

## DIAPHRAGM SENSING PRESSURE REDUCING VALVES P20DS

### DESCRIPTION

The ADCA P20DS is a series of direct acting, spring loaded, diaphragm sensing balanced plug pressure reducing valves. These regulators are particularly suitable for general purpose applications where low flow and high temperatures are involved and have been especially designed for use with steam.

### MAIN FEATURES

- Compact design.
- Robust stainless steel diaphragm.
- Non-rising adjustment knob.
- Balanced valve plug.
- Completely machined from solid bar stock material.

- OPTIONS:**
- Leakage line connection.
  - Gauge connection on body.
  - Different soft valves for liquids and gases.
  - Top cap (adjustment screw with cover).
  - Degreased for oxygen application.
  - Connection for external sensing line.
  - Panel mounting.

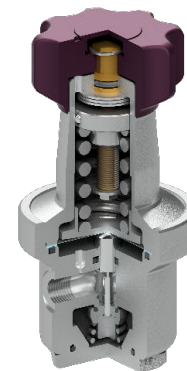
**USE:** Steam, compressed air and other gases compatible with the construction.

**AVAILABLE MODELS:** P20DS – stainless steel, diaphragm sensing.

**SIZES:** 1/4" to 1/2"; DN 15.

**CONNECTIONS:** Female threaded ISO 7 Rp, ISO 228 or NPT.  
Flanged EN 1092-1 PN 40.  
Flanged ASME B16.5 Class 150 or 300.

**INSTALLATION:** Horizontal or vertical installation.  
See IMI – Installation and maintenance instructions.



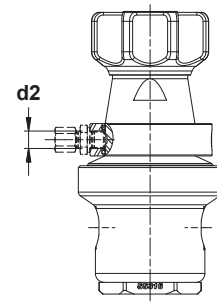
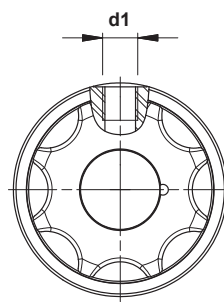
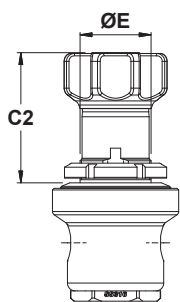
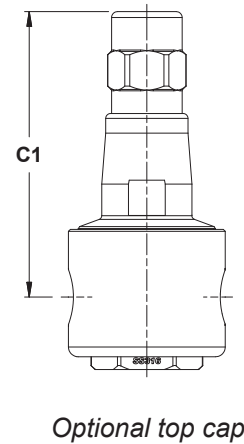
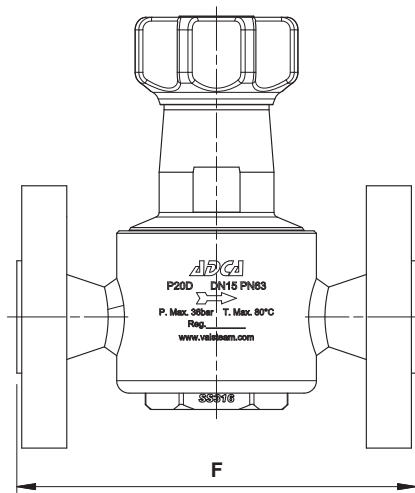
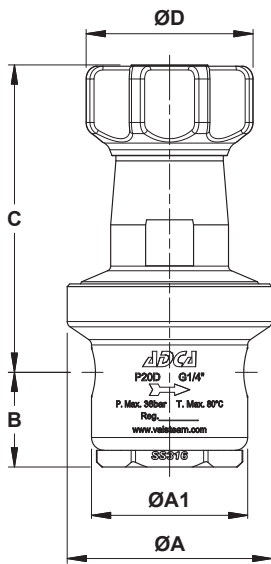
CE MARKING – GROUP 2 (PED – European Directive)	
PN 25	Category
1/4" to 1/2" – DN 15	SEP

FLOW RATE COEFFICIENTS (m³/h)			
SIZE	1/4"	3/8"	1/2" – DN 15
Kvs	1,2	1,8	1,8

LIMITING CONDITIONS			
Valve model	P20DS		
Body design conditions	Cl. 150	Cl. 300	PN 40
Max. upstream pressure	14 bar	14 bar	14 bar
Max. downstream pressure	8 bar		
Min. downstream pressure	0,2 bar		
Max. design temperature	200 °C		
Max. recommended reducing ratio	10:1		

OPTIONS			
PRESSURE GAUGE CONN.	TOP CAP	LEAKAGE LINE CONNECTION *	PANEL MOUNTING

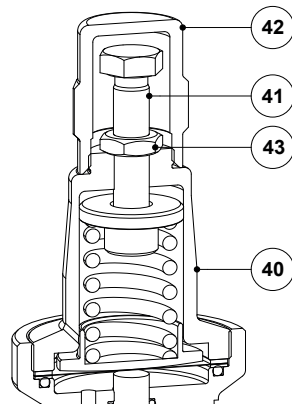
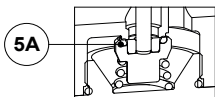
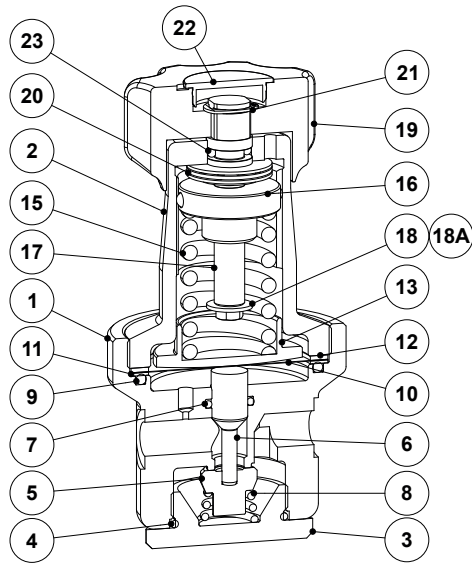
\* Not recommended with medium temperatures higher than 80 °C.



