

PNEUMATIC CONTROL VALVES PV25 (EN)

V25 globe control valves with linear actuators PA series

DESCRIPTION

The PV25 control valves are single seated, two-way body constructed with in-line straight connections. The PA pneumatic actuator is a rubber diaphragm and multi-springs. Its action can be DA – direct action (air to close) or RA – reverse action (air to open). The PV25 valves have been designed to assure an accurate control in any process condition. Their wide application ranges allow the use of this valve with the most common process fluids such as water, superheated water, steam, air, gas and other non corrosive fluids.

MAIN FEATURES

Single seated, two way, direct or reverse action valve. Valve top flange permanently attached to the body, removal is unnecessary for replacing the actuator. Metal to metal sealing as standard.



- OPTIONS:** Position transmitter 4-20 mA.
Pneumatic pilot positioner.
Electropneumatic pilot positioner.
Air filter regulator.
Top-work manual handwheel.
Stainless steel construction.
Soft sealing and stellite seat and plug.
- USE:** Saturated and superheated steam.
Hot and superheated water.
Air, gases and other non-corrosive fluids.
Group 1 fluids (consult factory).
- AVAILABLE MODELS:** PV25G, PV25S and PV25I.
- RATINGS:** PN16 and PN40
- VALVE SIZES:** DN 15 to DN 100.
- CONNECTIONS:** Flanged EN1092-1/-2 PN16 / PN40.
- ACTUATORS:** PA205, PA280, PA340, PA435.
- ACTUATORS CONNECTIONS:** Female threaded 1/4" NPT.
- CONTROL SIGNAL:** 0,2 – 1bar; 0,4 – 1,2 bar; 0,4 – 2 bar.
- MAX. AIR SUPPLY PRES.:** 3,5 bar.

- AMBIENT TEMP.:** -20 °C to 70 °C.
- BONNET:** Standard – up to 220 °C;
Extended finned – above 220 °C.
- STEM SEALING:** PTFE/GR V-Rings – up to 220 °C.
Graphite – up to 400 °C.
Stainless steel bellows.
- PLUG TYPES:** EQP – Equal percentage;
PL – Linear;
PT – On/Off.
- PLUG DESIGN:** Contoured;
V-ported;
Perforated (low noise, anti-cavitation);
Microflow.
- PORT:** Full port or reduced on request.

For more information, consult IS PV10.00 E – Technical information.

HOW TO SELECT: Never size the valve according to the pipe diameter in which it has to be fitted, but according to the required actual flow of steam or water. Refer to the valve calculation data sheet or consult the factory.

CE MARKING – GROUP 2 (PED – European Directive)		
PN16	PN40	Category
DN 15 to DN 50	DN 15 to DN 32	SEP
DN 65 to DN 100	DN 40 to DN 100	1 (CE Marked)

BODY LIMITING CONDITIONS

V25G – PN16 **		V25S – PN16 *		V25I – PN16 *		V25S – PN40 *		V25I – PN40 *	
ALLOW. PRESS.	RELATED TEMP.	ALLOW. PRESS.	RELATED TEMP.	ALLOW. PRESS.	RELATED TEMP.	ALLOW. PRESS.	RELATED TEMP.	ALLOW. PRESS.	RELATED TEMP.
16 bar	-10 °C / 50 °C	16 bar	-10 °C / 50 °C	16 bar	-10 °C / 50 °C	40 bar	-10 °C / 50 °C	40 bar	-10 °C / 50 °C
14,7 bar	200 °C	13,3 bar	200 °C	13,4 bar	200 °C	33,3 bar	200 °C	33,7 bar	200 °C
13,9 bar	250 °C	12,1 bar	250 °C	12,7 bar	250 °C	27,6 bar	300 °C	29,7 bar	300 °C
12,8 bar	300 °C	11 bar	300 °C	11,8 bar	300 °C	25,7 bar	350 °C	28,5 bar	350 °C
11,2 bar	350 °C	10,2 bar	350 °C	11,4 bar	350 °C	23,8 bar	400 °C	27,4 bar	400 °C

