actuator.

MAIN FEATURES

- Minimized vibrations due to continuous stem guiding.
- Seat and plug sealing surfaces are protected from erosion at low stroke positions.
- Compact and modular design.
- Multi stage trim for controlled velocity and pressure drop.
- Hardened stainless steel trim with stellite faced plug and seat.
- Tool-free quick exchangeable clamped-in seats, allowing fast and easy inline maintenance procedures.

OPTIONS AND ACCESSORIES:

- Sample valve bottom connection.
- NV400B sample valve.
- Blowdown controllers.
- TDS probes.

USE:

TDS blowdown control in steam boilers and other applications with high pressure drops and low flow rates where cavitation and flashing phenomenon are likely to occur.

AVAILABLE MODELS:

- VPC26S – carbon steel.
- VPC26i – stainless steel.

SIZES:

1/2" to 1 1/2"; DN 15 to DN 40.

CONNECTIONS:

- Flanged EN 1092-1 PN 40.
- Flanged ASME B16.5 Class 300.

AVAILABLE ACTUATORS:

- PA10 linear pneumatic actuator.
- AVF234S linear electric actuator.



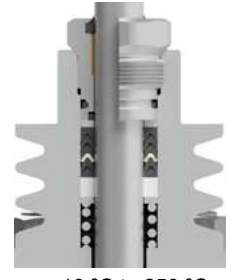
CE MARKING – GROUP 2 (PED – European Directive)	
PN 40	Category
1/2" to 1" – DN 15 to 25	SEP
1 1/2" – DN 40	1 (CE marked)

BODY LIMITING CONDITIONS					
VPC26S				VPC26i	
FLANGED PN 40 *		FLANGED CLASS 300 **		FLANGED PN 40 *	
ALLOWABLE PRESSURE	RELATED TEMPERATURE	ALLOWABLE PRESSURE	RELATED TEMPERATURE	ALLOWABLE PRESSURE	RELATED TEMPERATURE
40 bar	-10 / 50 °C	50 bar	-10 / 50 °C	40 bar	-10 °C / 50 °C
33,3 bar	200 °C	43,9 bar	200 °C	33,7 bar	200 °C
27,6 bar	300 °C	36,9 bar	350 °C	29,7 bar	300 °C
25,7 bar	350 °C	34,6 bar	400 °C	28,5 bar	350 °C
23,8 bar	400 °C	-	-	27,4 bar	400 °C

* Rating according to EN 1092-1:2018; ** Rating according to EN 1759-1:2004.

STEM SEALING

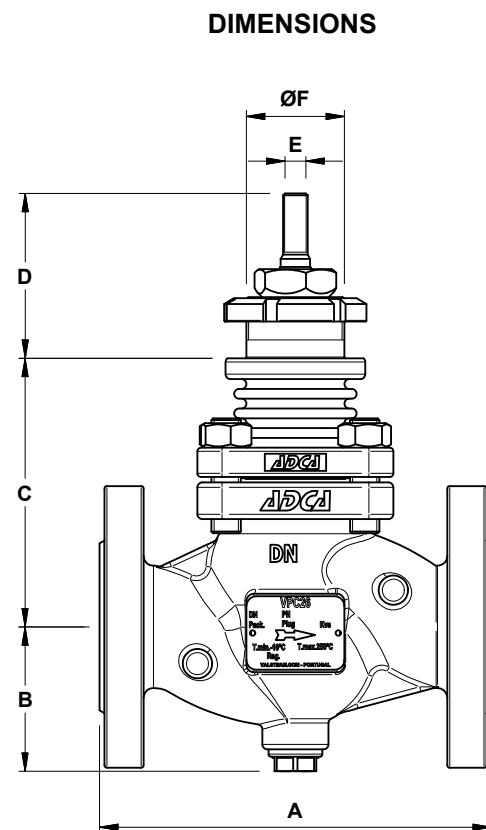
PTFE/GR V-RINGS (V1.2)



-10 °C to 250 °C

FLOW RATE COEFFICIENTS (m³/h)				
SIZE	1/2" – DN 15	3/4" – DN 20	1" – DN 25	1 1/2" – DN 40
Kvs	1,2	1,2	1,2	1,8
STROKE	6			8

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

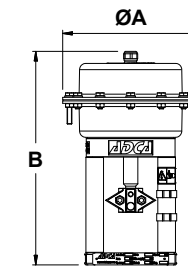


DIMENSIONS (mm)				
DIMENSION	SIZE			
	1/2" – DN 15	3/4" – DN 20	1" – DN 25	1 1/2" – DN 40
A	EN	130	150	160
	ASME	190 *	194 *	197
B	61	61	61	70
C	104	104	109	193
D	70	70	70	70
E	M10 x 1			
ØF	M40 x 1,5			
G **	3/8"			

* With welded-on flanges.

