

“ADCATROL” PNEUMATIC CONTROL VALVES

PV40
(V40 globe valves series with linear actuators PA or EL series)
DESCRIPTION

The PV40 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 PV40 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 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: Soft sealing
Position transmitter
Pneumatic pilot positioner
Air filter regulator
Top-work manual handwheel

USE: Saturated and superheated steam
Hot and superheated water
Diathermic oil
Air, gases and other no corrosive fluids

MAX.AIR SUPPLY: 3,5 bar
AMBIENT TEMPERATURE: -20°C+70°C
STEM SEALING: PTFE/GR V-Rings-220°C (Standard bonnet)
Graphite – 300°C (Extended bonnet)

AVAILABLE MODELS: PV40S-EV40S – steel construction
PV40I-EV40I – stainless steel

VALVE SIZES: DN15 to DN50

CONNECTION: Flanged EN 1092-1 or ANSI
Threaded connections on request

PLUG CHARACTER.: EQP – Equal percentage
PL – Linear
PT – On-off

PLUG DESIGN: Contoured
Perforated (Low noise, anti-cavitation)
Microflow

PORT: Full or reduced on request

PNEUMATIC ACTUATORS: PA-205,PA-280,PA-340,PA-435

ACTUATOR CONN: ¼” NPT-F

CONTROL SIGNAL: 0,2 – 1bar; 0,4 – 1,2 bar ; 0,4 – 2 bar

ELECTRIC ACT.: Consult catalogue IS EL20.00 E

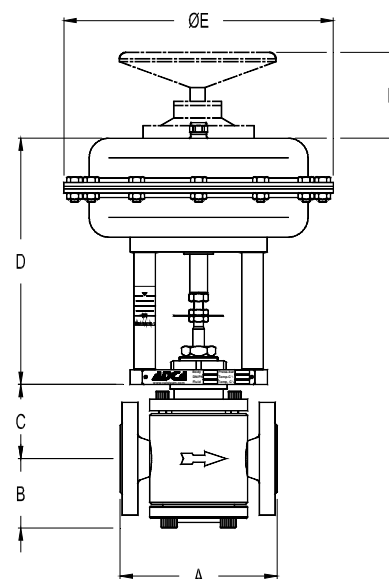
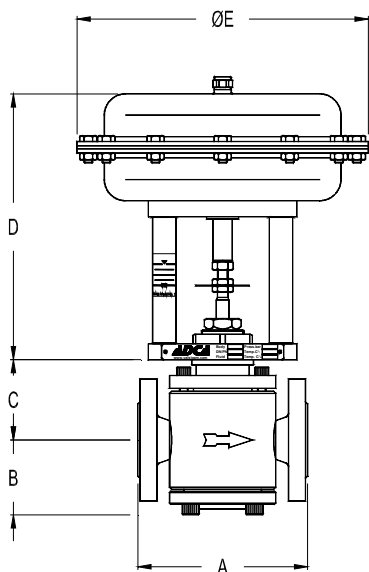
HOW TO SELECT: Never size the valve according to the pipe diameter in which it has to be fitted, but according to the required actual flow of steam or water. Refer to the valve calculation data sheet or consult the factory.

VALVE LIM. CONDITIONS V40S		VALVE LIM. CONDITIONS V40I	
PRESSURE/TEMPERATURE *		PRESSURE/TEMPERATURE *	
40 bar	-10/50°C	40 bar	-10/100°C
33,3 bar	200 °C	33,7 bar	200 °C
30,4 bar	250 °C	31,8 bar	250 °C
27,6 bar	300 °C	29,7 bar	300 °C

CE MARKING (PED - European Directive 97/23/EC)	
PN 40	Category
DN15 to DN32	SEP - art. 3, paragraph3
DN40 to DN50	1 (CE Marked)

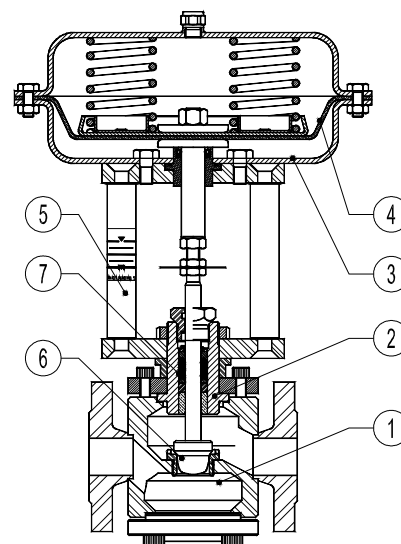
Maximum temperature limited to the valve packing selected
Valves with soft seat , maximum allowable temperature: 200°C

