

## PISTON SENSING PRESSURE SUSTAINING VALVES PS31SS (1/2" to 1" – DN 15 to DN 25)

### DESCRIPTION

The ADCA PS31SS is a series of direct acting, spring-loaded, piston sensing pressure sustaining valves.

These regulators are designed for use with compressed air, water and other gases and liquids compatible with the construction materials and valve design.

They are suitable for pressure sustaining applications at the point of use in laundry and dyeing machines, food industries, sterilizers, etc.

### MAIN FEATURES

Compact design.

Full stainless steel construction.

Various sealing options to meet compatibility requirements.

**OPTIONS:** Gauge connection on body.  
Different soft sealings for liquids and gases.  
Top cap (adjustment screw with cover).  
Degreased for oxygen application.

**USE:** Compressed air, water and other gases and liquids compatible with the construction.

**AVAILABLE MODELS:** PS31SS – stainless steel, piston sensing.

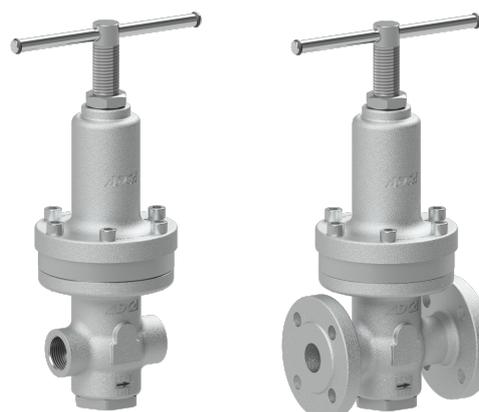
**SIZES:** 1/2" to 1"; DN 15 to DN 25.

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

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



1/2" to 3/4" – DN 15 to DN 20



1" – DN 25



1/2" to 3/4"  
DN 15 to DN 20

1" – DN 25

#### LIMITING CONDITIONS

VALVE MODEL	PS31SS			
Body design conditions	Class 150	Class 300	PN 40	PN 63 *
Maximum upstream pressure	50 bar			
Minimum upstream pressure	3 bar			
Maximum design temperature	80 °C			

\* Rating PN 63 for threaded versions.

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

#### FLOW RATE COEFFICIENTS (m<sup>3</sup>/h)

SIZE	1/2" – DN 15	3/4" – DN 20	1" – DN 25
Kvs	3	3,5	7,5

#### CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)

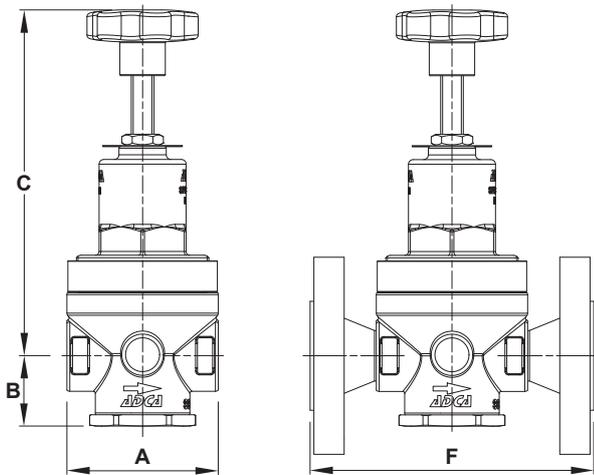
PN 63	CATEGORY
1/2" to 1" – DN 15 to 25	SEP