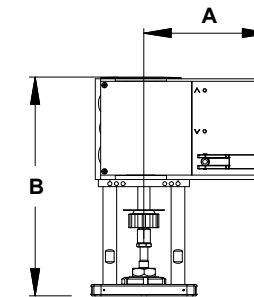
** As standard, in versions with EN flanges, this connection is female threaded ISO 228. In versions with ASME flanges, this connection is female threaded NPT.

WEIGHTS (kg)				
	SIZE			
	1/2" – DN 15	3/4" – DN 20	1" – DN 25	1 1/2" – DN 40
EN	5,3	6,1	6,9	12,6
ASME	5,3	6,2	7,4	13,8



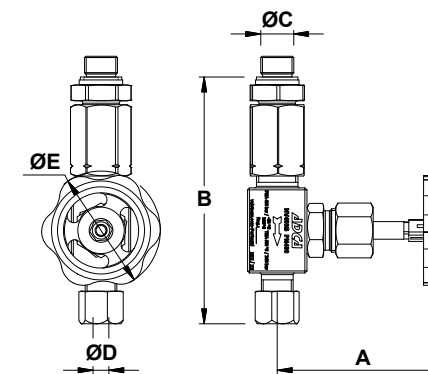
DIMENSIONS – PA SERIES PNEUMATIC ACTUATORS (mm)	
DIMENSION	PA10
ØA	170
B	251
WEIGHT (kg)	6,3

For more information, please consult IS 3.05 – PA Linear pneumatic actuators.



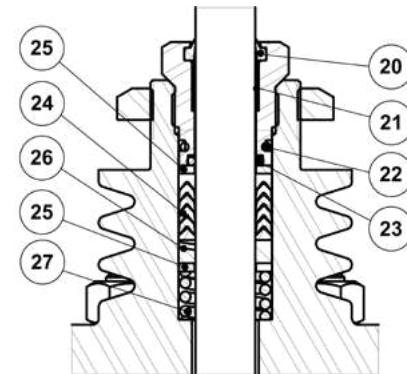
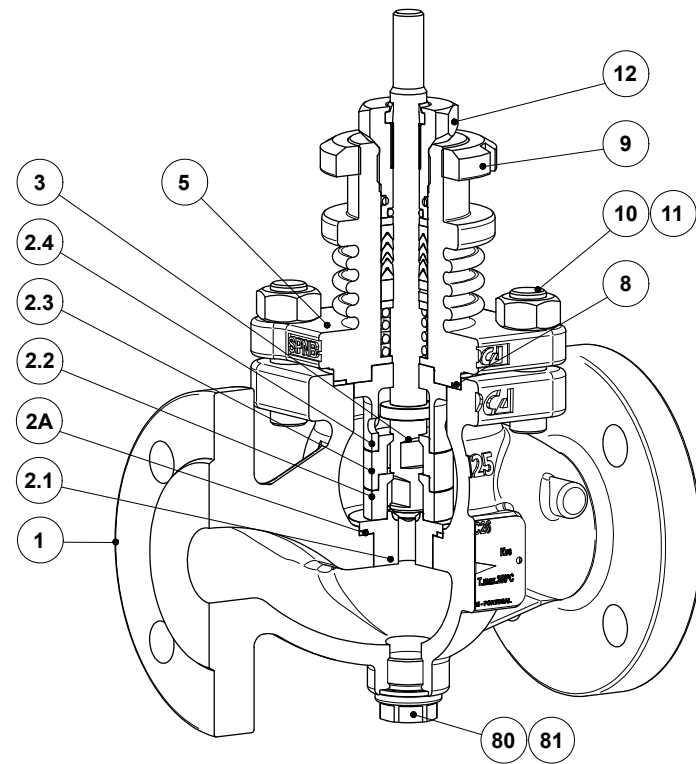
DIMENSIONS – AV SERIES ELECTRIC ACTUATORS (mm)	
DIMENSION	AVF234S
A	166
B	289
WEIGHT (kg)	4,1

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



DIMENSIONS – NV400B SAMPLE VALVE (mm)	
DIMENSION	NV400B
A	90 (maximum)
B	125
ØC	3/8"
ØD	8
ØE	60
WEIGHT (kg)	0,63

For more information, please consult IS 4.90 – NV400 Needle valves.



PTFE/GR V-Rings (V1.2)

MATERIALS

POS. N°	DESIGNATION	MATERIAL
1	Valve body (VPC26S)	A216 WCB / 1.0619
	Valve body (VPC26i)	A351 CF8M / 1.4408
2A	* Seat gasket	Stainless steel / Graphite
2.1	* Seat	AISI 316L / 1.4404 stellite faced
2.2	Lower guide sleeve	Hardened stainless steel
2.3	Intermediate guide sleeve	Hardened stainless steel
2.4	Upper guide sleeve	Hardened stainless steel
3	* Valve plug	AISI 316L / 1.4404 stellite faced
5	Bonnet	A351 CF8 / 1.4308
8	* Gasket	Stainless steel / Graphite
9	Actuator lock nut	A351 CF8 / 1.4308
10	Nuts (VPC26S)	EN 10269 steel
	Nuts (VPC26i)	Stainless steel A2-70
11	Studs (VPC26S)	EN 10269 steel
	Studs (VPC26i)	Stainless steel A2-70
12	Packing nut	AISI 303 / 1.4305
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 / 1.4300
80	* Gasket	Copper
81	Plug	AISI 316 / 1.4401

