

DIAPHRAGM SENSING PRESSURE SUSTAINING VALVES PS7

DESCRIPTION

The ADCA PS7 series direct acting, spring-loaded diaphragm sensing pressure sustaining valves are designed for use on steam and 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: Gauge connection on body.
Top cap (adjustment screw with cover).
External sensing line connection.
Low pressure diaphragm.
Dome-loading.

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

AVAILABLE

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

SIZES: 1/4" and 3/8".

CONNECTIONS: Female threaded ISO 7 Rp or NPT.

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



CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 40	CATEGORY
1/4" and 3/8"	SEP

LIMITING CONDITIONS	
MODEL	PS7
Body design conditions	PN 40
Maximum upstream pressure	17 bar
Minimum upstream pressure	0,35 bar
Maximum downstream pressure	17 bar
Maximum operating temperature **	300 °C

* 0,07 bar with low pressure diaphragm (limited to 2,5 bar maximum inlet pressure).

** See "Ordering Codes" table for restrictions.

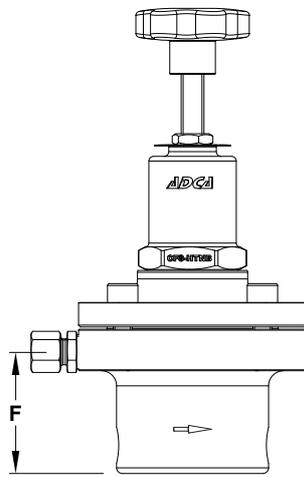
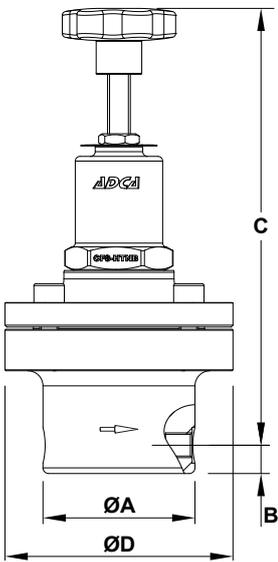
Warning: A pressure sustaining valve is not a safety relief valve and must not be used for that purpose!

FLOW RATE COEFFICIENTS (m ³ /h)		
SIZE	1/4"	3/8"
Kvs	0,8	0,8

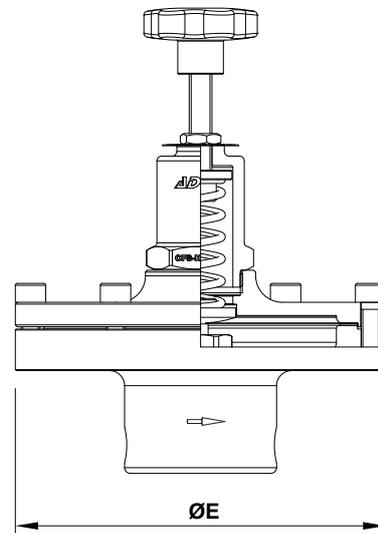
REGULATING RANGES				
SPRING COLOUR	GREEN W/ 1 DIAPHRAGM	BLUE W/ 1 DIAPHRAGM	RED W/ 2 DIAPHRAGMS	BLACK W/ 2 DIAPHRAGMS
REGULATING RANGE	0,07 to 0,5 bar * 0,35 to 2 bar	1,5 to 5,5 bar	3,5 to 8,5 bar	7 to 17 bar

* With low pressure diaphragm.

