

## DIAPHRAGM SENSING PRESSURE SUSTAINING VALVE PS7

### DESCRIPTION

The ADCA PS7 series direct acting, spring-loaded diaphragm sensing pressure sustaining valves are designed for use with steam, compressed air and other gases compatible with the materials of construction.

They are suitable for pressure sustaining applications where very small loads are involved. They are also specifically recommended to operate as pilot valves in combination with other pressure regulators.

### MAIN FEATURES

Compact design.  
Stainless steel diaphragm.

OPTIONS:            1/8" gauge connection on body.  
                          Regulating screw with top cap.  
                          External sensing connection.  
                          Low pressure top.  
                          Dome loaded version.

USE:                    Steam, compressed air and other gases compatible with the construction.

AVAILABLE MODELS:        PS7S – carbon steel construction.  
                                  PS7SS – stainless steel construction.

SIZES:                 1/4" and 3/8".

CONNECTIONS:      Female threaded ISO 7 Rp or NPT.

INSTALLATION:      Horizontal installation.  
                              A strainer should be installed upstream of the valve.  
                              See IMI – Installation and maintenance instructions.

ORDER REQUIREMENTS:    Type of fluid.  
                                  Maximum operating temperature.  
                                  Inlet and outlet pressures.  
                                  Flow rate (maximum and minimum).



### CE MARKING – GROUP 2 (PED – European Directive)

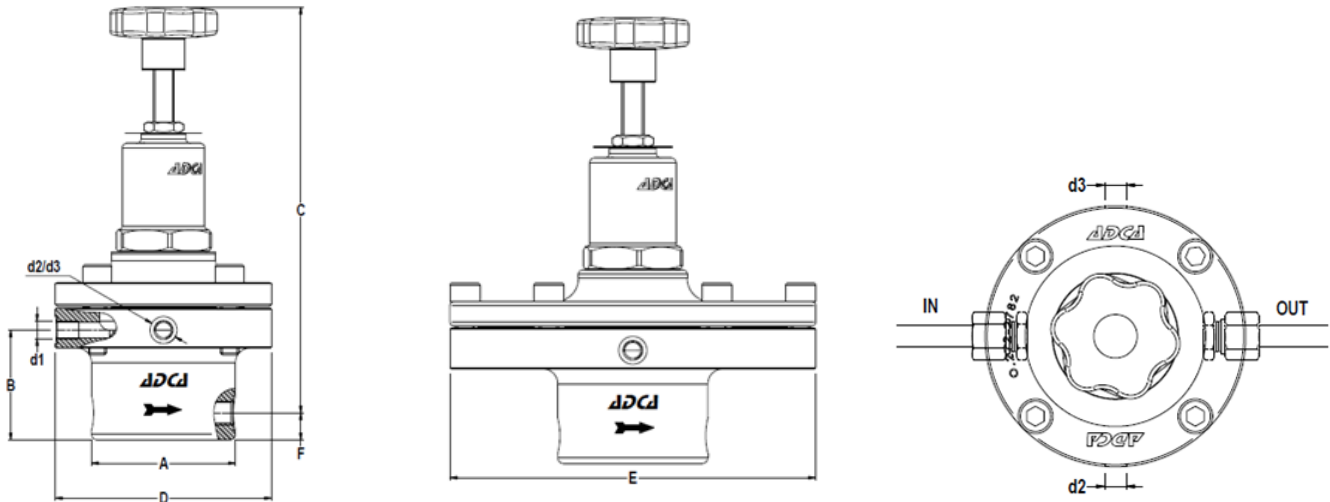
PN16 / PN40	Category
1/4" and 3/8"	SEP

CAPACITIES		
Valve size	1/4"	3/8"
Kvs (m <sup>3</sup> /h)	0,8	0,8

LIMITING CONDITIONS	
Valve model	PS7
Body design conditions	PN40
Maximum upstream pressure	17 bar
Minimum upstream pressure *	0,35 bar
Maximum downstream pressure	17 bar
Maximum design temperature	300 °C

\* 0,07 bar with low pressure top (limited at 7 bar inlet).  
The low pressure diaphragm should be fitted for outlet pressures from 0,07 up to 0,5 bar.  
Pressure and temperature limiting conditions may change if soft seating is used.