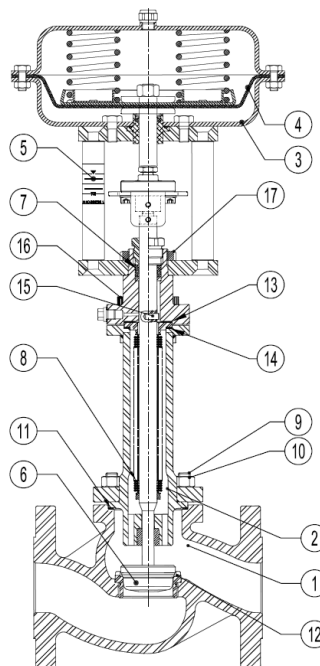
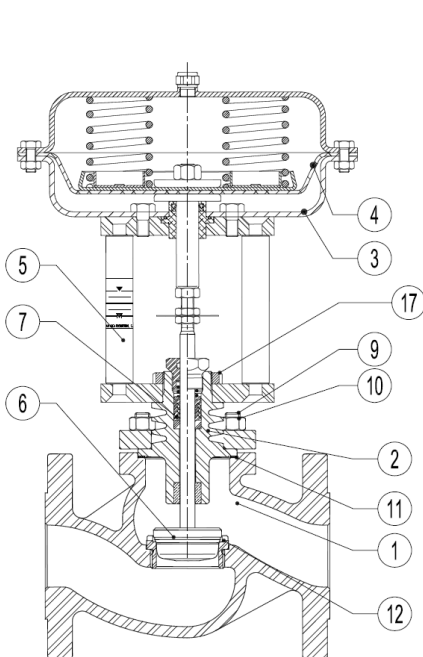
Note: Maximum temperatures limited to the valve packing selected. Valves with soft seal, maximum allowable temperature: 200 °C.

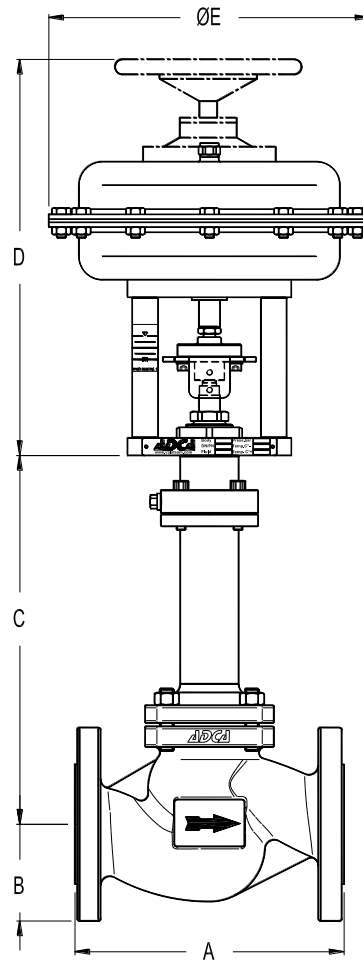
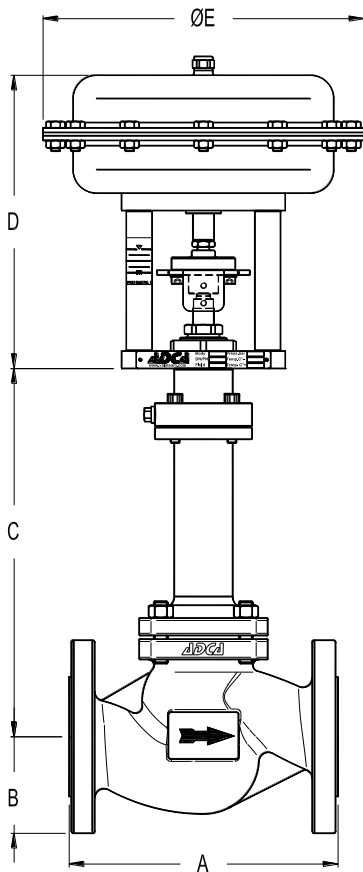
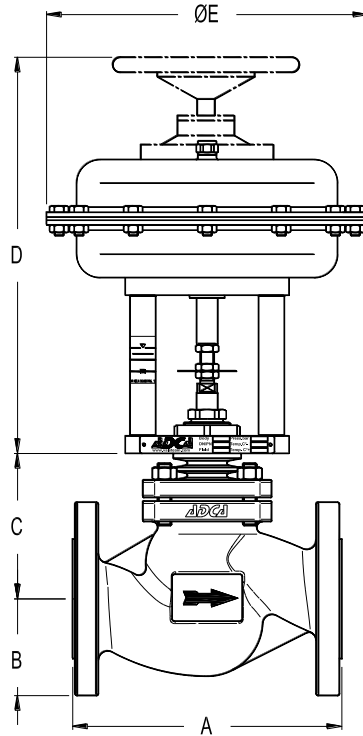
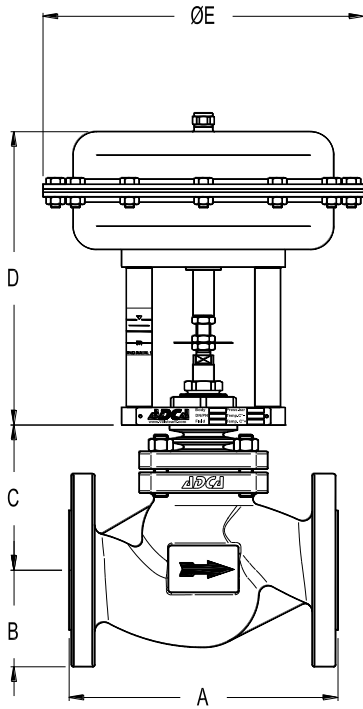
* Rating according to EN1092-1:2018; ** EN1092-2:2007.

