

SANITARY PRESSURE SUSTAINING VALVES PS161

DESCRIPTION

The ADCAPure PS161 is a series of angle design direct acting diaphragm sensing pressure sustaining valves. These regulators, available with spring or dome-loading, are designed for use with clean steam, compressed air, water and other gases or liquids compatible with the construction materials and valve design.

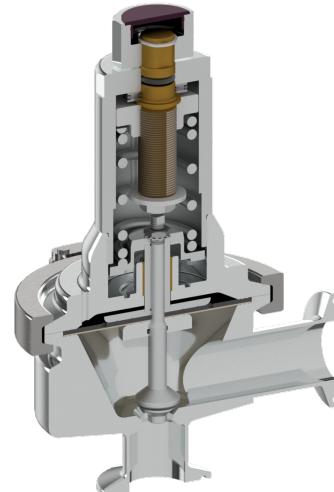
MAIN FEATURES

- Spring or dome-loading.
- Non-rising adjustment knob.
- Compact design with clamped body.
- Available with low pressure diaphragm.
- FDA / USP Class VI compliant seals.
- Completely machined from bar stock material, no castings or forgings are used.



STANDARD SURFACE FINISH

Internal wetted parts: $\leq 0,51 \mu\text{m}$ Ra – SF1.
External: $\leq 0,76 \mu\text{m}$ Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.



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

USE: Clean steam, compressed air, water and other gases and liquids compatible with the construction.

AVAILABLE MODELS: PS161.

SIZES: 1/2" to 2"; DN 15 to DN 50.

REGULATING RANGES: 0,8 to 1,5 bar; 1 to 3 bar; 1,5 to 8 bar.

CONNECTIONS: ASME BPE, DIN and ISO clamp ferrules or tube weld (ETO) ends.
Others on request.

PACKAGING: Assembling and packaging in a clean room certified according to ISO 14644-1.
The product is end capped and sealed with recyclable thermo-shrinkable plastic film, to avoid contamination.

INSTALLATION: Horizontal installation. Horizontal inlet and vertical outlet.
See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	CATEGORY
1/2" to 2" – DN 15 to 50	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum upstream pressure	8 bar
Minimum upstream pressure	0,8 bar
Maximum operating temperature **	180 °C

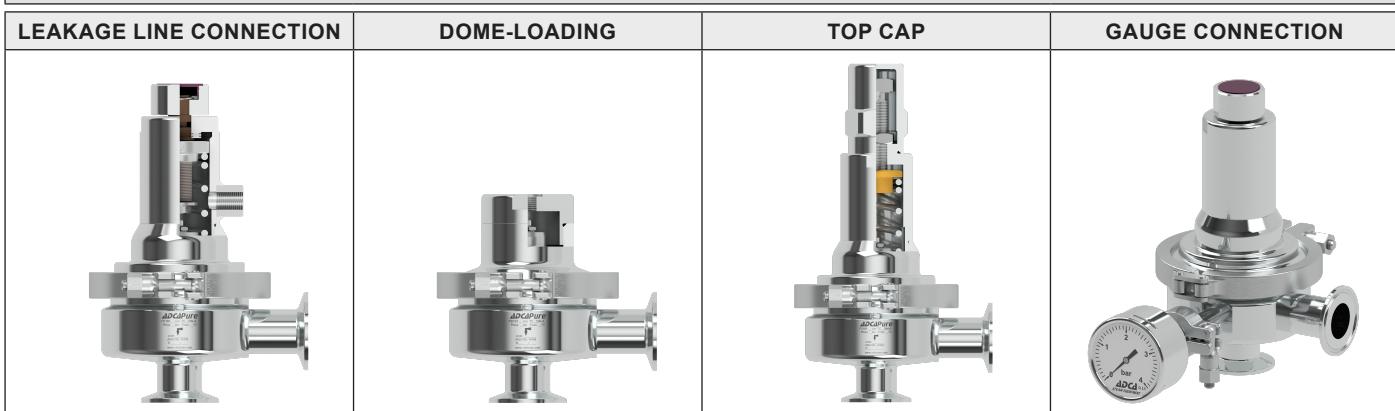
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.

