

## “ADCATROL” PNEUMATIC CONTROL VALVES

### PV16I (Stainless steel)

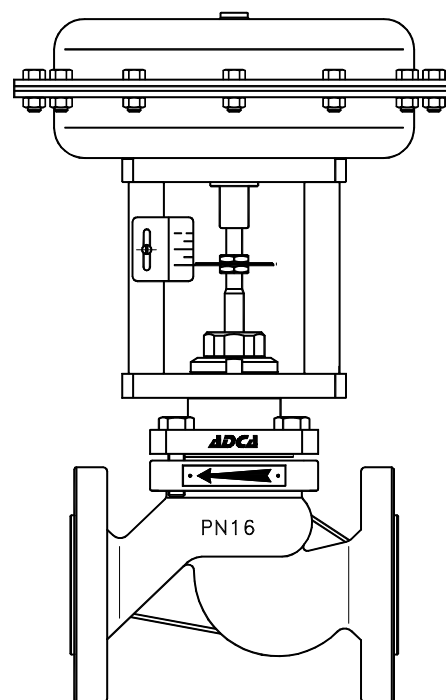
(V16I globe valves series with linear actuators PA series)

#### DESCRIPTION

The PV16I 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 PV16I 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.

#### MAIN FEATURES

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



**OPTIONS:**  
 Position transmitter 4-20 mA  
 Pneumatic pilot positioner  
 Electropneumatic pilot positioner  
 Air filter regulator  
 Top-work manual handwheel

**USE:**  
 Saturated and superheated steam.  
 Hot and superheated water.  
 Air, gases and other noncorrosive fluids.

**AVAILABLE MODELS:**  
 PV16I-single seat unbalanced.

**VALVE SIZES:** DN15 to DN100

**CONNECTIONS:** Flanged EN 1092-1 PN16

**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.

**VALVE LIMITING CONDITIONS:**  
 Body design conditions: PN16  
 16 bar at 100°C  
 14,5 bar at 150°C  
 13,4 bar at 200°C  
 12,7 bar at 250°C  
 11,8 bar at 300°C  
 Min.working temperature: -10°C

**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 (from DN32 to DN100)

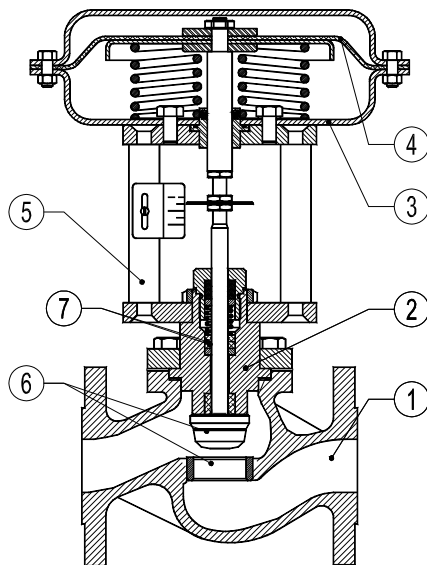
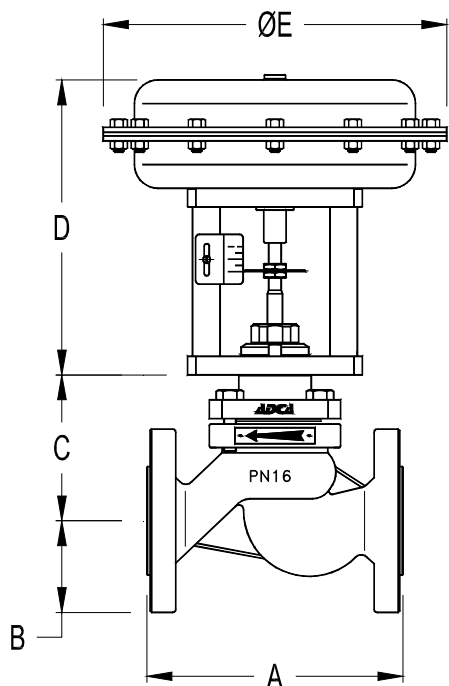
**STEM SEALING:** PTFE/GR V-Rings - up to 220°C (Standard bonnet)  
 Graphite - up to 400°C