ORDERING CODES VPC26 a)

Valve model	VPC26	1	S	XX	1	A3	N	15
TDS blowdown control valve, two way, straight body	VPC26							
Valve series								
Series 1		1						
Body material								
A216 WCB / 1.0619 carbon steel			S					
A351 CF8M / 1.4408 stainless steel			I					
Versions								
Valve without sample valve bottom connection				XX				
Valve with sample valve bottom connection and plug				BX				
Stem sealing								
PTFE/GR V-Rings (V1.2)					1			
Flow rate coefficient								
Kvs 1,2 (available only for 1/2" to 1" and DN 15 to DN 25)						A3		
Kvs 1,8 (available only for 1 1/2" and DN 40)						A4		
Pipe connection								
Flanged EN 1092-1 PN 40							N	
Flanged ASME B16.5 Class 300 b)							V	
Size								
1/2" or DN 15								15
3/4" or DN 20								20
1" or DN 25								25
1 1/2" or DN 40								40
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.
b) Not available with A351 CF8M / 1.4408 stainless steel body (VPC26i).

**INTERMITTENT BLOWDOWN VALVES
VPA26/2**

DESCRIPTION

The VPA26/2 series of blowdown valves are specially designed for application on steam boilers, to remove sludge sediments which naturally settle on the bottom of the boiler. These intermittent valves operate manually or automatically with timed control. Available with diaphragm actuator and/or manual operation lever.

MAIN FEATURES

High quality hardened valve seat and plug.
Manual or automatic intermittent timed control.
Lockable in open position if supplied with manual operation lever.
Practical foot operated lever.
Maintenance free stem sealing.
Tool-free quick exchangeable clamped-in seats, allowing fast and easy inline maintenance procedures.

OPTIONS AND ACCESSORIES:

- Air filter regulator.
- Solenoid valve with timer control unit.
- Blowdown controllers.
- Mechanical limit switches.
- Inductive limit switch box.
- Water actuated version.

USE: Intermittent blowdown of steam boilers.

AVAILABLE MODELS:

- VPA26/2S – carbon steel.
- VPA26/2i – stainless steel.

SIZES: 3/4" to 2" – DN 20 to DN 50.

CONNECTIONS: Flanged EN 1092-1 PN 40.
Flanged ASME B16.5 Class 300.



CE MARKING – GROUP 2 (PED – European Directive)	
PN 40	Category
3/4" to 1" – DN 20 to 32	SEP
1 1/2" to 2" – DN 40 to 50	1 (CE Marked)

BODY LIMITING CONDITIONS

VPA26/2S				VPA26/2i	
FLANGED PN 40 *		FLANGED CLASS 300 **		FLANGED PN 40 *	
ALLOWABLE PRESSURE	RELATED TEMPERATURE	ALLOWABLE PRESSURE	RELATED TEMPERATURE	ALLOWABLE PRESSURE	RELATED TEMPERATURE
40 bar	-10 °C/50 °C	50 bar	-10/50 °C	40 bar	-10 °C/50 °C
33,3 bar	200 °C	43,9 bar	200 °C	33,7 bar	200 °C
30,4 bar	250 °C	36,9 bar	350 °C	31,8 bar	250 °C
27,6 bar	300 °C	34,6 bar	400 °C	29,7 bar	300 °C
23,8 bar	400 °C	–	–	27,4 bar	400 °C

* Rating according to EN 1092-1:2018; ** Rating according to EN 1759-1:2004.

STEM SEALING

PTFE/GR V-RINGS (V1.2)



-10 °C to 250 °C

ACTUATOR DATA

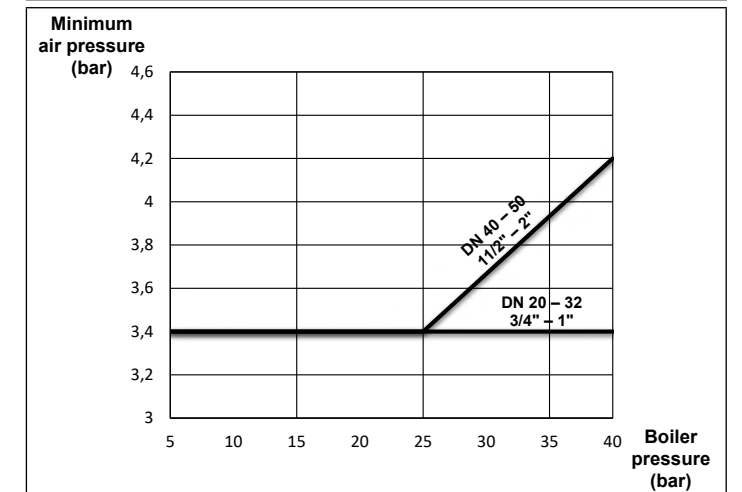
DIAPHRAGM AREA	100 cm ²
SPRING RANGE	2 to 3,2 bar
STROKE	12 mm
AMBIENT TEMPERATURE	-20 °C to 80 °C

