

## PRESSURE SUSTAINING VALVE PSW46B (EN)

### DESCRIPTION

The ADCA PSW46B series pressure sustaining valves are single seated, diaphragm or piston sensing proportional controllers that operate without auxiliary energy. Designed for use with water, compressed air and other liquids and gases compatible with the construction.

### MAIN FEATURES

Pressure balancing through robust piston design.  
Soft sealing to meet tight shut-off requirements.  
Robust construction (fit-and-forget).  
Interchangeable actuators and adjustment springs.

- OPTIONS:** Low-noise flow divider.  
Sensing pipe on body.
- USE:** Water, compressed air and other liquids or gases compatible with the construction.
- AVAILABLE MODELS:** PSW46BS – carbon steel.
- SIZES:** DN 50 to DN 100.
- CONNECTIONS:** Flanged EN 1092-1 PN 16 or PN 40.  
Standard PN 16 DN 65 flanges are supplied with 4 holes. 8 holes, according to EN 1092-1/-2 on request.
- AVAILABLE ACTUATORS:** A1A, A11A, A3A, A4A and P55 – carbon steel.  
A2A and A21A – SG iron or carbon steel.
- INSTALLATION:** See IMI – Installation and maintenance instructions.



**With sensing pipe  
on body**

CE MARKING – GROUP 2 (PED – European Directive)		
PN 16	PN 40	Category
DN 50	–	SEP
DN 65 to 100	DN 50 to 100	1 (CE marked)

### LIMITING CONDITIONS

Valve model	PSW45BS	PSW45BS
Body design conditions	PN 16	PN 40
Maximum upstream pressure	13 bar	18 bar
Maximum downstream pressure	13 bar	18 bar
Minimum upstream pressure	0,2 bar	
Maximum operating temperature	130 °C	
Maximum hydraulic factory valve body test	24 bar	60 bar

Remark: Other soft materials and temperature limits on request.

**Warning: A pressure sustaining valve is not a safety relief valve and must not be used for that purpose!**

Actuator model	A1A	A11A	A21A	A2A	A3A	A4A	P55
Maximum operating pressure (bar)	25	25	18	12	2,5	1,5	25
Maximum operating temperature	90 °C *						130 °C

\* With liquids at higher temperature, the sensing pipe should prevent exceeding the maximum operating temperature of the actuator.

### FLOW RATE COEFFICIENTS (m³/h)

SIZE	DN 50	DN 65	DN 80	DN 100
Kvs	26,5	51,5	79,5	129,5

### ACTUATOR AND SPRING SELECTION TABLE

SIZE		ACTUATOR							
		A4A	A3A	A2A	A21A	A1A	A11A	P55	
DN 50	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,5 to 1,5	1 to 3,2	1,4 to 4,8	2,5 to 7	3 to 10	8 to 18
	Spring N°	67	61	61	61	61	61	61	61
DN 65	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,5 to 1,5	1 to 3,2	1,4 to 4,8	2,5 to 7	3 to 10	8 to 18
	Spring N°	67	61	61	61	61	61	61	61
DN 80	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,4 to 1,4	0,6 to 3	0,8 to 4,2	2 to 6	3 to 8	6 to 16
	Spring N°	68	62	62	62	62	62	62	62
DN 100	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,4 to 1,4	0,6 to 3	0,8 to 4,2	2 to 6	3 to 8	6 to 18
	Spring N°	69	63	63	63	63	63	63	63

### HOW TO SIZE (USING Kvs)

Please consult formulas on IS PV10.00 E or consult manufacturer.

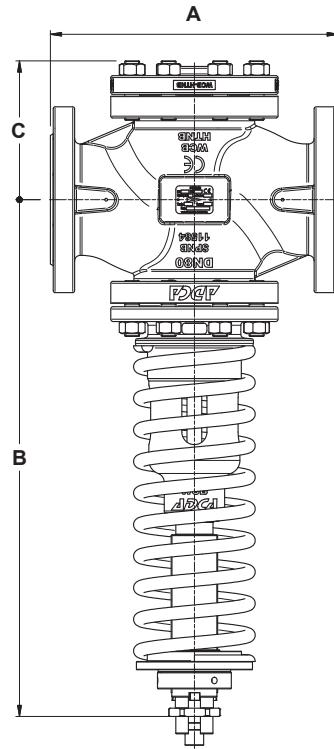
### HOW TO ORDER

PSW46BS DN 80 PN 16 valve complete with spring N° 62, A2 actuator with sensing pipe on body.

