

PNEUMATIC CONTROL VALVES PV25 (EN)

V25G 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: PV25G, PV25S and PV25I

RATINGS: PN16 and PN40

VALVE SIZES: DN15 to DN100

CONNECTIONS: Flanged EN1092-1/-2 PN16 - PN40

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) | | | |
|---------------------------------------|---------------|---------------|---------------|
| PN 16 | PN 25 | PN 40 | Category |
| DN15 to DN50 | DN15 to DN40 | DN15 to DN32 | SEP |
| DN65 to DN100 | DN50 to DN100 | DN40 to DN100 | 1 (CE Marked) |

VALVE 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 | -10/50 °C | 16 bar | -10/50 °C | 16 bar | -10/50 °C | 40 bar | -10/50° C | 40 bar | -10/50° 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 |

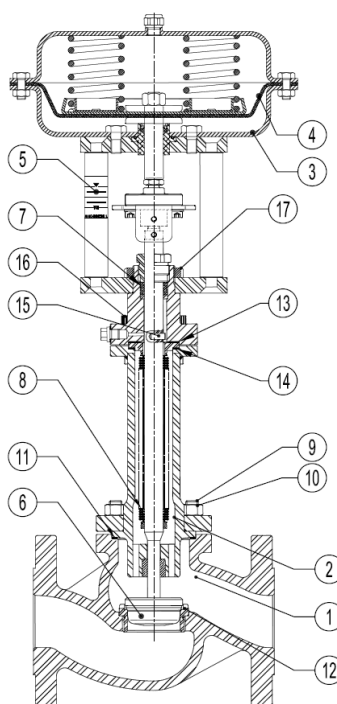
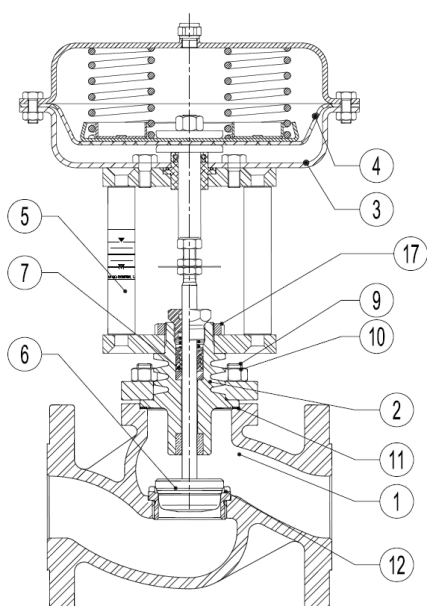
Note: Maximum temperature limited to the valve packing selected. Valves with soft seat , maximum allowable temperature : 200°C