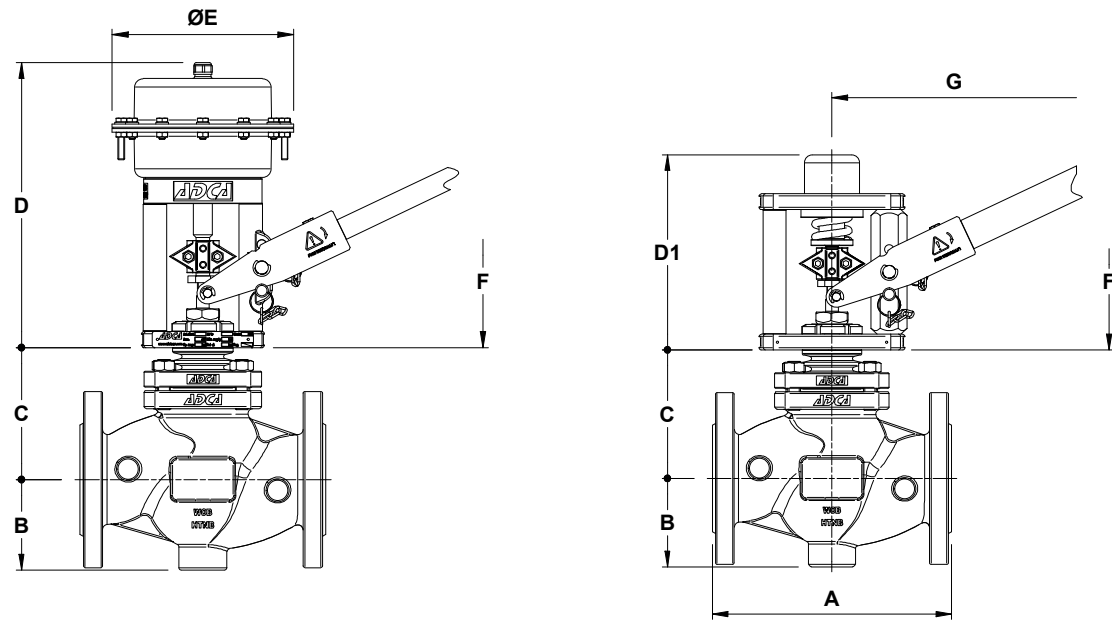
FLOW RATE COEFFICIENTS (m³/h)

Kvs	SIZES				
	3/4" – DN 20	1" – DN 25	DN 32	1 1/2" – DN 40	2" – DN 50
	6,3	6,3	6,3	16	16

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

PERMISSIBLE DIFFERENTIAL PRESSURES (bar)







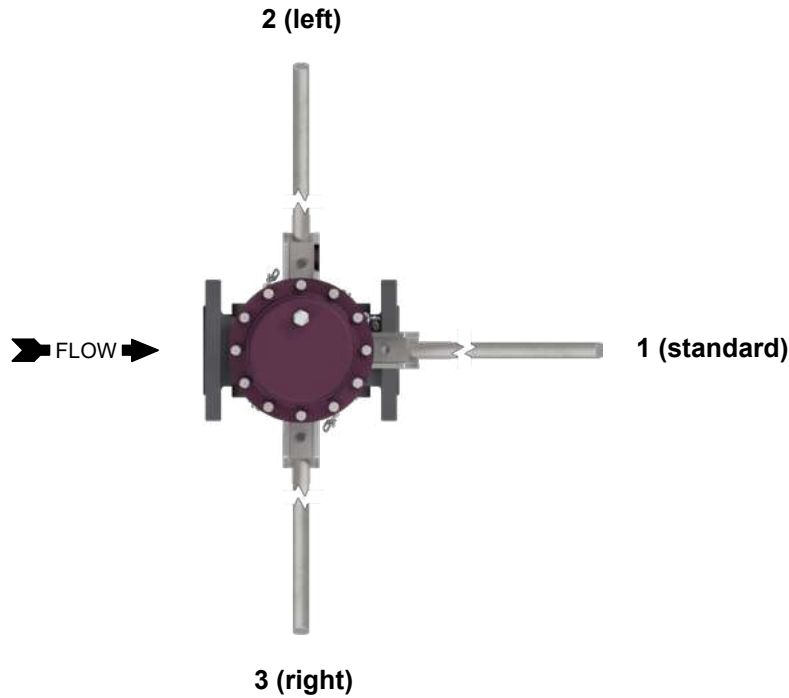
DIMENSIONS (mm)						
DIMENSION	SIZE					
	3/4" – DN 20	1" – DN 25	DN 32	1 1/2" – DN 40	2" – DN 50	
A	EN	150	160	180	200	230
	ASME a)	194	197	–	235	267
B		53	53	58	70	75
C		104,5	104,5	109,5	109,5	113
D		267				
D1		188				
ØE		170				
HAND LEVER	F	216			297	
	G	415			655	
FOOT LEVER	F	211				
	G	417				

a) With welded-on flanges.