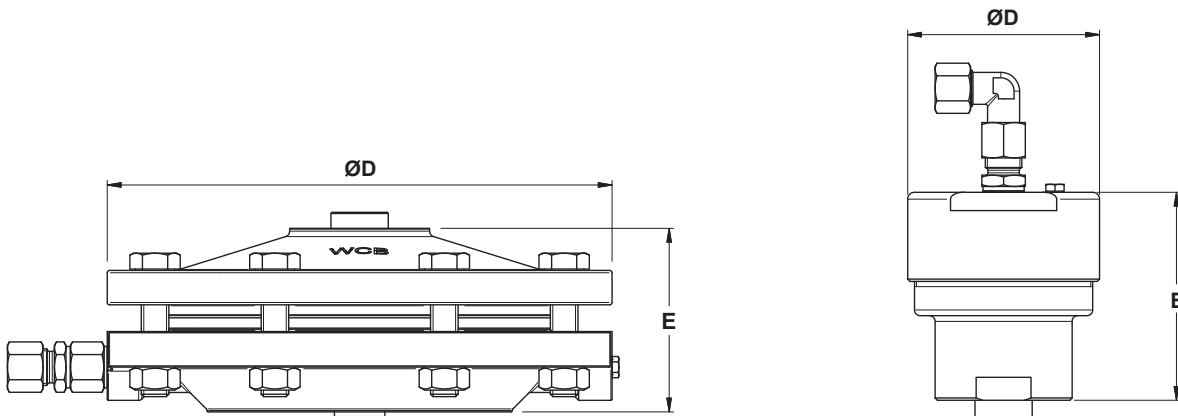
### INSTALLATION

Horizontal installation with the actuator vertically, pointing downwards (recommended, especially for liquid service) or upwards.

The sensing pipe, if not fitted on the valve body, must be installed upstream of the valve at a minimum of 1 meter away or 15 pipe diameters.

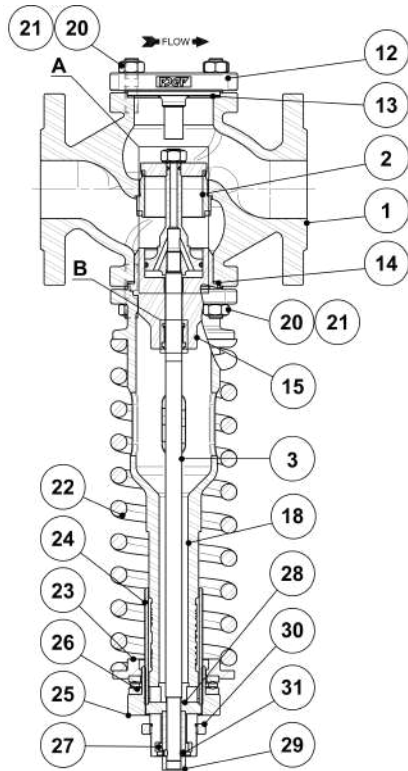


DIMENSIONS – VALVE (mm)				
DIMENSION	SIZE			
	DN 50	DN 65	DN 80	DN 100
A	230	290	310	350
B	470	495	556	597
C	113	150	150	164
WEIGHT (kg)	25,4	43,5	57,3	74,3

