

## PNEUMATIC CONTROL VALVES PV25 (ANSI)

### V25S 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 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 allows the use of this valve with the most common process fluids such as water, superheated water, steam, air, gas and other non corrosive fluids (group 1).

#### 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 noncorrosive fluids.

- AVAILABLE MODELS:** PV25S Cast steel
- VALVE SIZES:** 1/2" to 6"
- CONNECTIONS:** Flanged ANSI B16.5 150# and 300#
- ACTUATORS:** PA-205; PA-280; PA-340; PA-435
- ACTUATOR CONN:** 1/4" NPT-F

**CONTROL SIGNAL:** 0,2 - 1 bar ; 0,4 - 1,2 bar ; 0,4 - 2 bar.

**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 valve calculation data sheet or consult the factory.



- MAX. AIR SUPPLY PRESSURE:** 3,5 bar
- AMBIENT TEMPERATURE:** -20°C ...+70°C
- BONNET :** From -5°C to +220°C (standard)  
Finned for temperature >220°C
- STEM SEALING:** PTFE/GR V-Rings - up to 220°C (Standard bonnet)  
Graphite - up to 400°C (Finned bonnet)  
Stainless steel bellows
- PLUG CHARACT.:** 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
- COMPLEMENTARY INFORMATION :** See IS PV10.00 E

CE MARKING (PED - European Directive 97/23/EC)		
ANSI 150	ANSI 300	Category
1/2" - 2" (DN15-50)	1/2"-1" (DN15-25)	SEP - art. 3, paragraph3
3"-6" (DN80-150)	1 1/2"-4" (DN40-100)	1 (CE Marked)
/	6" (DN150)	2 (CE Marked)