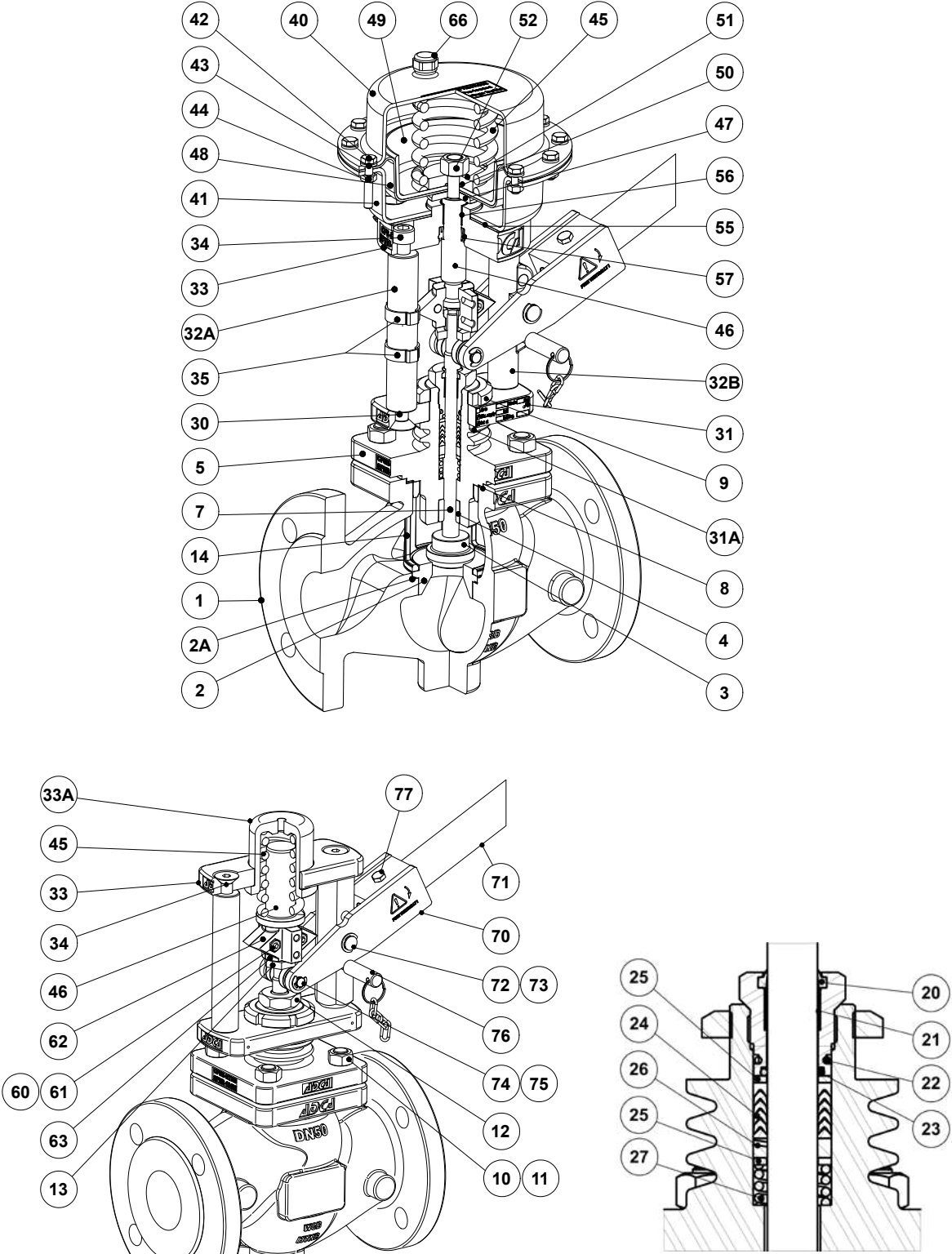
WEIGHTS (kg)					
	SIZE				
	3/4" – DN 20	1" – DN 25	DN 32	1 1/2" – DN 40	2" – DN 50
EN a)	12,5	13,4	16,1	19	22,7
EN b)	11,5	12,4	15,5	20,5	24,3
ASME a)	12,5	14,2	–	20,4	23,9
ASME b)	11,6	12,9	–	21,8	25,5

a) Valve with pneumatic actuator only; b) Valve with hand lever only.