**PLUG CHARACT.:** EQP - Equal percentage  
 PT - On-off

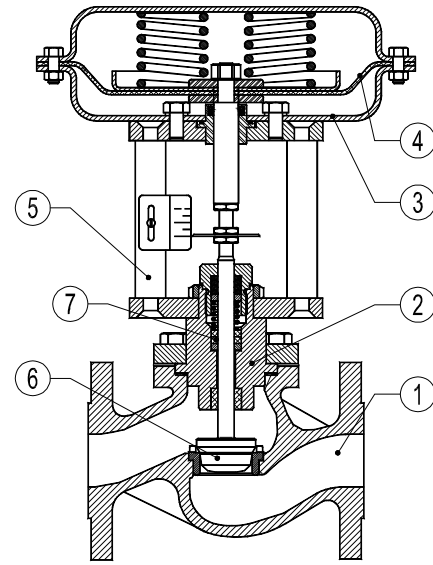
**PLUG DESIGN:** Contoured

**PORT:** Full port

CE MARKING (PED - European Directive 97/23/EC)	
PN 16	Category
DN15 to DN50	SEP - art. 3, paragraph 3
DN65 to DN100	1 (CE Marked)



PV16 DA – Direct action



PV16 RA – Reverse action

**DIMENSIONS - VALVE BODY**

DN	A (mm)	B (mm)	C (mm) BONNET	
			STANDARD	EXTENDED
15	130	48	80	150
20	150	53	80	150
25	160	58	85	165
32	180	70	90	170
40	200	75	105	185
50	230	83	105	195
65	290	93	195	295
80	310	100	205	300
100	350	110	220	330

**MATERIALS**

POS.	DESIGNATION	MATERIAL
1	Valve Body	CF8M / 1.4408
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 Seal	PTFE/GR
7	Standard packing	PTFE/GR

**DIMENSIONS - ACTUATOR**

Type	ø E (mm)	D (mm)	WEIGHT Kgs
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**

	SIZES								
	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
<b>Kvs</b>	3,8	5,1	9,4	15,4	22,2	40,1	63,4	89,7	136,7

 Kvs in m<sup>3</sup>/h , see data sheet IS PV10.00 E ; For conversion Kvs = Cv(US) x 0,855

**ACTUATOR STROKE IN mm**

	SIZES								
	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100
<b>Stroke</b>	20	20	20	20	20	20	30	30	30



MAX. PERMISSIBLE PRESS.DROP IN bar										
Normally closed valve (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 ÷ 2,5 bar	—	—	—	—	—	—	16	15	12

\* For valve size DN125 and above 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.

MAX.PERMISSIBLE PRESS.DROP IN bar										
Normally open valve (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 2,5 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 V16

<b>VALVE CODES</b>			V	.16	I					.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>										
Class PN16, GJS-400-18-LT body, stainless steel trim				.16	G					
Class PN16, CF8M body, stainless steel trim				.16	I					
<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				
<b>Valve Plug</b>										
EQP (equal percentage) - Soft (PTFE/GR)							1			
<b>Pipe Connection</b>										
Flanged EN1092-1 PN16								L		
Flanged EN1092-1 PN40								N		
<b>Size</b>										
DN15									15	
DN20									20	
...										
<b>Actuator</b>										(1)
<b>Extras (3)</b>										E

<b>ACTUATOR CODES ( pneumatic )</b>			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:**  
 V16I valve model EQP soft plug, PTFE/GR stem sealing DN50 complete with reverse action actuator signal 0,4-1,2bar, size340A steel.

**Code:** PV.16I.11L50.5R18

**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).