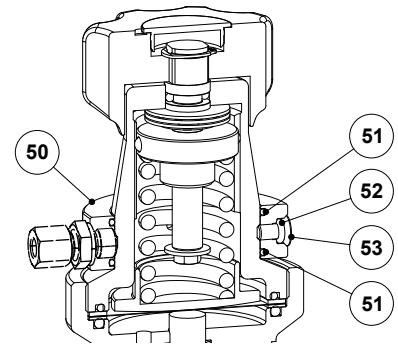
DIMENSIONS (mm)																		
SIZE	THREADED											PN 40		CLASS 150		CLASS 300		
	ØA	ØA1	B	C	C1	C2	ØD	ØE	d1	d2	WGT. (kg)	F *	WGT. (kg)	F *	WGT. (kg)	F *	WGT. (kg)	
1/4"	80	61	37	120	146	83	69	45	1/4"	1/8"	2,3	-	-	-	-	-	-	
3/8"	80	61	37	120	146	83	69	45	1/4"	1/8"	2,3	-	-	-	-	-	-	
1/2" – DN 15	80	80	37	120	146	83	69	45	1/4"	1/8"	2,9	150	4,4	160	3,9	170	4,5	

\* Different face to face dimensions on request.

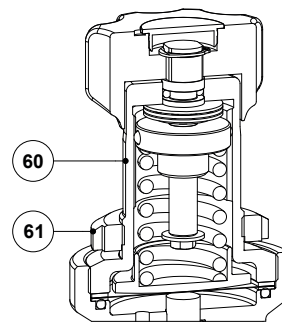
Remarks: As standard, in versions manufactured with EN 1092-1 flanges or ISO threads, connections d1 and d2 are female threaded ISO 228. In versions with ASME B16.5 flanges or NPT threads, these connections are female threaded NPT.



Optional top cap



Optional leakage line connection



Optional panel mounting version

MATERIALS		
POS. N°	DESIGNATION	MATERIAL
1	Valve body	AISI 316 / 1.4401
2	Cover	AISI 316 / 1.4401
3	Bottom cover	A351 CF8M / 1.4408
5	* Valve head	AISI 316 / 1.4401
5A	* O-ring	** NBR; EPDM; PTFE; FPM
6	* Piston	AISI 316 / 1.4401
7	* Piston o-ring	** FPM
8	Valve spring	AISI 302 / 1.4300
10	* Diaphragm	AISI 301 / 1.4410
11	* O-ring	** FPM
12	Gasket	Aluminium
13	Spring plate	AISI 304 / 1.4301
15	* Adjustment spring	AISI 302 / 1.4300
16	Spring guide	AISI 316 / 1.4401
17	Adjustment screw	Brass
18	Washer	Stainless steel A2
18A	Bolt	Stainless steel A2-70
19	Adjustment knob	Painted aluminium
20	Bearing	Corrosion resistant steel
21	Shaft ring	Stainless steel

MATERIALS		
POS. N°	DESIGNATION	MATERIAL
22	Cover nut	Plastic
23	* O-ring	NBR
40	Cover	AISI 316L / 1.4404
41	Adjustment screw	Stainless steel A2-70
42	Top cap	AISI 316L / 1.4404
43	Locknut	Stainless steel A2
50	Leakage line ring	AISI 316L / 1.4404
51	O-ring	** NBR
52	O-ring	** FPM
53	Bolt	AISI 304 / 1.4301
54	O-ring	** FPM
60	Cover for panel mounting	AISI 316L / 1.4404
61	Panel mounting ring	A351 CF8 / 1.4308

\* Available spare parts. \*\* Others on request.

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

ORDERING CODES P20DS											
<b>Valve model</b>	P20DS	.	1	S	N	S	4	.	B	08	
P20DS – diaphragm sensing pressure reducing valve	P20DS										
<b>Regulating range</b>											
N°1 – 0,2 to 1,5 bar			1								
N°2 – 0,3 to 3 bar			2								
N°3 – 0,8 to 8 bar			3								
<b>Application</b>											
Steam				S							
Gases				G							
Oxygen (degreased)				O							
<b>Seal material a)</b>											
NBR					N						
EPDM					E						
PTFE					T						
FPM / Viton					V						
<b>Diaphragm</b>											
Stainless steel						S					
<b>Gauge port options</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							2				
<b>Pipe connection</b>											
Female threaded ISO 7 Rp (non-standard)									A		
Female threaded ISO 228									B		
Female threaded NPT ASME B1.20.1									C		
Flanged EN 1092-1 PN 40									N		
Flanged ASME B16.5 Class 150									U		
Flanged ASME B16.5 Class 300									V		
<b>Size</b>											
1/4"										08	
3/8"										10	
1/2"										15	
<b>Special valves / Extras</b>											
Full description or additional codes have to be added in case of non-standard combination.											E

(1) Omitted if a standard valve is requested.

a) Valve head only. Remaining valve seals on request. Valve limited to the materials maximum operating temperature. Contact manufacturer for more details.

Remark: Options not mentioned in the ordering codes table must be requested separately, e.g.: P20DS.1SNS4.B08 with top cap and panel mounting.