** See "Ordering Codes" table for restrictions.

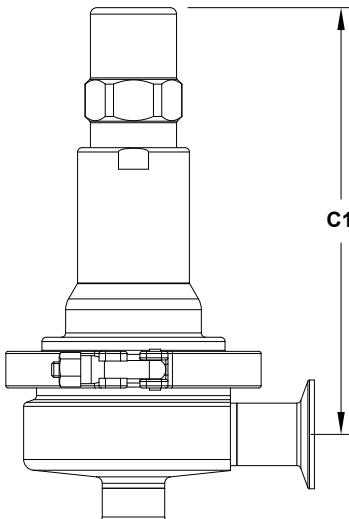
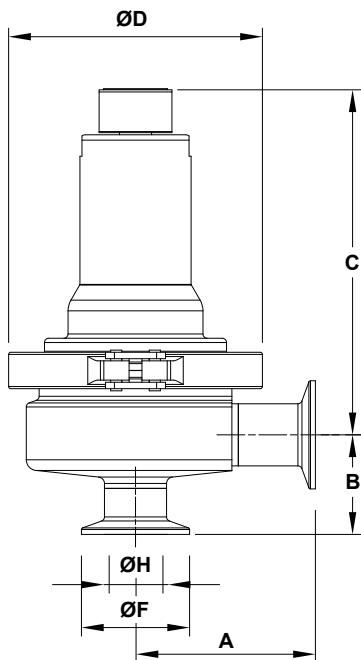
FLOW RATE COEFFICIENTS (m³/h)

SIZE	ASME BPE					DIN						ISO				
	1/2"	3/4"	1"	1 1/2"	2"	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 15	DN 20	DN 25	DN 32	DN 40
Kvs	1,3	3	4,2	7	13	2,1	3	4,2	4,2	7	13	2,1	4,2	4,2	7	7

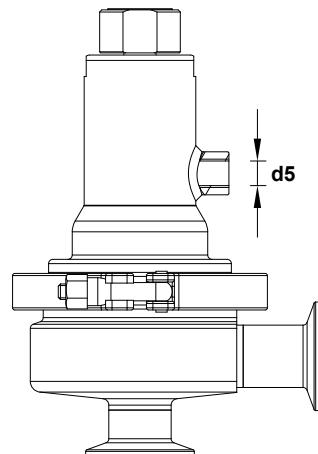
OPTIONS



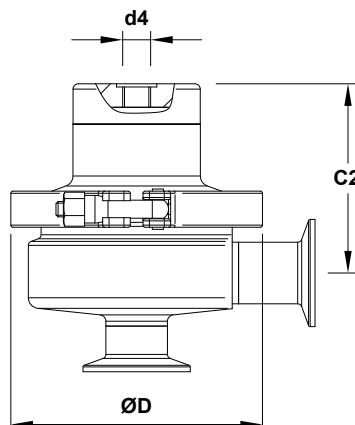
DIMENSIONS



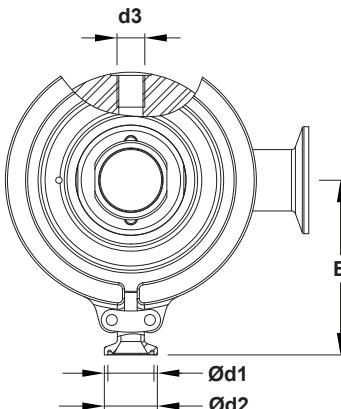
Optional top cap



Optional leakage line connection



Optional dome-loading



Optional gauge connection

DIMENSIONS – ASME BPE (mm)

SIZE	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	WGT. (kg)
1/2"	77	53	156	203	84	119	25	15,75	1/4"	1/4"	1/4"	83	25	9,4	4,1
3/4"	77	56	160	207	88	119	25	15,75	1/4"	1/4"	1/4"	83	25	15,8	4,4
1"	77	52	163	210	91	119	25	15,75	1/4"	1/4"	1/4"	83	50,4	22,1	4,6
1 1/2"	85	61	204	257	124	134	25	15,75	1/4"	1/4"	1/4"	96	50,4	34,8	8
2"	85	67	207	254	127	134	25	15,75	1/4"	1/4"	1/4"	96	63,9	47,5	8,6

DIMENSIONS – DIN (mm)

SIZE	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	WGT. (kg)
DN 15	77	45	160	207	88	119	25	15,75	1/4"	1/4"	1/4"	83	34	16	4,4
DN 20	77	40	158	205	86	119	25	15,75	1/4"	1/4"	1/4"	83	34	20	4,3
DN 25	84	47	161	208	89	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	26	4,6
DN 32	84	50	163	210	91	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	32	4,8
DN 40	93	69	202	249	122	134	25	15,75	1/4"	1/4"	1/4"	96	50,5	38	8
DN 50	93	75	206	253	126	134	25	15,75	1/4"	1/4"	1/4"	96	64	50	8,6