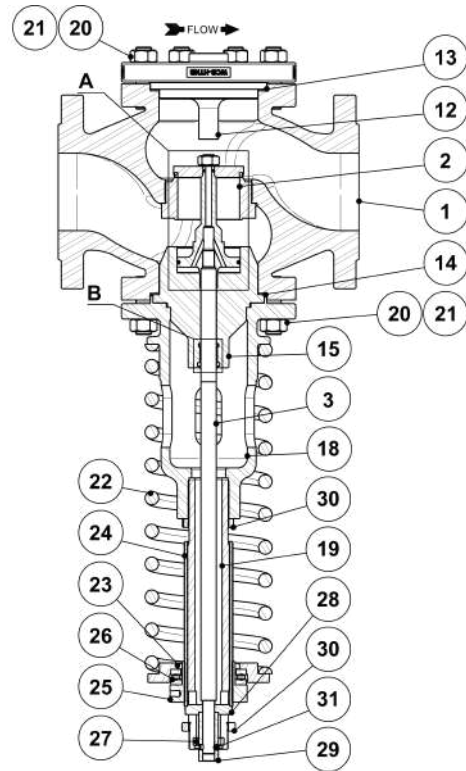


DIMENSIONS – ACTUATOR (mm)							
DIMENSION	ACTUATOR						
	A1A	A11A	A2A	A21A	A3A	A4A	P55
ØD	172	172	220	220	282	340	84
E	74	74	80	80	82	92	91
WEIGHT (kg)	5,8	5,8	10,2	10,2	12,6	18,3	2,7