Note: classification for gases - Group 2, for others see IMI

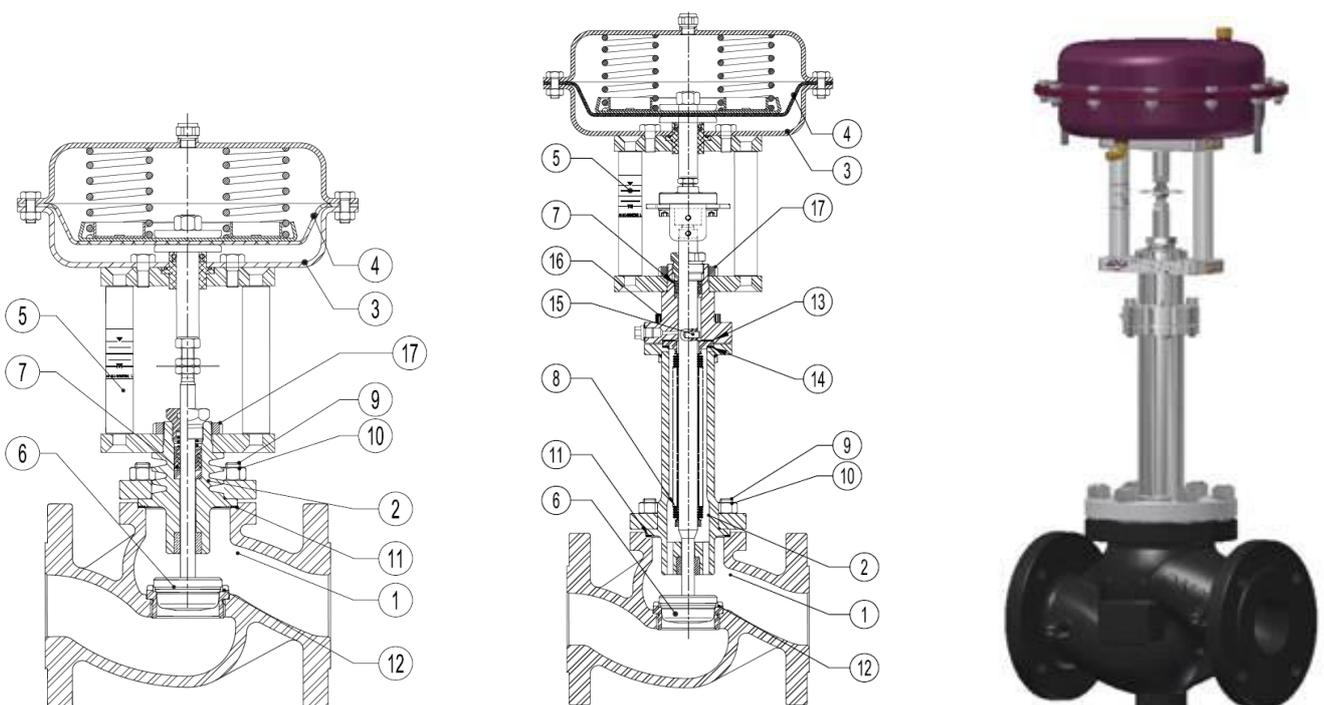
**VALVE BODY LIMITING CONDITIONS**

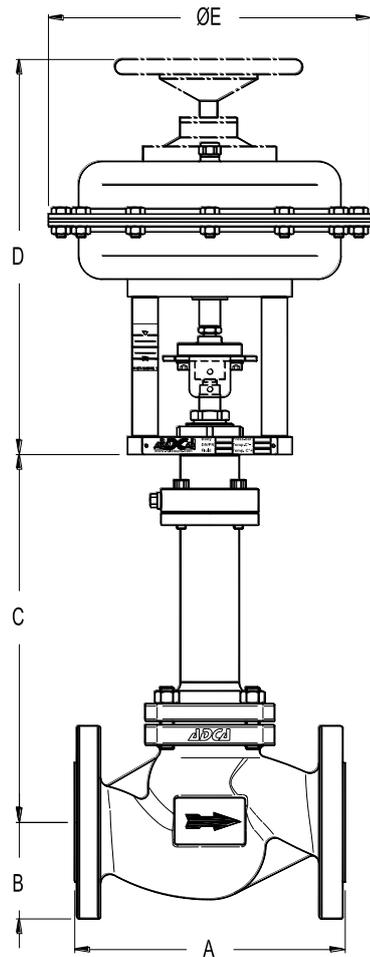
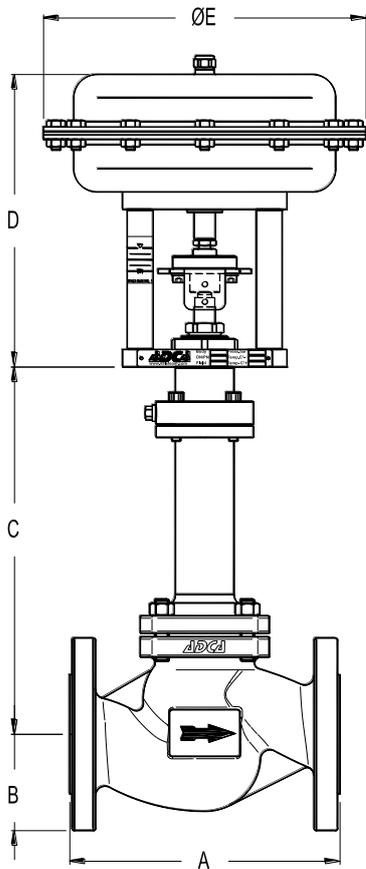
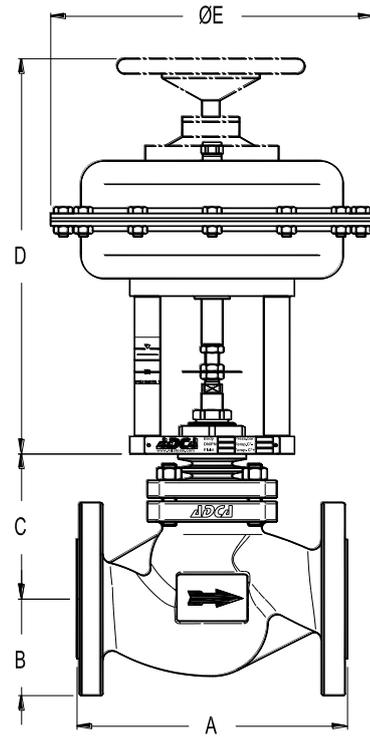
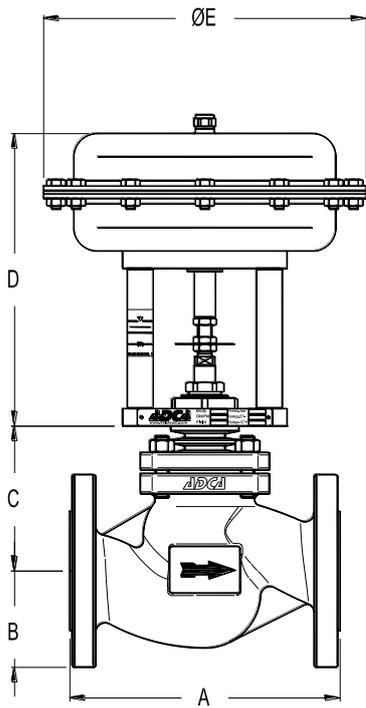
PV25S - ANSI 150		PV25S - ANSI 300	
ALLOWABLE PRESSURES	RELATED TEMP.	ALLOWABLE PRESSURES	RELATED TEMP.
19,3 bar	-10 /50° C	50 bar	-10 /50° C
15,8 bar	150 °C	43,9 bar	200 °C
12,1 bar	250 °C	36,9 bar	350 °C
8,4 bar	350 °C	34,6 bar	400 °C