* PN63 and PN100 design on request


DIMENSIONS - VALVE BODY

DN	EN FLANGES A (mm)	ANSI 150 FLANGES A (mm)	ANSI 300 FLANGES A (mm)	B (mm)	C (mm) BONNET		
					STAND.	FINNED	EXTEND.
15 - 1/2"	150	184	190	71	75	140	140
20 - 3/4"	150	184	194	71	75	140	140
25 - 1"	160	184	197	71	75	140	140
32	180	-	-	75	83	163	163
40 - 1 1/2"	200	222	235	82	96	163	163
50 - 2"	230	254	267	97	100	182	182

Note: welded-on flanges EN 1092-1 PN40 or ANSI B16.5 Cl.150 and 300 lbs. RF


DIMENSIONS - ACTUATOR

Type	ø E (mm)	D (mm)	WEIGHT Kgs
		DN15-50 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

MATERIALS

POS.	DESIGNATION	PV40S - EV40S	PV40I - EV40I
1	Valve Body	S355 J2 G3 / 1.0570	AISI 316 / 1.4401
2	Bonnet	CF8 / 1.4308	CF8 / 1.4308
3	* Actuator (Steel)	S235JRG2 / 1.0038	S235JRG2 / 1.0038
	* Actuator (St. steel)	AISI304 / 1.4301	AISI304 / 1.4301
4	Diaphragm	NBR70	NBR70
5	Yoke (steel)	C45E / 1.1191	C45E / 1.1191
	Yoke (st. steel)	AISI304 / 1.4301	AISI304 / 1.4301
6	Valve plug	St.Steel - PTFE/GR	St.Steel - PTFE/GR
7	Standard packing	PTFE/GR	PTFE/GR

* Electric actuator : see IS EL20.00 E



FLOW RATE COEFFICIENTS						
	SIZES					
	DN15	DN20	DN25	DN32	DN40	DN50
Kvs	3,8	5,1	9,4	15,4	22,2	40,1

Kvs in m³/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
Stroke	20	20	20	20	20	20

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	—	—	—
PA435A	0,2 ÷ 1 bar	—	—	—	—	40	25	—	—	—
	0,4 ÷ 1,2 bar	—	—	—	—	48	30	—	—	—
	0,4 ÷ 2 bar	—	—	—	—	55	45	—	—	—

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. 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	—	—	—

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 V40

VALVE CODES		V	40	S						.X.
Actuator Type (1)										
Pneumatic Actuator	P									
Electric Actuator	E									
Group Designation										
Globe valve, two way, straight body	V									
Valve Model										
PN40 steel body		.40	S							
PN40 stainlesssteel body		.40	I							
Stem Sealing										
PTFE/GR-V-Rings / Standard bonnet									1	
Virgin PTFE V-Rings / Standard bonnet									2	
Graphite / Standard bonnet									3	
Graphite / Finned bonnet									4	
Valve Plug										
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	
Pipe Connection										
Threaded BSP ISO 7/1 Rp										A
Flanged EN1092-1 PN40										N
Flanged ANSI B16.5 300#										V
Size										
DN15										15
DN20										20
...										
Actuator										(1)
Extras (3)										E

ACTUATOR CODES (pneumatic)		P.			
Group Designation					
Multi-spring , pneumatic linear actuator	P.				
Actuator Size					
205		1			
280		3			
340 A - From DN15 to DN50		5			
435 A - From DN15 to DN50		7			
Actuator					
Direct Action		D			
Reverse Action		R			
Actuator Constrution					
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

→ To be introduced on ".X.", if supplied in combination with the valve.
 Example:
 V40S valve model EQP soft plug, PTFE/GR stem sealing DN50 complete with reverse action actuator signal 0,4-1,2bar, size340A steel.

Code: PV.40S.11N50.5R18

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).