MATERIALS

POS. Nº	DESIGNATION	V25G	V25S	V25I
1	Valve body	GJS-400-15 / 0.7040	ASTM A216WCB / 1.0619 GP240GH / 1.0619	CF8M / 1.4408
2	Bonnet	CF8M / 1.4408	CF8M / 1.4408	CF8M / 1.4408
3	Actuator (Steel)	S235JRG2 / 1.0038	S235JRG2 / 1.0038	S235JRG2 / 1.0038
	Actuator (Stainl. st.)	AISI 304 / 1.4301	AISI 304 / 1.4301	AISI 304 / 1.4301
4	*Diaphragm	NBR 70	NBR 70	NBR 70
5	Yoke (Steel)	C45E / 1.1191	C45E / 1.1191	C45E / 1.1191
	Yoke (Stainl. St.)	AISI 304 / 1.4301	AISI 304 / 1.4301	AISI 304 / 1.4301
6	*Valve plug	PTFE/GR; St. steel	PTFE/GR; St. steel	PTFE/GR; St. steel
7	*Standard packing	PTFE/GR	PTFE/GR	PTFE/GR
8	*Metal bellows	AISI 316Ti / 1.4571	AISI 316Ti / 1.4571	AISI 316Ti / 1.4571
9	Studs	34CrNiMo6 / 1.6582	34CrNiMo6 / 1.6582	A4-70
10	Nuts	Steel 8.8	Steel 8.8	A4-70
11	Gasket	Stainless steel / Graphite	Stainless steel / Graphite	Stainless steel / Graphite
12	Seat	Stainless steel	Stainless steel	Stainless steel
13	Gasket	Stainless steel / Graphite	Stainless steel / Graphite	Stainless steel / Graphite
14	Gasket	Stainless steel / Graphite	Stainless steel / Graphite	Stainless steel / Graphite
15	Straight pin	Stainless steel	Stainless steel	Stainless steel
16	Bolts	Steel 10.9	Steel 10.9	A4-70
17	Lock nut	Stainless steel	Stainless steel	Stainless steel

* Available spare parts.





DIMENSIONS – VALVE BODY					
DN	A (mm)	B (mm)	C (mm) - BONNET		
			STANDARD	FINNED	BELLOWS
15	130	48	85	150	275
20	150	53	85	150	275
25	160	58	90	170	280
32	180	70	110	190	280
40	200	75	115	195	290
50	230	83	125	215	295
65	290	93	175	275	380
80	310	100	175	275	390
100	350	118	190	310	390

DIMENSIONS – PNEUMATIC ACTUATOR			
TYPE	E (mm)	D (mm)	WEIGHT (kg)
PA205	210	235	6
PA280	275	245	10
PA340	335	265	15
PA435	430	295	25

PV25 DA – Direct action – from DN 15 to DN 200;
PV25 RA – Reverse action – from DN 15 to DN 100.