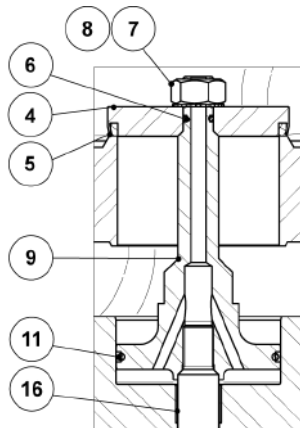
MATERIALS



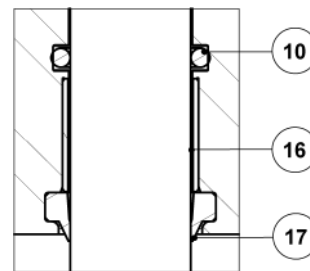
DN 50



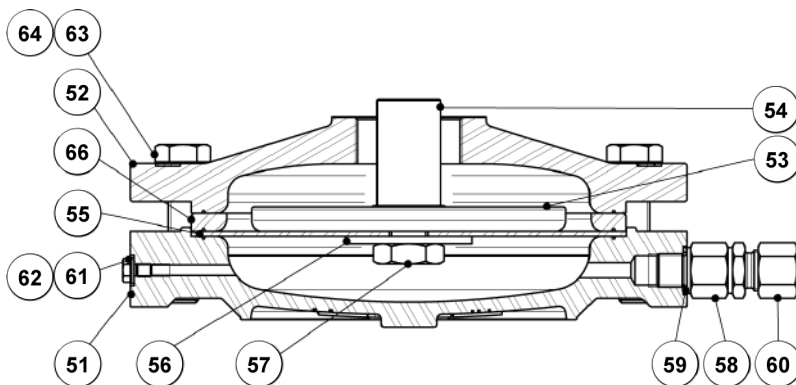
DN 65 to DN 100



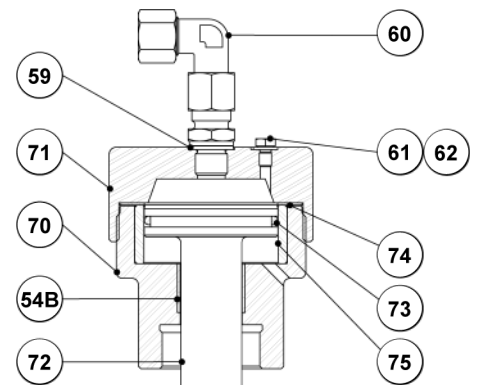
Detail A



Detail B



A series actuators



P series actuators

**MATERIALS – VALVE**

POS. N°	DESIGNATION	DN 50	DN 65 to DN 100
1	Valve body	A216 WCB / 1.0619	A216 WCB / 1.0619
2	Seat	AISI 316 / 4.4401	AISI 316 / 4.4401
3	Stem	AISI 304 / 1.4301	AISI 304 / 1.4301
4	* Valve plug	AISI 316 / 4.4401	AISI 316 / 4.4401
5	Seal ring	EPDM	EPDM
6	O-ring	EPDM	EPDM
7	Nut	AISI 304 / 1.4301	AISI 304 / 1.4301
8	Washer	AISI 304 / 1.4301	AISI 304 / 1.4301
9	Piston	AISI 316 / 4.4401	AISI 316 / 4.4401
10	O-ring	EPDM	EPDM
11	O-ring	EPDM	EPDM
12	Cover	A216 WCB / 1.0619	A216 WCB / 1.0619
13	Gasket	Stainless steel / Graphite	Stainless steel / Graphite
14	Gasket	Stainless steel / Graphite	Stainless steel / Graphite
15	Guide tube	AISI 304 / 1.4301	AISI 304 / 1.4301
16	Guide bushing	Steel	Steel
17	Scraper	Viton	Viton
18	Piston body	A216 WCB / 1.0619	A216 WCB / 1.0619
19	Piston body extension	–	P355T1 / 1.0421
20	Studs	Steel 8.8; EN 10269 steel	Steel 8.8; EN 10269 steel
21	Nuts	Steel 8.8; EN 10269 steel	Steel 8.8; EN 10269 steel
22	Spring	Spring steel	Spring steel
23	Lower spring plate	C45E / 1.1191	C45E / 1.1191
24	Threaded tube	CuZn39Pb3	CuZn39Pb3
25	Spring adjusting nut	C45E / 1.1191	C45E / 1.1191
26	Ball bearing	Zinc plated steel	Zinc plated steel
27	Spacer	S355J2G3 / 1.0570	S355J2G3 / 1.0570
28	Pressure star	S235JR / 1.0038	S235JR / 1.0038
29	Pressure tube	C45E / 1.1191	C45E / 1.1191
30	Lock nut	C45E / 1.1191	C45E / 1.1191
31	Pin	AISI 303 / 1.4305	AISI 303 / 1.4305

\* Available spare parts.

**MATERIALS – ACTUATOR**

POS. N°	DESIGNATION	A1A, A11A, A3A and A4A	A2A and A21A	POS. N°	DESIGNATION	P55
51	Lower diaphragm chamber	A216 WCB / 1.0619	GJS-400-15 / 0.7040; A216 WCB / 1.0619	54B	Guide bushing	Steel
52	Upper diaphragm chamber	A216 WCB / 1.0619	GJS-400-15 / 0.7040; A216 WCB / 1.0619	59	Gasket	Copper
53	Pressure plate	A216 WCB / 1.0619	GJS-400-15 / 0.7040	60	Compression fitting	AISI 316Ti / 1.4571
54	Diaph. plate spindle	A216 WCB / 1.0619	GJS-400-15 / 0.7040	61	Vent screw	Zinc plated steel
55	* Diaphragm	Neoprene reinforced polyamid	Neoprene reinforced polyamid	62	Washer	Copper
56	Washer	Copper	Copper	70	Body	S235JR / 1.0038
57	Hex nut	CuZn39Pb3	CuZn39Pb3	71	Cover	S235JR / 1.0038
58	Flow restrictor	AISI 303 / 1.4305	AISI 303 / 1.4305	72	Piston	AISI 316 / 1.4401
59	Gasket	Copper	Copper	73	* O-ring	EPDM
60	Compression fitting	AISI 316Ti / 1.4571	AISI 316Ti / 1.4571	74	* Gasket	Stainless steel / Graphite
61	Vent screw	Zinc plated steel	Zinc plated steel	75	Piston sleeve	AISI 304 / 1.4301
62	Washer	Copper	Copper			
63	Bolts	Zinc plated steel	Zinc plated steel			
64	Nuts	Zinc plated steel	Zinc plated steel			
66	Spacer ring	S355JR / 1.0045	S355JR / 1.0045			

\* Available spare parts.