* Rating according to EN1092-1:2007; ** EN1092-2:1997

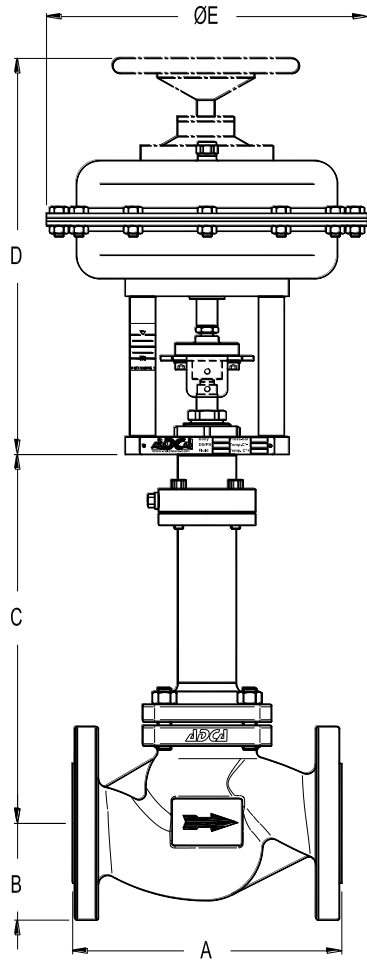
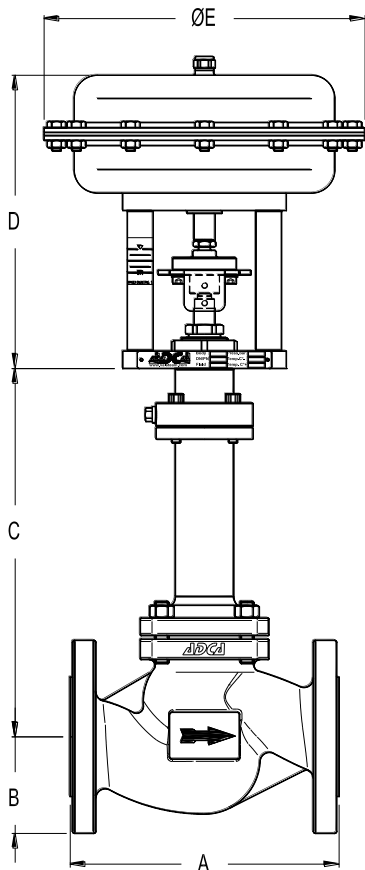
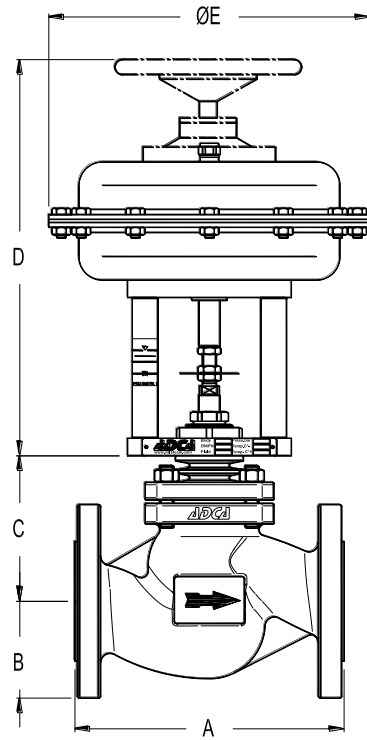
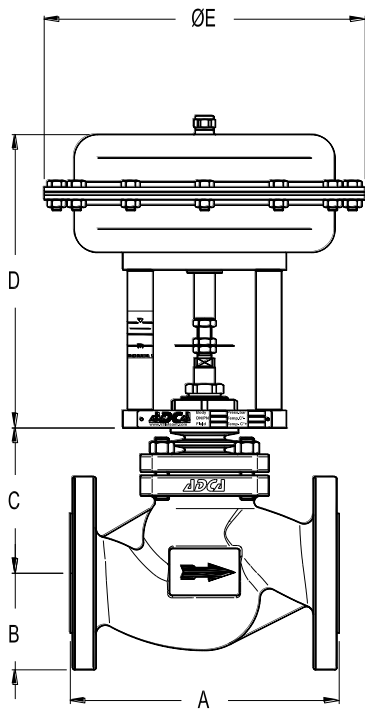
MATERIALS

| POS. | DESIGNATION | MATERIAL V25G | MATERIAL V25S | MATERIAL V25I |
|------|----------------------------|---------------------|--|---------------------|
| 1 | Valve Body | GJS-400-15 / 0.7040 | ASTM A216WCB / 1.0619 ; GP240GH / 1.0619 | CF8M / 1.4408 |
| 2 | Bonnet | CF8 / 1.4308 | CF8 / 1.4308 | CF8 / 1.4308 |
| 3 | Actuator (Steel) | S235JRG2 / 1.0038 | S235JRG2 / 1.0038 | S235JRG2 / 1.0038 |
| | Actuator (Stainless steel) | AISI304 / 1.4301 | AISI304 / 1.4301 | AISI304 / 1.4301 |
| 4 | *Diaphragm | NBR 70 | NBR 70 | NBR 70 |
| 5 | Yoke (Steel) | C45E / 1.1191 | C45E / 1.1191 | C45E / 1.1191 |
| | Yoke (Stainless steel) | AISI304 / 1.4301 | AISI304 / 1.4301 | AISI304 / 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 | AISI316Ti / 1.4571 | AISI316Ti / 1.4571 | AISI316Ti / 1.4571 |
| 9 | Studs | 34CrNiMo6 / 1.6582 | 34CrNiMo6 / 1.6582 | A4-70 |
| 10 | Nuts | Steel 8.8 | Steel 8.8 | A4-70 |
| 11 | Gasket | St.Steel / Graphite | St.Steel / Graphite | St.Steel / Graphite |
| 12 | Seat | Stainless Steel | Stainless Steel | Stainless Steel |
| 13 | Gasket | St.Steel / Graphite | St.Steel / Graphite | St.Steel / Graphite |
| 14 | Gasket | St.Steel / Graphite | St.Steel / Graphite | St.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



We reserve the right to change the design and material of this product without notice.



