

“ADCATROL” PNEUMATIC CONTROL VALVES **ADCA**Trol

V403

(V403 globe valves series with linear actuators PA or EL series)

DESCRIPTION

The PV403 control valves are three-way valve body for mixing service. 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 V403 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, diathermic oil, steam, air, gas and other non corrosive fluids.

MAIN FEATURES

Mixing control valve.
Standard packing or bellows sealed stem sealing.



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

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

AVAILABLE MODELS: PV403S-EV403S – steel construction
PV403I-EV403I – stainless steel

VALVE SIZES: DN15 to DN50

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

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)

PLUG TYPES: Linear (PL)

PORT: Full port

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

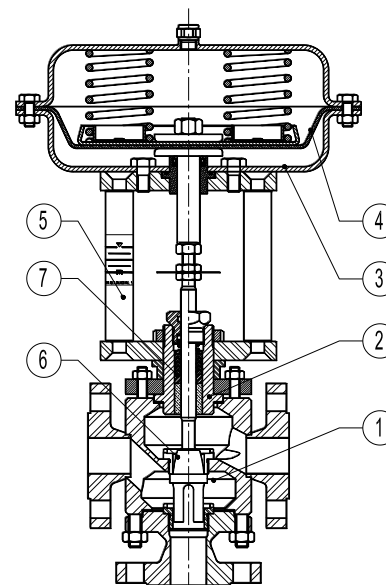
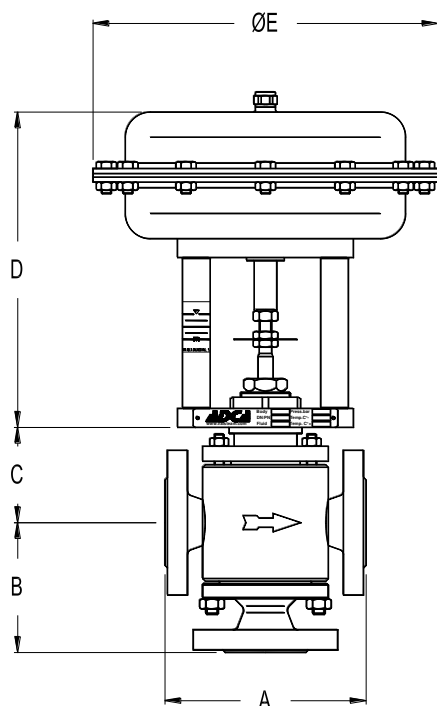
ELECTRIC ACT: Consult catalogue IS EL20.00 E

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.

CE MARKING (PED - European Directive)	
PN 25	Category
DN15 to DN40	SEP
DN50	1 (CE Marked)

VALVE BODY LIMITING CONDITIONS V403S				VALVE BODY LIMITING CONDITIONS V403I			
PRESSURE/TEMPERATURE PN16		PRESSURE/TEMPERATURE PN25		PRESSURE/TEMPERATURE PN16		PRESSURE/TEMPERATURE PN25	
16 bar	-10/50°C	25 bar	-10/50°C	16 bar	-10/100°C	25 bar	-10/100°C
13,3 bar	200 °C	20,8 bar	200 °C	13,4 bar	200 °C	21 bar	200 °C
12,1 bar	250 °C	19 bar	250 °C	12,7 bar	250 °C	19,8 bar	250 °C
11 bar	300 °C	17,2 bar	300 °C	11,8 bar	300 °C	18,5 bar	300 °C

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



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	BELLOWS
15 - 1/2"	150	184	190	100	75	140	267
20 - 3/4"	150	184	194	103	75	140	267
25 - 1"	160	184	197	103	75	140	267
32	180	-	-	110	83	163	285
40 - 1 1/2"	200	222	235	110	96	163	285
50 - 2"	230	254	267	130	100	182	298

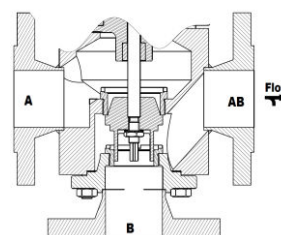
Note: welded-on flanges EN 1092-1 PN40 or ANSI B16.5 Cl.150 and 300 lbs. RF

MATERIALS			
POS.	DESIGNATION	PV403S - EV403S	PV403I - EV403I
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

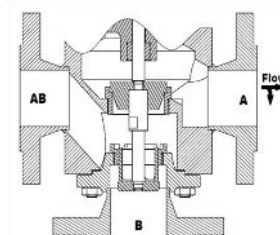
DIMENSIONS - ACTUATOR			
Type	ø E (mm)	D (mm)	WEIGHT Kgs
		DN15-50 DA/RA	
PA-205	210	235	5,7
PA-280	275	240	8,8
PA-340	335	265	14,3
PA-435	430	295	24,5

FAILURE POSITION DEPENDING ON VALVE DUTY			
Mixing valve		Diverting valve	
Dir. Action Actuator a)	Rev.Action Actuator b)	Dir. Action Actuator a)	Rev.Action Actuator b)
Port A to AB Closes	Port B to AB Closes	Port AB to B Closes	Port AB to A Closes