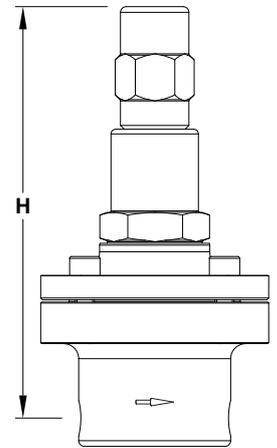
OPTIONS				
LOW PRESSURE DIAPHRAGM	DOME-LOADING	TOP CAP	GAUGE CONNECTION	EXTERNAL SENSING LINE CONNECTION



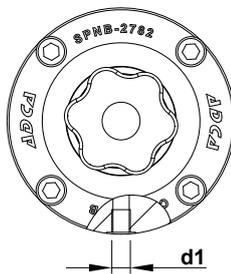
Optional external sensing line connection



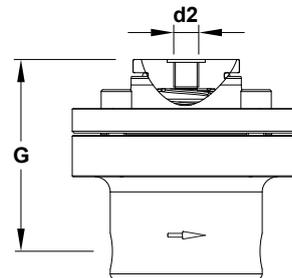
Optional low pressure diaphragm



Optional top cap



Optional gauge connection



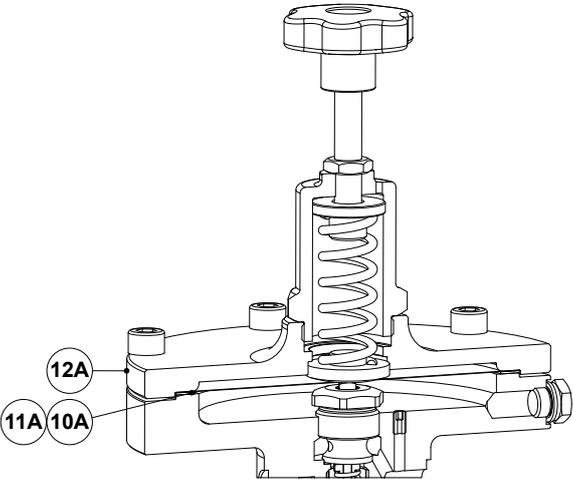
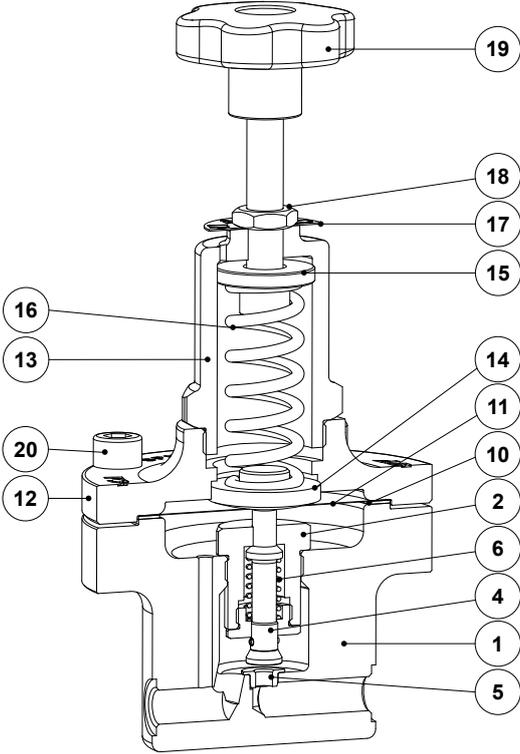
Optional dome-loading

DIMENSIONS (mm)											
SIZE	ØA	B	C	ØD	d1	d2 **	ØE *	F	G	H	WGT. (kg)
1/4"	80	15	232	120	1/4"	1/4"	195	64	102	218	4,8
3/8"	80	15	232	120	1/4"	1/4"	195	64	102	218	4,8

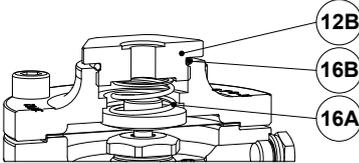
* Low pressure diaphragm (bar stock construction); ** Optional pressure gauge connections.

As standard, in versions with ISO 7 Rp threads, these connections are female threaded ISO 7 Rp. In versions with female NPT threads, these connections are female threaded NPT.