OPTIONS

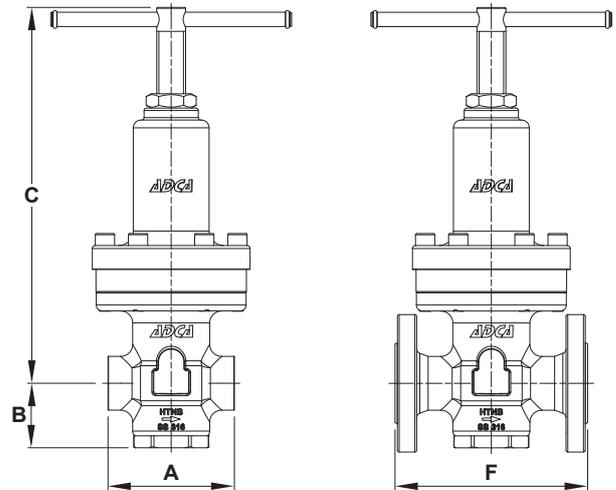
GAUGE CONNECTION



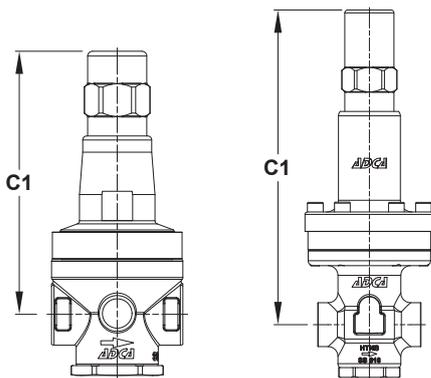
TOP CAP



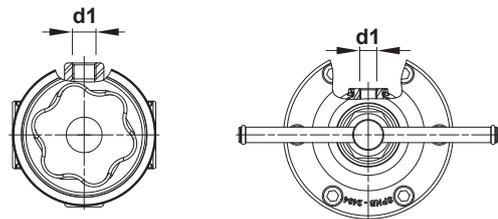
1/2" and 3/4" – DN 15 and DN 20



1" – DN 25



Optional top cap



Optional gauge connection

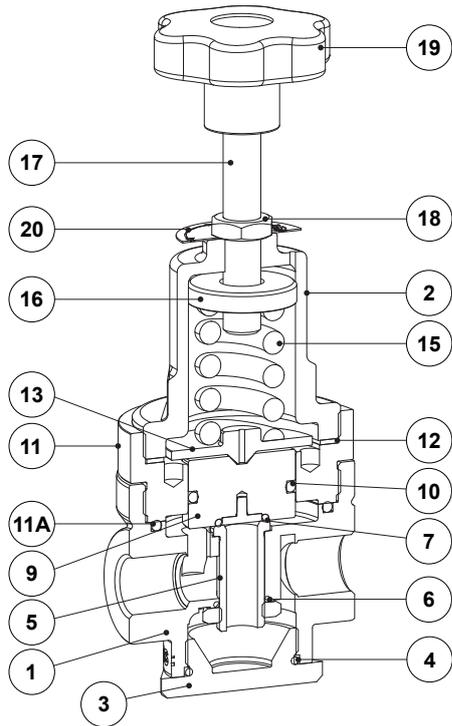
DIMENSIONS (mm)

SIZE	THREADED						PN 40		CLASS 150		CLASS 300	
	A	B	C	C1	d1	WEIGHT (kg)	F *	WEIGHT (kg)	F *	WEIGHT (kg)	F *	WEIGHT (kg)
1/2" – DN 15	80	38	183	162	1/4"	2,8	150	4,3	150	3,6	150	4,6
3/4" – DN 20	80	38	183	162	1/4"	2,7	150	4,8	150	4	150	5
1" – DN 25	105	54	309	323	1/4"	8,8	160	11,5	230	10,7	230	11,9

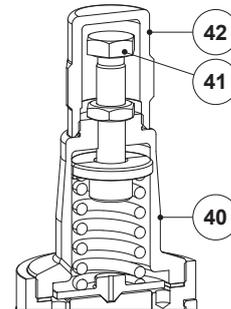
\* Different face to face dimensions on request.

Remarks: As standard, in versions manufactured with EN 1092-1 flanges or ISO 7 Rp threads, connection d1 is female threaded ISO 228. In versions with ASME B16.5 flanges or NPT threads, this connection is female threaded NPT.

