

DIAPHRAGM SENSING PRESSURE REDUCING VALVES P7

DESCRIPTION

The ADCA P7 series pressure reducing valves are direct acting, spring loaded, diaphragm sensing balanced plug regulators designed for use with steam, nitrogen, compressed air and other gases compatible with the materials of construction.

Particularly suitable for general purpose applications where low flow and high temperatures are involved.

Also specifically recommended to operate as a pilot valve in combination with other pressure regulators.

MAIN FEATURES

- Compact design.
- Robust stainless steel diaphragm.
- Precise milibar control.

- OPTIONS:**
- Gauge connection on body.
 - Top cap (adjustment screw with cover).
 - External sensing line connection.
 - Low pressure diaphragm.
 - Dome-loading.
 - Bar stock stainless steel construction.

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

- AVAILABLE MODELS:** P7SS – stainless steel, diaphragm sensing.

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

- CONNECTIONS:** Female threaded ISO 7 Rp or NPT.

- INSTALLATION:** Horizontal installation.
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	P7SS
Body design conditions	PN 40
Maximum upstream pressure (steam)	25 bar
Maximum upstream pressure (gases)	31 bar
Maximum downstream pressure	17 bar
Minimum downstream pressure *	0,35 bar
Maximum operating temperature **	300 °C

* 0,07 bar with low pressure diaphragm (limited at 7 bar inlet). The low pressure diaphragm should be fitted for outlet pressures from 0,07 up to 0,5 bar.

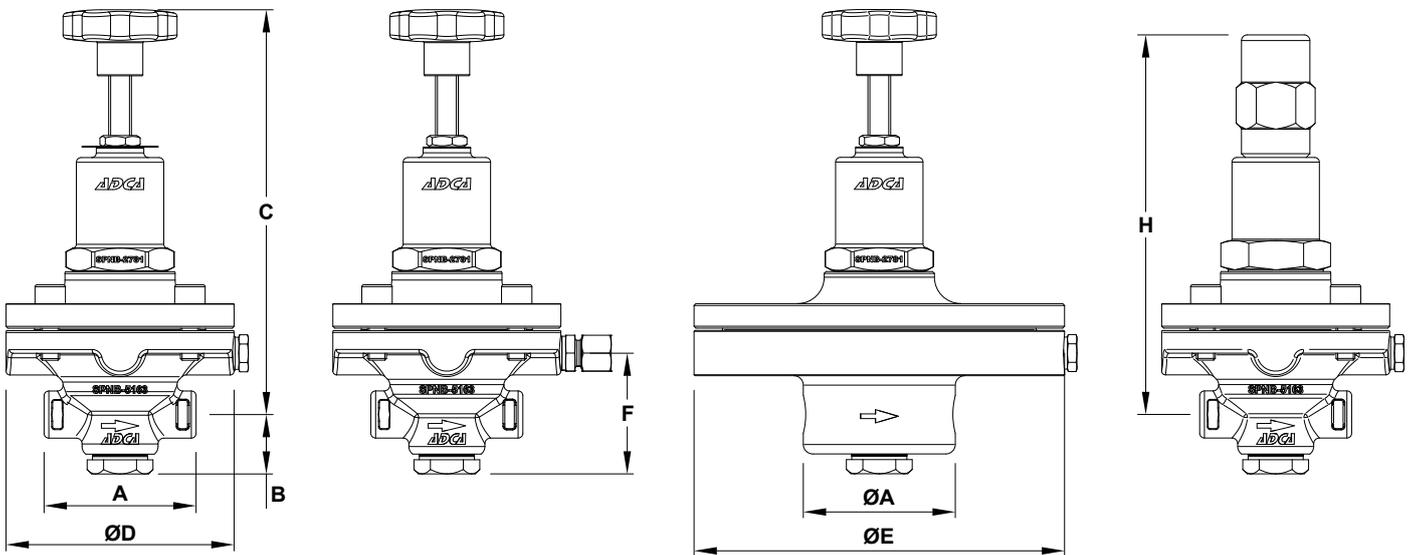
** See "Ordering Codes" table for restrictions.

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

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.

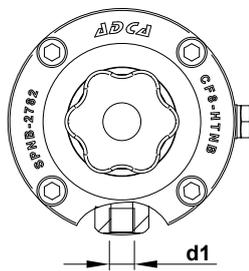
OPTIONS				
LOW PRESSURE DIAPHRAGM	DOME-LOADING	TOP CAP	GAUGE CONNECTION	EXTERNAL SENSING LINE CONNECTION



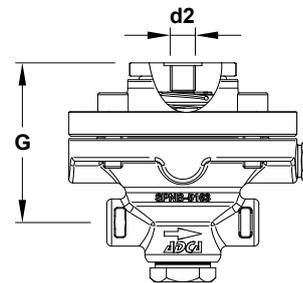
Optional external sensing line connection