OPTIONS AND ACCESSORIES	
VALVE WITH PNEUMATIC ACTUATOR ONLY	VALVE WITH PNEUMATIC ACTUATOR AND MANUAL OPERATION LEVER
VALVE WITH MANUAL OPERATION LEVER ONLY	SOLENOID VALVE AND AIR FILTER REGULATOR
INDUCTIVE LIMIT SWITCH BOX	MECHANICAL LIMIT SWITCHES

MANUAL OPERATION LEVER VERSIONS	
HAND LEVER	FOOT LEVER
	
LEVER ORIENTATION	
	
<p>The manual operation lever can be supplied with different orientations to better suit the valve's installation position. Orientations not shown in the image above are available under request.</p>	

MATERIALS



PTFE/GR V-Rings (V1.2)

MATERIALS		
POS. N°	DESIGNATION	MATERIAL
1	Valve body (VPA26/2S)	A216 WCB / 1.0619
	Valve body (VPA26/2i)	A351 CF8M / 1.4408
2	* Seat	Hardened stainless steel
2A	* Seat gasket	Stainless steel / Graphite
3	* Valve plug	Hardened stainless steel
4	Lower stem guide	Bronze CB1
5	Bonnet	A351 CF8M / 1.4408
7	* Stem	AISI 316L / 1.4404
8	* Gasket	Stainless steel / Graphite
9	Actuator lock nut	A351 CF8 / 1.4308
10	Nuts (VPA26/2S)	EN 10269 steel
	Nuts (VPA26/2i)	Stainless steel A2-70
11	Studs (VPA26/2S)	EN 10269 steel
	Studs (VPA26/2i)	Stainless steel A2-70
12	Packing nut	AISI 303 / 1.4305
13	Lock nut	AISI 304 / 1.4301
14	Seat retainer	A351 CF8M / 1.4408
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 / 1.4300
30	Bolts (steel)	Zinc plated steel
	Bolts (stainless steel)	Stainless steel A2-70
31	Lower actuator flange	A351 CF8 / 1.4308
31A	Cylindrical pin	AISI 303 / 1.4305
32A	Yoke column (steel)	C45E / 1.1191
	Yoke column (stainless steel)	AISI 303 / 1.4305
32B	Yoke lever column (steel)	C45E / 1.1191
	Yoke lever column (stainless steel)	A351 CF8 / 1.4308
33	Upper actuator flange	A351 CF8 / 1.4308
33A	Upper spring carrier	C45E / 1.1191
34	Bolts	Zinc plated steel
35	Crimp clamps	Zinc plated steel
40	Upper actuator cover	DD13 / 1.0335
41	Lower actuator cover	DD13 / 1.0335
42	Bolts (steel)	Zinc plated steel
	Bolts (stainless steel)	Stainless steel A2-70
43	Washers (steel)	Zinc plated steel
	Washers (stainless steel)	AISI 304 / 1.4301
44	Nuts (steel)	Zinc plated steel
	Nuts (stainless steel)	Stainless steel A2-70
45	Spring	Spring steel
46	Actuator stem	AISI 316 / 1.4401

MATERIALS		
POS. N°	DESIGNATION	MATERIAL
47	Lower diaphragm disc	C45E / 1.1191
48	Diaphragm	Reinforced NBR
49	Diaphragm plate	DD13 / 1.0335
50	* O-ring	NBR
51	Spring guide	AISI 304 / 1.4301
52	Nut	Zinc plated steel
53	Bolts	Zinc plated steel
54	Washers	Zinc plated steel
55	* Gasket	NBR
56	* Plain bearing	Steel / PTFE
57	* Seal ring	Polyurethane
60	Bolts (steel)	Zinc plated steel
	Bolts (stainless steel)	Stainless steel A2-70
61	Nuts (steel)	Zinc plated steel
	Nuts (stainless steel)	Stainless steel A2-70
62	Coupling / travel indicator	A351 CF8 / 1.4308
63	Adapter	AISI 304 / 1.4301
65	Fitting	Zinc plated steel; plastic
66	Vent plug	Brass; plastic
70	Lever	AISI 316 / 1.4401
71	Hand lever handle	AISI 304 / 1.4301
	Foot lever handle	S235JR / 1.0038
72	Lever axis shaft	AISI 304 / 1.4301
73	Elastic ring	AISI 304 / 1.4301
74	Roller	AISI 304 / 1.4301
75	Elastic ring	AISI 304 / 1.4301
76	Lever locking pin	AISI 304 / 1.4301
77	Lever fixing bolt	Stainless steel A2-70