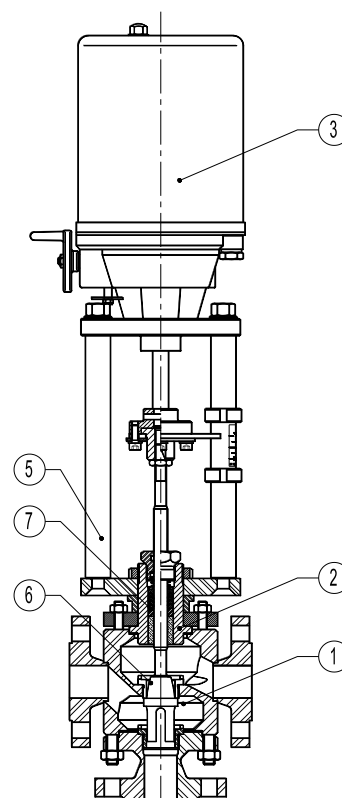
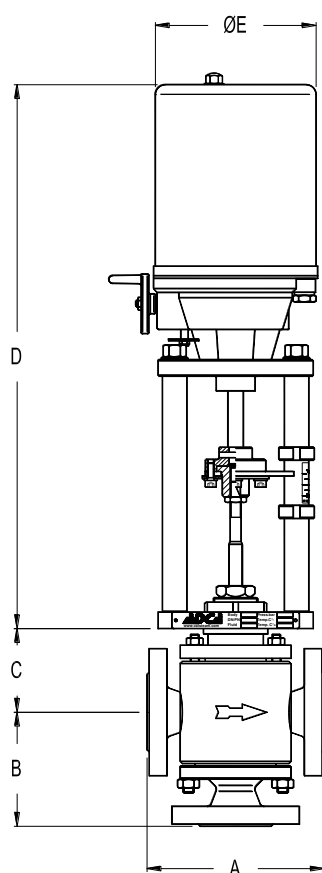
- a) Retracted stem on air failure
- b) Extended stem on air failure



Mixing valve



Diverting valve
(Only DN40 and above)


DIMENSIONS - VALVE BODY

DN	A (mm)	B (mm)	C (mm) BONNET	
			STANDARD PACKING	BELLOWS SEALED
15	150	100	75	250
20	150	103	75	250
25	160	103	75	250
32	180	110	83	253
40	200	110	96	268
50	230	130	100	272

DIMENSIONS - ELECTRIC ACTUATOR

Type	ø E (mm)	D (mm)
EL-12	130	340
EL-20	145	458
EL-45	145	458
EL-80	188	517
EL-120	188	517

MATERIALS

POS.	DESIGNATION	PV403S - EV403S	PV403I - EV403I
1	Valve Body	S355 J2 G3 / 1.0570	AISI 316 / 1.4401
2	Bonnet	CF8 / 1.4308	CF8 / 1.4308
3	Actuator	See IS20.00 E	See IS20.00 E
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



MAX. PERM.PRESS.DROP IN bar - Fluid to open -Reverse or direct action actuator										
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	—	—	—	—	—	—	—	—	—
	0,4 ÷ 1,2 bar	—	—	—	—	—	—	—	—	—
	0,4 ÷ 2 bar	—	—	—	—	—	—	—	—	—
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 2,4 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.

VALVE STROKE IN mm						
	SIZES					
	DN15	DN20	DN25	DN32	DN40	DN50
Stroke	20	20	20	20	20	20

FLOW RATE COEFFICIENTS						
	SIZES					
	DN15	DN20	DN25	DN32	DN40	DN50
Kvs	4	6,3	10	16	25	40

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



ORDERING CODES V403

VALVE CODES										
Actuator Type (1)		V	.43	S						.X.
Pneumatic Actuator		P								
Electric Actuator		E								
Group Designation		V								
Globe valve, three way										
Valve Model										
PN25, steel body			.43S							
PN25 stainless steel body			.43I							
Flow										
Mixing							M			
Diverting (only available for DN40 and above)							D			
Stem Sealing										
PTFE/GR-V-Rings / Standard bonnet							1			
Virgin PTFE V-Rings / Standard bonnet							2			
Graphite / Standard bonnet							3			
Valve Plug										
PL (linear) - Soft (PTFE/GR)								6		
PL (linear) - Metal AISI316 / 1.4401								7		
Pipe Connection										
Flanged EN1092-1 PN16									L	
Flanged EN1092-1 PN40									N	
Flanged ANSI B16.5 300#									V	
Size										
DN15										15
DN20										20
...										
Actuator										(1)
Extras (3)										E
ACTUATOR CODES (pneumatic)										
Group Designation		P.								
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 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

To be introduced on ".X.", if supplied in combination with the valve.
 Example:
 V403S mixing valve model PL soft plug, PTFE/GR stem sealing DN50 complete with reverse action actuator signal 0,4-1,2bar, size340A steel.

Code: PV.43S.M16L50.5R18

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).