Optional low pressure diaphragm

Optional top cap



Optional gauge connection



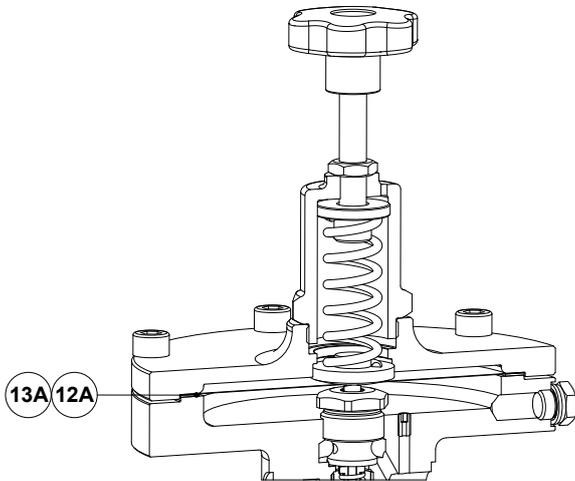
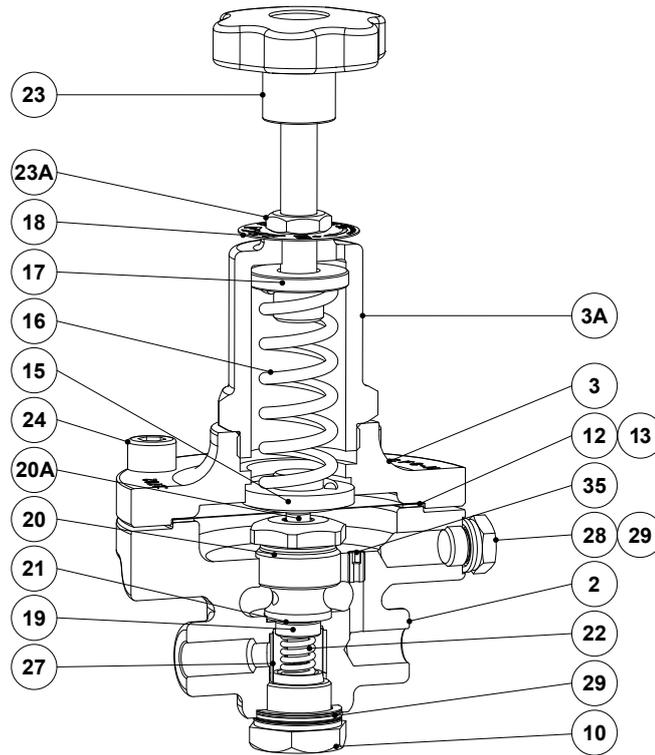
Optional dome-loading

DIMENSIONS (mm)											
SIZE	A	B	C	ØD	d1	d2 **	ØE *	F	G	H	WGT. (kg)
1/4"	80	32	215	120	1/4"	1/4"	195	64	85	202	4,8
3/8"	80	32	215	120	1/4"	1/4"	195	64	85	202	4,8

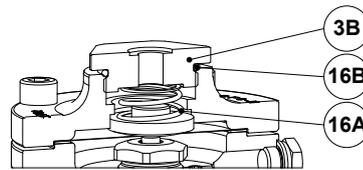
* Low pressure diaphragm (bar stock construction); ** Optional pressure gauge connections.

Remark: All optional threaded connections are supplied in accordance with the main connections.

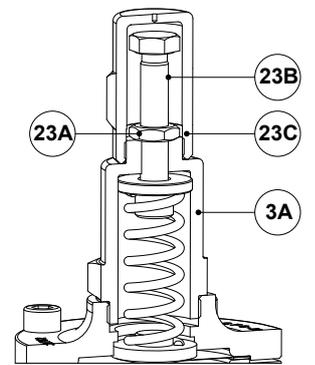
MATERIALS



Optional low pressure diaphragm



Optional dome-loading



Optional top cap

MATERIALS

POS. No.	DESIGNATION	MATERIAL
2	Pilot valve body	A351 CF8 / 1.4308
3	Top cover	A351 CF8 / 1.4308
3A	Spring cover	A351 CF8 / 1.4308
3B	Dome-loading cover	AISI 316 / 1.4401
10	Bottom cover	A351 CF8M / 1.4408
12	* Diaphragm	AISI 301 / 1.4310
12A	* Low pressure diaphragm	AISI 301 / 1.4310
13	* Diaphragm gasket	Stainless steel / Graphite
13A	* Low pressure diaphragm gasket	Stainless steel / Graphite
15	Lower spring carrier	Brass
16	* Adjustment spring	Steel
16A	Diaphragm spring	Stainless steel
16B	O-ring	FPM
17	Top spring carrier	Brass
18	Spring identification plate	Aluminium
19	* Pilot valve plug	AISI 316 / 1.4401
20	* Pilot valve seat	AISI 316 / 1.4401
20A	Pushrod	AISI 316 / 1.4401
21	* Pilot valve gasket	Copper
22	* Pilot valve spring	AISI 302 / 1.4300
23	Adjustment knob	Plastic / Stainless steel
23A	Lock nut	AISI 304 / 1.4301
23B	Bolt	Stainless steel A2-70
23C	Cover	AISI 303 / 1.4305
24	Bolt	ISO 3506 stainless steel
27	* Pilot valve strainer	AISI 304 / 1.4301
28	Strainer nut	AISI 304 / 1.4301
29	Gasket	Copper
35	Restrictor	Stainless steel A2-70

* Available spare parts.

ORDERING CODES P7										
VALVE MODEL	P7SS	.	1	S		S		.	A	08
P7SS – Stainless steel pilot pressure reducing valve	P7SS									
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										
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).

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.: P7SS.1SS.A08 with external sensing line connection.