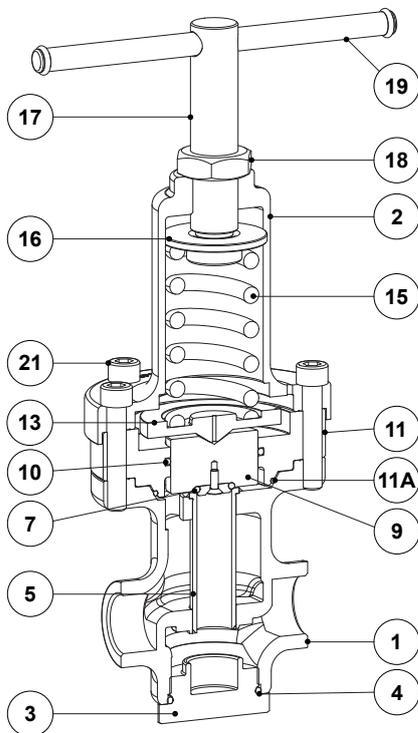
MATERIALS



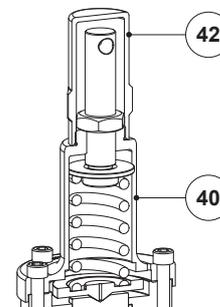
1/2" and 3/4" – DN 15 and DN 20



Optional top cap



1" – DN 25



Optional top cap

**MATERIALS**

POS. No.	DESIGNATION	MATERIAL
1	Valve body	A351 CF8M / 1.4408
2	Spring cover	A351 CF8M / 1.4408
3	Bottom cover	A351 CF8M / 1.4408
4	* O-ring	** NBR; EPDM; PTFE; FPM
5	Valve seat	AISI 316 / 1.4401
6	* O-ring	** NBR; EPDM; PTFE; FPM
7	Valve seal	** NBR; EPDM; PTFE; FPM
9	Piston	AISI 316 / 1.4401
10	* Piston o-ring	** NBR; EPDM; FPM
11	Piston sleeve	AISI 316 / 1.4401
11A	* O-ring	** NBR; EPDM; PTFE; FPM
12	Gasket	Aluminium
13	Spring plate	AISI 304 / 1.4301
15	* Adjustment spring	AISI 302 / 1.4300
16	Top spring plate	Brass; AISI 316 / 1.4401
17	Adjustment stem	AISI 304 / 1.4301
18	Lock nut	Stainless steel A2-70
19	Ajustment knob	Plastic; AISI 304 / 1.4301
20	Spring identification plate	Aluminium
21	Bolt	Stainless steel A2-70
40	Cover	A351 CF8M / 1.4408; AISI 316L / 1.4404
41	Adjustment screw	Stainless steel A2-70
42	Top cap	AISI 316L / 1.4404

\* 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 PS31SS											
<b>VALVE MODEL</b>	PS31	.	5	W	N	C				.	A 15
PS31SS – Piston sensing pressure sustaining valve	PS31										
<b>REGULATING RANGE</b>											
No. 5 – 3 to 30 bar			5								
No. 6 – 5 to 50 bar			6								
<b>APPLICATION</b>											
Water				W							
Gases				G							
Oxygen (degreased)				O							
<b>VALVE SEALING</b>											
NBR					N						
EPDM					E						
PTFE (a)					T						
FPM					V						
<b>MAXIMUM INLET PRESSURE</b>											
30 bar						C					
50 bar						D					
<b>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							2				
<b>TOP CAP AND RELIEVING</b>											
Non-relieving							(1)				
Non-relieving with top cap (adjustment screw with cover)							T				
<b>PIPE CONNECTIONS</b>											
Female threaded ISO 7 Rp										A	
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>											
1/2" or DN 15											15
3/4" or DN 20											20
1" or DN 25											25
<b>SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS</b>											
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) All seals except piston o-ring, which is supplied in FPM or others on request.