STEAM EQUIPMENT

| 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 - ACTUATOR | | | |
|-----------------------|----------|----------------|------------|
| Type | ø E (mm) | D (mm) | WEIGHT Kgs |
| | | DN15-100 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 |



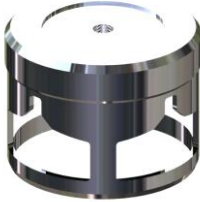
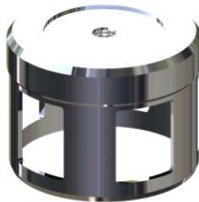


PV25 DA - Direct action from DN15 to DN200, PV25 RA - Reverse action from DN15 to DN100

| FLOW RATE COEFFICIENTS | | | | | | | | | |
|------------------------|-------|------|------|------|------|------|------|------|-------|
| | SIZES | | | | | | | | |
| | DN15 | DN20 | DN25 | DN32 | DN40 | DN50 | DN65 | DN80 | DN100 |
| Kvs | 3,8 | 5,1 | 9,4 | 15,4 | 22,2 | 40,1 | 63,4 | 89,7 | 136,7 |

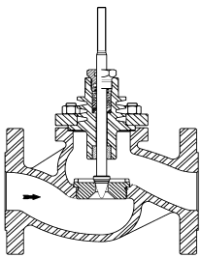
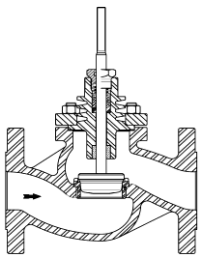
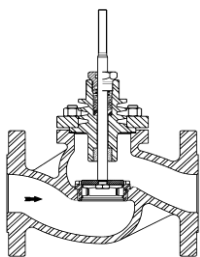
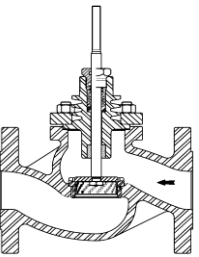
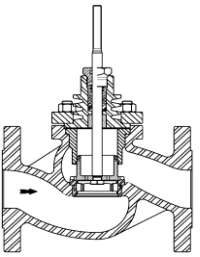
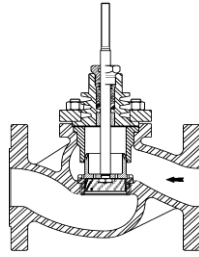
Kvs in m³/h , see data sheet IS PV10.00 E ; For conversion Kvs = Cv(US) x 0,855

| VALVE STROKE IN mm | | | | | | | | | |
|--------------------|-------|------|------|------|------|------|------|------|-------|
| | SIZES | | | | | | | | |
| | DN15 | DN20 | DN25 | DN32 | DN40 | DN50 | DN65 | DN80 | DN100 |
| Stroke | 20 | 20 | 20 | 20 | 20 | 20 | 30 | 30 | 30 |

Perforated plug and on-off valves may have different strokes, please see literature or consult factory.

| PLUG DESIGN | | | | | |
|---|---|---|--|---|---|
| Microflow Linear PL | Contoured 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 | 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 | | | | | | | | |
| | | DN15 | DN20 | DN25 | DN32 | DN40 | DN50 | DN65 | DN80 | DN100 |
| 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 | 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 | — | — | — |
| PA-340A | 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 | — | — | — |
| PA-340B | 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 DN125 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.PRESS.DROP IN bar - N.O.(fluid to open) -Direct action actuator (air signal to close) | | | | | | | | | | |
|---|----------------|-------|------|------|------|------|------|------|------|-------|
| ACTUATOR | CONTROL SIGNAL | SIZES | | | | | | | | |
| | | DN15 | DN20 | DN25 | DN32 | DN40 | DN50 | DN65 | DN80 | DN100 |
| PA-205 | 0,2 ÷ 1 bar | 16 | 16 | 12 | 5 | — | — | — | — | — |
| | 0,4 ÷ 2 bar | 25 | 24 | 16 | 7,5 | — | — | — | — | — |
| PA-280 | 0,2 ÷ 1 bar | — | — | 19 | 10 | 8 | 4 | — | — | — |
| | 0,4 ÷ 2 bar | — | — | 25 | 20 | 16 | 7 | — | — | — |
| PA-340A | 0,2 ÷ 1 bar | — | — | — | 17 | 16 | 10 | — | — | — |
| | 0,4 ÷ 2 bar | — | — | — | 28 | 26 | 25 | — | — | — |
| PA-340B | 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 DN125 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.