ORDERING CODES VPA26/2												
Valve model	VP26	2	S	AX	0	SX	1	FE	N	20		
Intermittent bottom blowdown valve, two way, straight body	VP26											
Valve series												
Series 2		2										
Body material												
A216 WCB / 1.0619 carbon steel			S									
A351 CF8M / 1.4408 stainless steel			I									
Versions												
Valve with actuator only				AX								
Valve with actuator and hand lever				AH								
Valve with actuator and foot lever				AF								
Valve with hand lever only				XH								
Valve with foot lever only				XF								
Lever orientation												
Without lever					0							
Standard position					1							
Lever rotated 90° to the left (relative to the flow direction)					2							
Lever rotated 90° to the right (relative to the flow direction)					3							
Actuator												
Steel construction						SX						
Stainless steel construction						IX						
Steel construction – water actuated						SW						
Stainless steel construction – water actuated						IW						
Without actuator						XX						
Stem sealing												
PTFE/GR V-rings (V1.2)							1					
Flow rate coefficient												
Kvs 6,3 (available only for 3/4" to 1" and DN 20 to DN 32)								FE				
Kvs 16 (available only for 1 1/2" to 2" and DN 40 to DN 50)								FG				
Pipe connection												
Flanged EN 1092-1 PN 40									N			
Flanged ASME B16.5 Class 300 a)									V			
Size												
3/4" or DN 20											20	
1" or DN 25											25	
DN 32											32	
1 1/2" or DN 40											40	
2" or DN 50											50	
Special valves / Extras												
Full description or additional codes have to be added in case of a non-standard combination												E

a) Not available with A351 CF8M / 1.4408 stainless steel body (VPA26/2i).

OVERFLOW/BYPASS VALVES OVF40

DESCRIPTION

The ADCATrol OVF40 is a series of single seated, two-way overflow valves with inline connections.

These valves are mainly used in closed loop systems to ensure that a minimum flow is kept in the event that all connected consumers are in a low load condition or have simply shut down. In these scenarios, the valve will prevent problems such as pressure surges, pump cavitation and overheating.

The spring force keeps the valve closed, until the upstream pressure, which acts on the underside of the plug, exceeds the set pressure thus opening the valve and allowing flow to the downstream side.

The set pressure is manually adjusted during commissioning by compression of the spring with the adjustment screw located on the top of the valve yoke.

The set pressure corresponds to the differential between upstream and downstream pressures across the valve.

MAIN FEATURES

Compact and versatile.
Stainless steel bellows sealing and trim.
Metal to metal valve sealing.
V-port guided valve plug.

OPTIONS: Soft or stellite valve sealing.
Perforated plugs.

USE: Water, diathermic heat transfer oil and other fluids compatible with the construction.

AVAILABLE MODELS: OVF40S – carbon steel.
OVF40i – stainless steel.

SIZES: DN 15 to DN 80.

REGULATING RANGES: DN 15 to DN 32 – 0,5 to 5 bar; 2 to 8 bar.
DN 40 – 0,5 to 6 bar.
DN 50 – 0,5 to 5 bar; 2 to 7 bar.
DN 65 and DN 80 – 1 to 4 bar.

CONNECTIONS: 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, on request.

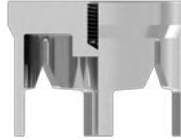



CE MARKING – GROUP 2 (PED – European Directive)

PN 16	PN 40	Category
DN 15 to 50	DN 15 to 32	SEP
DN 65 to 80	DN 40 to 80	1 (CE marked)

BODY LIMITING CONDITIONS *							
OVF40S				OVF40i			
FLANGED PN 16		FLANGED PN 40		FLANGED PN 16		FLANGED PN 40	
ALLOWABLE PRESSURE	RELATED TEMPERATURE	ALLOWABLE PRESSURE	RELATED TEMPERATURE	ALLOWABLE PRESSURE	RELATED TEMPERATURE	ALLOWABLE PRESSURE	RELATED TEMPERATURE
16 bar	-10 / 50 °C	40 bar	-10 / 50 °C	16 bar	-10 / 50 °C	40 bar	-10 / 50 °C
13,3 bar	200 °C	33,3 bar	200 °C	13,4 bar	200 °C	33,7 bar	200 °C
12,1 bar	250 °C	27,6 bar	300 °C	12,7 bar	250 °C	29,7 bar	300 °C
11 bar	300 °C	25,7 bar	350 °C	11,8 bar	300 °C	28,5 bar	350 °C
10,2 bar	350 °C	23,8 bar	400 °C	11,4 bar	350 °C	27,4 bar	400 °C

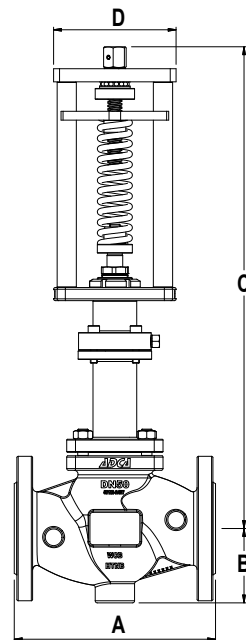
* Rating according to EN 1092-1:2018.