FLOW RATE COEFFICIENTS									
Kvs	SIZES								
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
Kvs	3,8	5,1	9,4	15,4	22,2	40,1	63,4	89,7	136,7

Kvs in m³/h. See IS PV10.00 E – Technical information; For conversion Kvs = Cv (US) x 0,855.

VALVE STROKE (mm)									
STROKE	SIZES								
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
STROKE	20	20	20	20	20	20	30	30	30

Perforated plug and on-off valves may have different strokes, consult factory for more information.

PLUG DESIGN					
Microflow Linear PL	Countoured Equal % or Linear EQP – PL	V-Ported Equal Percentage EQP	V-Ported Linear PL	Perforated Equal Percentage EQP	Perforated Linear PL

V-Ported and perforated plugs are also available in balanced pressure version.

VALVE DESIGN – FLOW DIRECTION					
Microflow Linear PL	Countoured Equal % or Linear EQP – PL	V-Ported EQP - PL	V-Ported Perforated EQP - PL	V-Ported Balanced EQP – PL	Perforated Balanced EQP - PL

MAX. PERM. PRESSURE DROP (bar) – N.C. (fluid to open) – Reverse action actuator (air signal to open)

ACTUATOR	CONTROL SIGNAL	SIZES								
		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
PA205	0,2 ÷ 1 bar	6	6	5	–	–	–	–	–	–
	0,4 ÷ 1,2 bar	10	10	7	–	–	–	–	–	–
	0,4 ÷ 2 bar	12	12	9	–	–	–	–	–	–
PA280	0,2 ÷ 1 bar	28	26	16	8	6	3,5	–	–	–
	0,4 ÷ 1,2 bar	40	38	20	12	10	5	–	–	–
	0,4 ÷ 2 bar	50	45	25	16	12	6,5	–	–	–
PA340A	0,2 ÷ 1 bar	60	60	50	20	12	10	–	–	–
	0,4 ÷ 1,2 bar	80	80	60	30	16	13	–	–	–
	0,4 ÷ 2 bar	100	100	80	40	20	18	–	–	–
PA340B	0,2 ÷ 1 bar	–	–	–	–	–	–	4	2,5	1
	0,4 ÷ 1,2 bar	–	–	–	–	–	–	5	3,5	1,5
	0,4 ÷ 2 bar	–	–	–	–	–	–	6	4	2
PA435A	0,2 ÷ 1 bar	–	–	–	–	40	25	–	–	–
	0,4 ÷ 1,2 bar	–	–	–	–	48	30	–	–	–
	0,4 ÷ 2 bar	–	–	–	–	55	45	–	–	–
PA435B	0,2 ÷ 1 bar	–	–	–	–	–	–	6	5	3
	0,4 ÷ 1,2 bar	–	–	–	–	–	–	8	7	5
	0,4 ÷ 2 bar	–	–	–	–	–	–	10	8	6
	0,4 ÷ 2,4 bar	–	–	–	–	–	–	16	15	12

* For valve size DN 125 and above please consult catalogue IS PV25G.125 E.

The pressure drop values are referred to closed valves. They have been verified by a control signal coming from an electro-pneumatic converter with an enduring minimum signal of 0,2 bar.

The actuator press. drops given with closed valve for the actuator signal 0,4 - 2 bar are also valid for ON-OFF service with air supply at 2,4 bar.

Special spring drops available on request.

The pressure drop values must be used within the body rating limits.

For electric actuator selection please consult catalogue IS EL.20.00 E or our technical department.

If higher differential pressures are required please consult PA45 pneumatic actuators catalogue.