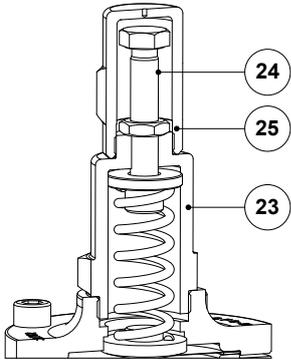
MATERIALS



Optional low pressure diaphragm



Optional dome-loading



Optional top cap

MATERIALS

POS. No.	DESIGNATION	MATERIAL
1	Valve body (PS7S)	S355JR / 1.0045
	Valve body (PS7SS)	AISI 316L / 1.4404
2	* Guide	AISI 316 / 1.4401
4	Valve plug	AISI 316L / 1.4404
5	* Valve seat	** AISI 420; EPDM; PTFE; FPM
6	* Spring	AISI 302 / 1.4300
10	* Gasket	AISI 301 / 1.4310
10A	Low pressure gasket	AISI 301 / 1.4310
11	* Diaphragm	Stainless steel / Graphite
11A	Low pressure diaphragm	Stainless steel / Graphite
12	Top cover	A351 CF8 / 1.4308
12A	Low pressure top cover	A351 CF8 / 1.4308
12B	Cover nut	AISI 316L / 1.4404
13	Cover spring	A351 CF8 / 1.4308
14	Lower spring carrier	Brass
15	Upper spring carrier	Brass
16	* Adjustment spring	Spring steel
16A	Diaphragm spring	Stainless steel
16B	O-ring	** FPM
17	Spring identification plate	Aluminium
18	Lock nut	Stainless steel A2-70
19	Adjustment knob	Plastic
20	Bolt (PS7S)	Stainless 12.9
	Bolt (PS7SS)	Stainless steel A2-70
23	Cover	AISI 316L / 1.4404
24	Adjustment screw	Stainless steel A2-70
25	Top cap	AISI 316L / 1.4404

* Available spare parts. ** Others on request.

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

ORDERING CODES PS7

VALVE MODEL	PS7S	.	1	S		S		.	A	08
PS7S – Carbon steel pilot pressure sustaining valve	PS7S									
PS7SS – Stainless steel pilot pressure sustaining valve	PS7SS									
REGULATING RANGE										
Green spring – 0,35 to 2 bar (0,07 to 2 bar with low pressure diaphragm) – single diaphragm			1							
Blue spring – 1,5 to 5,5 bar – single diaphragm			2							
Red spring – 3,5 to 8,5 bar – double diaphragm			3							
Black spring – 7 to 17 bar – double diaphragm			4							
0,35 to 4 bar – single diaphragm (dome-loading) (a)			6							
2 to 17 bar – double diaphragm (dome-loading) (a)			7							
APPLICATION										
Steam				S						
Gases				G						
VALVE SEALING										
Metal to metal					(1)					
EPDM – Tmax 130 °C					E					
PTFE – Tmax 180 °C					T					
FPM – Tmax 200 °C					V					
DIAPHRAGM										
Standard diaphragm						S				
Low pressure diaphragm						L				
GAUGE CONNECTIONS (b)										
Without gauge ports							(1)			
Gauge port on the left side (relative to the flow direction)							4			
Gauge port on the right side (relative to the flow direction)							3			
Gauge ports on both sides (not possible if ordered with external sensing line connection)							2			
PIPE CONNECTIONS										
Female threaded ISO 7 Rp									A	
Female threaded NPT ASME B1.20.1									C	
SIZE										
1/4"										08
3/8"										10
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS										
A full description must to be provided and validated in case of a non-standard construction										E

(1) Omitted if a standard valve is requested.

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

(b) Gauge port can also be used as external sensing line connection.

Remark: Options and accessories not mentioned in the ordering codes table such as the external sensing line connection and top cap must be requested separately. e.g.: PS7S.1SS.A08 with external sensing line connection.