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



**DIMENSIONS (mm) - THREADED**

SIZE	A	B	C	D	E *	F	d1 **	d2 ***	d3 ***	WEIGHT (kg)
1/4"	80	61	225	120	195	15	1/8"	1/8"	1/8"	4,8
3/8"	80	61	225	120	195	15	1/8"	1/8"	1/8"	4,8

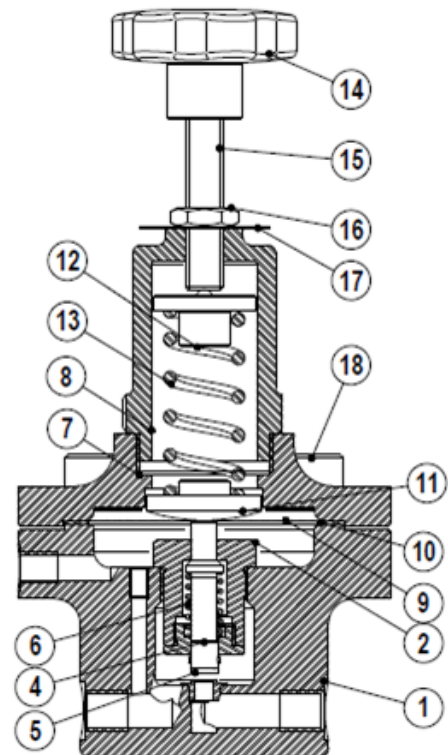
\* Low pressure top; \*\* Optional external sensing connection; \*\*\* Optional pressure gauge connections.  
Remarks: All optional threaded connections are supplied in accordance with the main connections.

**MATERIALS**

POS. N°	DESIGNATION	MATERIAL
1	Valve body	S355J2G3 / 1.0570; AISI 316 / 1.4401
2	* Pilot valve body	A351 CF8 / 1.4308
4	Pushrod	AISI 316 / 1.4401
5	* Valve plug	AISI 420; EPDM; PTFE, etc.
6	* Spring	AISI 302 / 1.4300
7	Top cover	A351 CF8 / 1.4308
8	Spring cover	A351 CF8 / 1.4308
9	* Diaphragm	AISI 301 / 1.4310
10	* Gasket	Stainless steel / Graphite
11	Lower spring carrier	Brass
12	Top spring carrier	Brass
13	* Adjustment spring	Spring steel
14	Handwheel	Plastic
15	Adjustment screw	AISI 304 / 1.4301
16	Locknut	Stainless steel A2-70
17	Spring Id. plate	Aluminium
18	Bolts	Steel 10.9; Stainless steel A2-70

\* Available spare parts.

Remarks: All valves have a serial number. In case of non-standard valves this number must be supplied if spare parts are ordered.



**PRESSURE RANGES**

SPRING COLOUR	GREEN w/ 1 diaphragm	BLUE w/ 1 diaphragm	RED w/ 2 diaphragms	BLACK w/ 2 diaphragms
Inlet spring range	0,07 to 0,5 bar * 0,35 to 2 bar	1,5 to 5,5 bar	3,5 to 8,5 bar	7 to 17 bar

\* With special low pressure top assembly.

ORDERING CODES PS7									
<b>Valve model</b>	<b>PS7S</b>	.	<b>1</b>	<b>S</b>		<b>S</b>		<b>A</b>	<b>08</b>
PS7S – Carbon steel pilot regulator	<b>PS7S</b>								
PS7SS – Stainless steel pilot regulator	<b>PS7SS</b>								
<b>Inlet spring range</b>									
Green spring 0,35 to 2 bar – single diaphragm			<b>1</b>						
Blue spring 1,5 to 5,5 bar – single diaphragm			<b>2</b>						
Red spring 3,5 to 8,5 bar – double diaphragm			<b>3</b>						
Black spring 7 to 17 bar – double diaphragm			<b>4</b>						
Dome loaded – 0,35 to 4 bar – single diaphragm <b>a)</b>			<b>6</b>						
Dome loaded – 2 to 17 bar – double diaphragm <b>a)</b>			<b>7</b>						
<b>Application</b>									
Steam				<b>S</b>					
Gases				<b>G</b>					
<b>Seal material</b>									
Metal to metal						<b>(1)</b>			
EPDM <b>b)</b>						<b>E</b>			
PTFE <b>b)</b>						<b>T</b>			
FPM / Viton <b>b)</b>						<b>V</b>			
<b>Diaphragm</b>									
Standard diaphragm							<b>S</b>		
Low pressure diaphragm							<b>L</b>		
<b>Gauge port 1/8"</b>									
Without gauge ports								<b>(1)</b>	
Gauge port on the left side (relative to the flow direction)								<b>4</b>	
Gauge port on the right side (relative to the flow direction)								<b>3</b>	
Gauge ports on both sides								<b>2</b>	
<b>Pipe connection</b>									
Threaded ISO 7 Rp									<b>A</b>
Threaded NPT ANSI B1.20.1									<b>C</b>
<b>Size</b>									
1/4"									<b>08</b>
3/8"									<b>10</b>
<b>Special valves / Extras</b>									
Full description or additional codes have to be added in case of non-standard combination.									<b>E</b>

(1) Omitted if a standard valve is requested.

**a)** The loading control pressure is approximately the same as the required upstream set-point pressure ( $\pm 0,2$  bar).

**b)** Valve limited to the materials' maximum operating temperature. Contact manufacturer for more details.

Remarks: The external sensing connection must be requested with the order, when required.