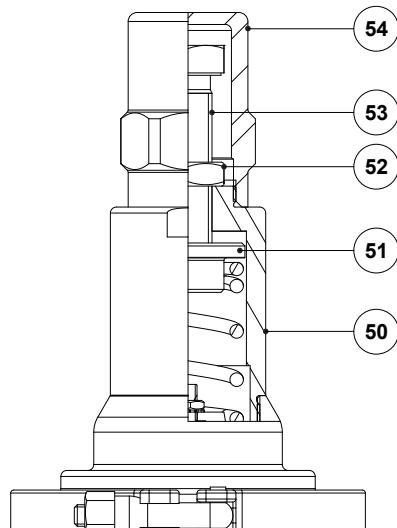
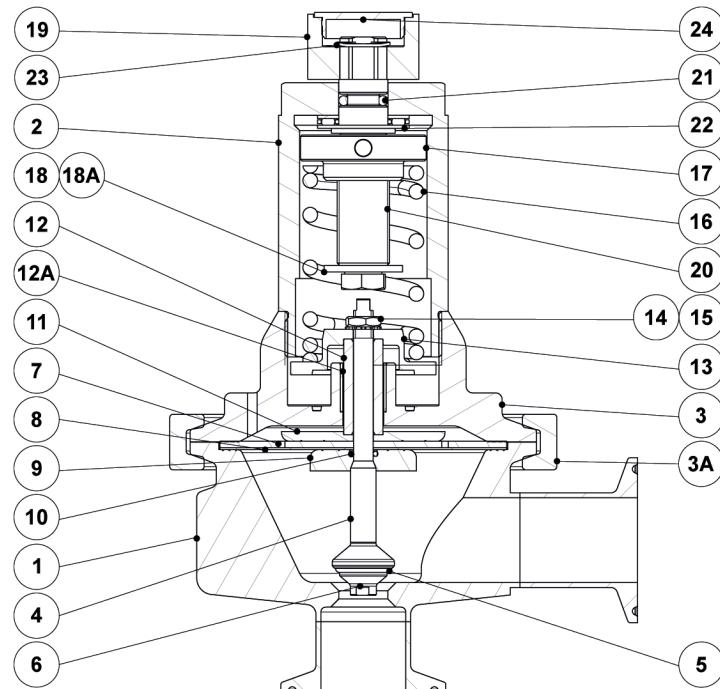
Remarks: Clamp ferrules according to DIN 32676-A. Tube weld (ETO) according to DIN 11866-A (DIN 11850-2).

DIMENSIONS – ISO (mm)

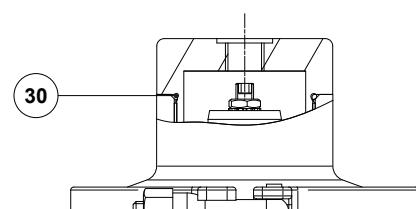
SIZE	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	WGT. (kg)
DN 15	84	43	159	206	87	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	18,1	4,4
DN 20	84	46	162	209	90	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	23,7	4,6
DN 25	84	49	164	211	92	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	29,7	4,8
DN 32	93	70	202	249	122	134	25	15,75	1/4"	1/4"	1/4"	96	64	38,4	8,2
DN 40	93	75	206	253	126	134	25	15,75	1/4"	1/4"	1/4"	96	64	44,3	8,8

Remarks: Clamp ferrules according to DIN 32676-B. Tube weld (ETO) according to DIN 11866-B (ISO 1127).

MATERIALS



Optional top cap



Optional dome-loading

MATERIALS		
POS. No.	DESIGNATION	MATERIAL
1	Valve body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	Intermediate flange	AISI 316L / 1.4404
3A	Clamp	AISI 316 / 1.4401
4	* Valve stem	AISI 316L / 1.4404
5	* Valve seal	** EPDM; PTFE; FPM
6	* Valve plug	AISI 316L / 1.4404
7	* Upper diaphragm	EPDM
8	* Lower diaphragm	PTFE (Gylon)
9	Lower diaphragm plate	AISI 316L / 1.4404
10	* O-ring	** EPDM; PTFE; FPM
11	Upper diaphragm plate	AISI 316L / 1.4404
12	Stem guide	AISI 316L / 1.4404
12A	Plain bearing	Bronze
13	Spring plate	AISI 316L / 1.4404
14	Nut	Stainless steel A2-70
15	* Washer	Stainless steel A2
16	* Adjustment spring	AISI 302 / 1.4300
17	Top spring plate	AISI 316L / 1.4404
18	Washer	Stainless steel A2
18A	Bolt	Stainless steel A2-70
19	Adjustment knob	AISI 316L / 1.4404
20	Adjustment screw	Brass
21	O-ring	NBR
22	Bearing	Corrosion resistant steel
23	Shaft ring	Stainless steel
24	Cover nut	Plastic
30	* O-ring	EPDM
50	Cover	AISI 316L / 1.4404
51	Spring guide	Brass
52	Lock nut	Stainless steel A2-70
53	Adjustment screw	Stainless steel A2-70
54	Top cap	AISI 316L / 1.4404

* Available spare parts. ** Others on request.