PLUG DESIGN	
V-PORT GUIDED	V-PORT GUIDED (SOFT SEALING)
 <p>Sealing: Metal to metal Characteristic: Linear (PL) Flow direction: From below Rangeability: 30:1 Leakage: Class IV, acc. to IEC 60534-4</p>	 <p>Sealing: PTFE/GR Characteristic: Linear (PL) Flow direction: From below Rangeability: 30:1 Leakage: Class VI, acc. to IEC 60534-4</p>

FLOW RATE COEFFICIENTS									
SIZE	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	
Kvs (m³/h)	5,2	7,2	9,4	15,4	22,2	40,1	63,4	89,7	
SEAT Ø (mm)	15	19,2	25	32	38	48	65	76	
STROKE (mm)	20				30				

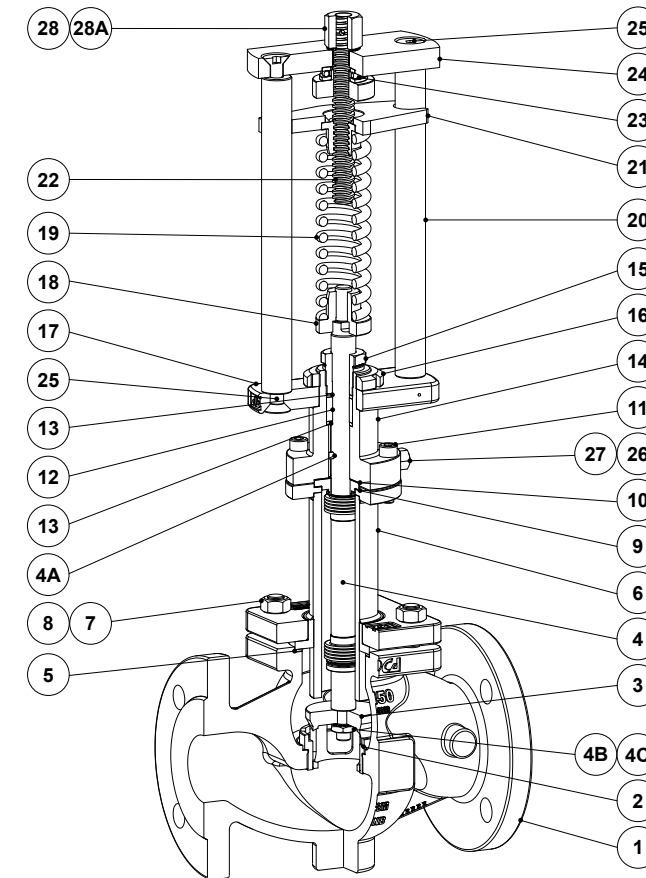
For conversion, Kvs = Cv (US) x 0,865.

DIMENSIONS



DIMENSIONS (mm)								
DIMENSION	SIZE							
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80
A	130	150	160	180	200	230	290	310
B	48	53	58	70	75	83	93	100
C	480	480	485	495	505	570	843	848
D	140						155	
WEIGHT (kg)	12,2	13	13,8	16,8	19,4	22,7	41	50

MATERIALS



MATERIALS		
POS. N°	DESIGNATION	MATERIAL
1	Valve body (OVF40S)	A216 WCB / 1.0619
	Valve body (OVF40i)	A351 CF8M / 1.4408
2	* Seat	AISI 316L / 1.4404
3	* Valve plug	AISI 316L / 1.4404
4	* Stem with welded metal bellows	AISI 316L / 1.4404 AISI 316Ti / 1.4571
4A	* Locking pin	AISI 303 / 1.4305
4B	* Serrated washer	AISI 304 / 1.4301
4C	* Nut	Stainless steel A2-70
5	* Gasket	Stainless steel / Graphite
6	Bellows housing	AISI 316 / 1.4401
7	Nuts (OVF40S)	Zinc plated steel
	Nuts (OVF40i)	Stainless steel A2-70
8	Studs (OVF40S)	34CrNiMo6 / 1.6582
	Studs (OVF40i)	Stainless steel A2-70
9	* Gasket	Stainless steel / Graphite
10	* Gasket	Stainless steel / Graphite
11	Bolts	Stainless steel A2-70
12	* Packing set	Expanded graphite
13	Washer	AISI 304 / 1.4301
14	Bellows bonnet	AISI 316L / 1.4404
15	Gland nut	AISI 303 / 1.4305
16	Lock nut	A351 CF8 / 1.4308
17	Lower yoke flange	A351 CF8 / 1.4308
18	Lower spring guide	C45E / 1.1191
19	* Adjustment spring	AISI 301 / 1.4310
20	Yoke column	C45E / 1.1191
21	Upper spring guide	S235JR / 1.0038
22	Adjustment screw	S355J2G3 / 1.0570
23	Ball bearing	Zinc plated steel
24	Upper yoke flange	A351 CF8 / 1.4308
25	Bolts	Zinc plated steel
26	Gasket	Copper
27	Plug	AISI 316 / 1.4401
28	Adjustment nut	AISI 303 / 1.4305
28A	* Locking pin	AISI 303 / 1.4305

* Available spare parts.