**MATERIALS**

POS.	DESIGNATION	MATERIAL V25S
1	Valve Body	ASTM A216WCB / 1.0619 ; GP240GH / 1.0619
2	Bonnet	CF8 / 1.4308 **
3	Actuator (Steel)	S235JRG2 / 1.0038
	Actuator (Stainless steel)	AISI304 / 1.4301
4	*Diaphragm	NBR 70
5	Yoke (Steel)	C45E / 1.1191
	Yoke (Stainless steel)	AISI304 / 1.4301
6	*Valve plug	PTFE/GR ; St.Steel
7	*Standard packing	PTFE/GR
8	*Metal bellows	AISI316Ti / 1.4571
9	Studs	34CrNiMo6 / 1.6582
10	Nuts	Steel 8.8
11	Gasket	St.Steel / Graphite
12	Seat	Stainless Steel
13	Gasket	St.Steel / Graphite
14	Gasket	St.Steel / Graphite
15	Straight pin	Stainless Steel
16	Bolts	Steel 10.9
17	Lock nut	Stainless Steel

\* Available spare parts \*\*Except DN6", totally in cast steel.





**DIMENSIONS (mm) - VALVE BODY**

SIZE	A ANSI 300	A ANSI 150	B ANSI 150	B ANSI 300	C BONNET			
					STANDARD	FINNED	EXTENDED	BELLOWS
3/4"	194 a)	184 a)	49	58,5	85	150	150	290
1"	197	184 a)	54	62	90	170	170	295
1 1/2"	235	* 235	63,5	78	115	195	195	285
2"	267	* 267	76	82,5	125	215	215	285
3"	318	* 318	95	105	175	275	275	392
4"	368	* 368	114,5	127	190	310	310	400
6"	473	**480	140	159	210	390	390	480

a) Welded-on flanges; \* Same length as ANSI 300 lbs ;\*\* Same length as EN PN16

**DIMENSIONS - ACTUATOR**

Type	ø E (mm)	D (mm)	WEIGHT Kgs
		DN1/2" - 4" DA/RA	
PA-205	210	235	5,7
PA-280	275	240	8,8
PA-340	335	265	14,3
PA-435	430	295	24,5

**FLOW RATE COEFFICIENTS & VALVE STROKE**

	SIZES									
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"
Kvs (m3/h)	3,8	5,1	9,4	-	22,2	40,1	-	89,7	136,7	316,1
Stroke (mm)	20	20	20	-	20	20	-	30	30	40 / 50

Kvs in m3/h , for conversion  $Kvs = Cv(US) \times 0,855$

Perforated plugs has different flow rates, see data sheet IS PV10.00 E .

**PLUG DESIGN**

Microflow Linear PL	Contoured % or Linear EQP - PL	Equal	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	Contoured 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.PRESS.DROP IN bar - N.C.(fluid to open) -Reverse action actuator (air signal to open)								
ACTUATOR	CONTROL SIGNAL	SIZES						
		1/2"	3/4"	1"	1 1/2"	2"	3"	4"
PA-205	0,2 ÷ 1 bar	6	6	5	—	—	—	—
	0,4 ÷ 1,2 bar	10	10	7	—	—	—	—
	0,4 ÷ 2 bar	12	12	9	—	—	—	—
PA-280	0,2 ÷ 1 bar	28	26	16	6	3,5	—	—
	0,4 ÷ 1,2 bar	40	38	20	10	5	—	—
	0,4 ÷ 2 bar	50	45	25	12	6,5	—	—
PA-340A	0,2 ÷ 1 bar	60	60	50	12	10	—	—
	0,4 ÷ 1,2 bar	80	80	60	16	13	—	—
	0,4 ÷ 2 bar	100	100	80	20	18	—	—
PA-340B	0,2 ÷ 1 bar	—	—	—	—	—	2,5	1
	0,4 ÷ 1,2 bar	—	—	—	—	—	3,5	1,5
	0,4 ÷ 2 bar	—	—	—	—	—	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	—	—	—	—	—	5	3
	0,4 ÷ 1,2 bar	—	—	—	—	—	7	5
	0,4 ÷ 2 bar	—	—	—	—	—	8	6
	0,4 ÷ 2,5 bar	—	—	—	—	—	15	12