Remarks: FDA / USP Class VI seals certificate on request.

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

ORDERING CODES PS161														
VALVE MODEL	PS16	1	4	1	T	M	I	X	X	X	X	DI	15	
PS161 – AISI 316L / 1.4404 diaphragm sensing pressure sustaining valve	PS16													
VALVE SERIES														
Series 1		1												
REGULATING RANGE														
0,8 to 1,5 bar		4												
1 to 3 bar		5												
1,5 to 8 bar		6												
0,8 to 8 bar (dome-loading) (a)		A												
FLOW RATE COEFFICIENT														
Kvs 1,3 (only applicable to ASME BPE 1/2" size)		1												
Kvs 2,1 (applicable to sizes DIN DN 15 and ISO DN 15)		2												
Kvs 3 (applicable to sizes ASME BPE 3/4" and DIN DN 20)		3												
Kvs 4,2 (applicable to sizes ASME BPE 1", DIN DN 25 to DN 32 and ISO DN 20 to DN 25)		4												
Kvs 7 (applicable to sizes ASME BPE 1 1/2", DIN DN 40 and ISO DN 32 to DN 40)		6												
Kvs 13 (applicable to sizes ASME BPE 2" and DIN DN 50)		8												
DIAPHRAGM														
PTFE (Gylon)		T												
EPDM (non-standard) – Tmax 150 °C		E												
VALVE SEALING (b)														
Metal to metal (non-standard, except in ASME BPE 1/2" size)		M												
EPDM – Tmax 150 °C (180 °C with steam and hot water)		E												
PTFE		T												
FPM / Viton (USP Class VI on request)		V												
ADJUSTMENT KNOB, TOP CAP AND LEAKAGE LINE CONNECTION														
Stainless steel adjustment knob		I												
Top cap (adjustment screw with cover)		T												
Stainless steel adjustment knob w/ ISO 228 G 1/4" leakage line connection		L												
Stainless steel adjustment knob w/ 1/4" NPT leakage line connection		M												
Top cap (adjustment screw with cover) w/ ISO 228 G 1/4" leakage line connection		U												
Top cap (adjustment screw with cover) w/ 1/4" NPT leakage line connection		V												
Dome-loading – ISO 228 G 1/4" (c)		X												
Dome-loading – 1/4" NPT (c)		C												
GAUGE CONNECTIONS														
Without gauge connections		X												
Tri-clamp gauge connection on the left side (relative to flow direction) – downstream pressure		7												
Tri-clamp gauge connection on the right side (relative to flow direction) – downstream pressure		6												
Tri-clamp gauge connections on both sides – downstream pressure		5												
Threaded gauge connection on the left side (relative to flow direction) – downstream pressure – ISO 228 G 1/4"		4												
Threaded gauge connection on the right side (relative to flow direction) – downstream pressure – ISO 228 G 1/4"		3												
Threaded gauge connections on both sides – downstream pressure – ISO 228 G 1/4"		2												
Threaded gauge connection on the left side (relative to flow direction) – downstream pressure – 1/4" NPT		W												
Threaded gauge connection on the right side (relative to flow direction) – downstream pressure – 1/4" NPT		Y												
Threaded gauge connections on both sides – downstream pressure – 1/4" NPT		Z												
SURFACE FINISH (d)														
Standard surface finish		X												
Mirror mechanical polished external surfaces (SF1)		P												
Electropolished internal wetted parts (SF5)		E												
SPECIAL FEATURES														
None		X												
Degreased for oxygen		O												
PIPE CONNECTIONS														
Clamp ferrule ASME BPE		D												
Clamp ferrule DIN (DIN 32676-A)		F												
Clamp ferrule ISO (DIN 32676-B)		E												
Tube weld (ETO) according to ASME BPE		DI												
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)		FI												
Tube weld (ETO) according to DIN 11866-B (ISO 1127)		EI												
SIZE														
1/2" or DN 15		15												
3/4" or DN 20		20												
1" or DN 25		25												
DN 32		32												
11/2" or DN 40		40												
2" or DN 50		50												
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS														
Full description or additional codes have to be added in case of a non-standard combination		E												
(a) The loading control pressure can be up to a maximum of 0,2 bar above the required upstream pressure. (b) ASME BPE 1/2" size is only available with metal to metal sealing. (c) Mandatory in case of dome-loading. (d) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.														