MAX. PERM. PRESSURE DROP (bar) – N.O. (fluid to open) – Direct action actuator (air signal to close)

ACTUATOR	CONTROL SIGNAL	SIZES								
		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
PA205	0,2 ÷ 1 bar	16	16	12	5	–	–	–	–	–
	0,4 ÷ 2 bar	25	24	16	7,5	–	–	–	–	–
PA280	0,2 ÷ 1 bar	–	–	19	10	8	4	–	–	–
	0,4 ÷ 2 bar	–	–	25	20	16	7	–	–	–
PA340A	0,2 ÷ 1 bar	–	–	–	17	16	10	–	–	–
	0,4 ÷ 2 bar	–	–	–	28	26	25	–	–	–
PA340B	0,2 ÷ 1 bar	–	–	–	–	–	–	5	3,5	1,5
	0,4 ÷ 2 bar	–	–	–	–	–	–	8	7	3
PA435B	0,2 ÷ 1 bar	–	–	–	–	–	–	8	5	3
	0,4 ÷ 2 bar	–	–	–	–	–	–	16	10	7,5

* For valve size DN 125 and above please consult.

The actuator pressure drops given with closed valve, are obtained with the following air pressures supply:

Actuator signal 0,2 to 1 bar: air supply 1,2 bar; Actuator signal 0,4 to 2 bar : air supply 2,4 bar

The actuator press. drops given with closed valve for the actuator signal 0,4- 2 bar are also valid for ON-OFF service with air supply at 2,4 bar.

Special spring drops available on request.

The pressure drop values must be used within the body rating limits.

For electric actuator selection please consult catalogue IS EL.20.00 E or our technical department.

ORDERING CODES V25									
VALVE CODES	P	V	.25G	1	1	L	50	.X.	
Actuator type (1)									
Pneumatic actuator	P								
Electric actuator	E								
Group designation									
Globe valve, two-way, straight body		V							
Valve model									
GJS-400-15 body			.25G						
ASTM A216 WCB body, stainless steel trim			.25S						
CF8M body, stainless steel trim			.25I						
Stem sealing									
PTFE/GR V-Rings / Standard bonnet				1					
Virgin PTFE V-Rings / Standard bonnet				2					
Graphite / Standard bonnet				3					
Graphite / Finned bonnet				4					
Stainless steel bellows				8					
Valve plug									
EQP (equal percentage) – Soft (PTFE-GR)									1
EQP (equal percentage) – Metal AISI 316 / 1.4401									3
EQP (equal percentage) – Stellite									4
PL (linear) – Soft (PTFE/GR)									6
PL (linear) – Metal AISI 316 / 1.4401									7
PL (linear) – Stellite									8
PT (on-off) – Soft (PTFE/GR)									9
PT (on-off) – Metal AISI 316 / 1.4401									10
PT (on-off) – Stellite									11
Pipe connection									
Flanged EN 1092 PN16									L
Flanged EN 1092 PN40									N
Size									
DN 15									15
DN 20									20
...									
Actuator									(1)
Extras									
Full description or additional codes have to be added in case of non-standard combination									E

ACTUATOR CODES (pneumatic) *	P.	5	R	18
Group designation				
Multi-spring, pneumatic linear actuator	P.			
Actuator size				
205		1		
280		3		
340A – From DN 15 to DN 50		5		
340B – From DN 65 to DN 100		6		
435A – From DN 15 to DN 50		7		
435B – From DN 65 to DN 100		8		
Actuator type				
Direct action (air to close)			D	
Reverse action (air to open)			R	
Actuator Construction				
Steel construction (painted) – standard				(2)
Stainless steel construction				I
Control signal				
0,2 – 1 bar (3/15 psi)				15
0,4 – 1,2 bar (6/18 psi)				18
0,4 – 2 bar (6/30 psi)				30
0,4 – 2,4 bar (6/35 psi)				35

→ To be introduced on ".X.", if supplied in combination with the valve.

Example:

V25G valve model, EQP soft plug, PTFE/GR stem sealing, DN 50, complete with reverse action actuator signal 0,4 – 1,2 bar, size 340A steel:

Code: PV.25G.11L50.5R18

REMARKS:

- (1) – Indicate actuator type.
- (2) – Omitted if the standard valve is selected.

ADCATrol control valves are identified by a serial number on a nameplate, located on the actuator yoke. When ordering spares, always use that serial number. If the valve has non-standard extras the serial number has also an E (extras).

* For electric actuator ordering codes, consult our technical department.