\* For valve size DN 6" please consult .

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 2,5 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.PRESS.DROP IN bar - N.O.(fluid to open) -Direct action actuator (air signal to close)								
ACTUATOR	CONTROL SIGNAL	SIZES						
		1/2"	3/4"	1"	1 1/2"	2"	3"	4"
PA-205	0,2 ÷ 1 bar	16	16	12	—	—	—	—
	0,4 ÷ 2 bar	25	24	16	—	—	—	—
PA-280	0,2 ÷ 1 bar	—	—	19	8	4	—	—
	0,4 ÷ 2 bar	—	—	25	16	7	—	—
PA-340A	0,2 ÷ 1 bar	—	—	—	16	10	—	—
	0,4 ÷ 2 bar	—	—	—	26	25	—	—
PA-340B	0,2 ÷ 1 bar	—	—	—	—	—	3,5	1,5
	0,4 ÷ 2 bar	—	—	—	—	—	7	3
PA435B	0,2 ÷ 1 bar	—	—	—	—	—	5	3
	0,4 ÷ 2 bar	—	—	—	—	—	10	7,5

\* For valve size DN 6" 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 2,5 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 2,5 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		V	.25	S							.X.
<b>Actuator Type (1)</b>											
Pneumatic Actuator	P										
Electric Actuator	E										
<b>Group Designation</b>											
Globe valve, two way, straight body		V									
<b>Valve Model</b>											
ASTM A216 WCB body, stainless steel trim			.25	S							
<b>Stem Sealing</b>											
PTFE/GR-V-Rings / Standard bonnet										1	
Virgin PTFE V-Rings / Standard bonnet										2	
Graphite / Standard bonnet										3	
Graphite / Finned bonnet										4	
Bellows										8	
<b>Valve Plug</b>											
EQP (equal percentage) - Soft (PTFE-GR)										1	
EQP (equal percentage) - Metal AISI316 / 1.4401										3	
EQP (equal percentage) - Stellite										4	
PL (linear) - Soft (PTFE/GR)										6	
PL (linear) - Metal AISI316 / 1.4401										7	
PT (on-off) - Soft (PTFE/GR)										9	
PT (on-off) - Metal AISI316 / 1.4401										10	
<b>Pipe Connection</b>											
Flanged ANSIB16.5 150#										U	
Flanged ANSIB16.5 300#										V	
<b>Size</b>											
1/2"											15
3/4"											20
...											
<b>Actuator</b>											(1)
<b>Extras (3)</b>											E

ACTUATOR CODES ( pneumatic )		P.								
<b>Group Designation</b>										
Multi-spring , pneumatic linear actuator		P.								
<b>Actuator Size</b>										
205										1
280										3
340 A - From DN15 to DN50										5
340 B - From DN65 to DN100										6
435 A - From DN15 to DN50										7
435 B - From DN65 to DN100										8
<b>Actuator</b>										
Direct Action										D
Reverse Action										R
<b>Actuator Construction</b>										
Steel construction (painted) - standard										(2)
Stainless steel construction										I
<b>Control Signal</b>										
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

To be introduced on ".X.", if supplied in combination with the valve.  
 Example:  
 V25G valve model EQP soft plug, PTFE/GR stem sealing DN 2" ANSI 150#complete with reverse action actuator signal 0,4-1,2bar, size340A steel.

Code: PV.25G.11U50.5R18

REMARKS:  
 (1)- Indicate actuator type.  
 (2)- Omitted if the standard actuator is selected.  
 (3)- To be used only when a non-standard combination valve is supplied.  
 ADCATROL control valves are identified by a serial number on a nameplate, located on the actuator yoke.  
 Always order spares by using that serial number. If the valve has non-standard extras the serial number has also an E (extras).