SANITARY PRESSURE SUSTAINING VALVES
PS161

DESCRIPTION

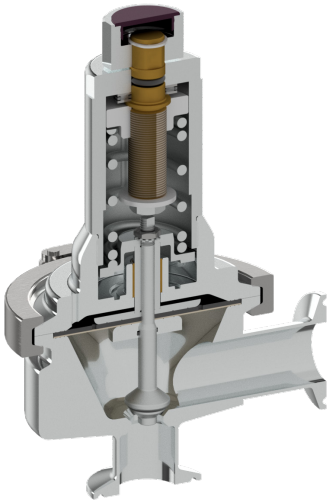
The ADCAPure PS161 is a series of angle design direct acting diaphragm sensing pressure sustaining valves.
These regulators, available with spring or dome-loading, are designed for use with clean steam, compressed air, water and other gases or liquids compatible with the construction materials and valve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

MAIN FEATURES

Spring or dome-loaded.
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: ≤ 0,51 micron Ra – SF1.
External: ≤ 0,76 micron Ra – SF3.
Other surface conditions see IS PV20.00 E – Technical information.
Ultrasonic cleaning.



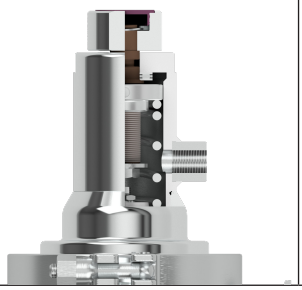
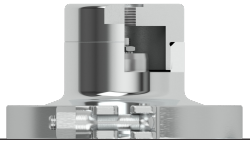
OPTIONS:	Leakage line connection. Dome-loading. Top cap (adjustment screw with cover). Gauge connection on body. Different soft sealings for liquids and gases. Degreased for oxygen application.
USE:	Clean steam, compressed air, water and other gases and liquids compatible with the construction.
AVAILABLE MODELS:	PS161.
SIZES:	1/2" to 2"; DN 15 to 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.

LIMITING CONDITIONS	
Valve model	**PS161**
Body design conditions	PN 16
Maximum upstream pressure	8 bar
Minimum upstream pressure	0,8 bar
Maximum operating temperature *	180 ºC

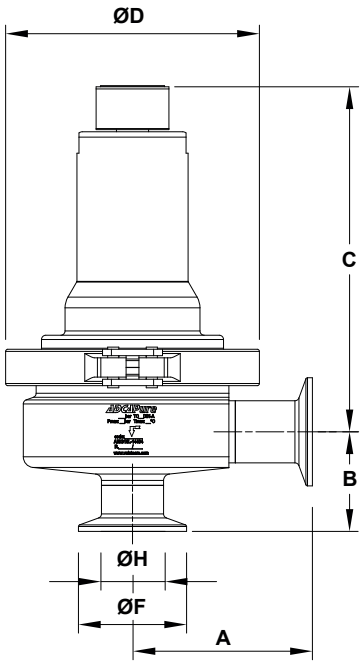
* With PTFE diaphragm and seals. Consult the manufacturer in case of other elastomer materials.

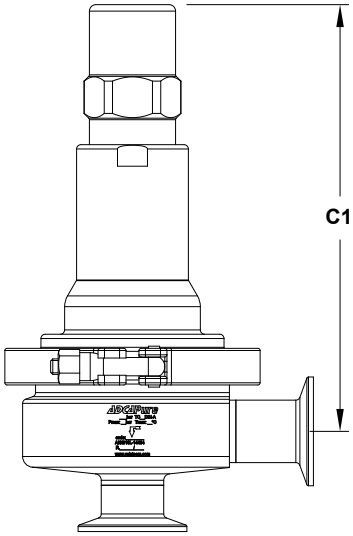
CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
All sizes	SEP

FLOW RATE COEFFICIENTS (m³/h)																
	ASME BPE					DIN						ISO				
SIZE	1/2"	3/4"	1"	11/2"	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

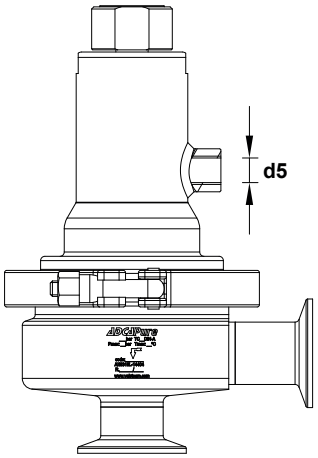
OPTIONS			
LEAKAGE LINE CONNECTION	DOME-LOADING	TOP CAP	PRESSURE GAUGE CONNECTION
			

DIMENSIONS

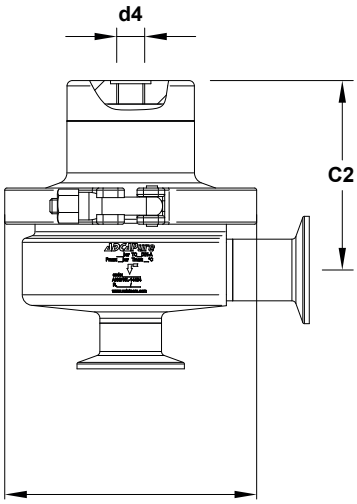




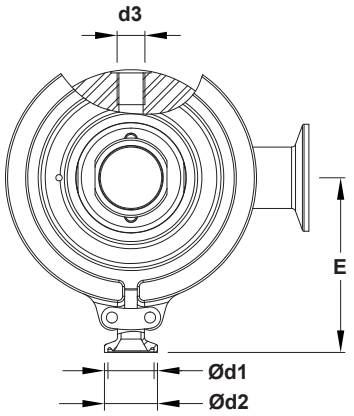
Optional top cap



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	193	84	119	25	15,75	1/4"	1/4"	1/4"	83	25	9,4	4,1
3/4"	77	56	160	197	88	119	25	15,75	1/4"	1/4"	1/4"	83	25	15,75	4,4
1"	77	52	163	200	91	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	22,1	4,6
11/2"	85	61	204	247	124	134	25	15,75	1/4"	1/4"	1/4"	96	50,5	34,8	8
2"	85	67	207	244	127	134	25	15,75	1/4"	1/4"	1/4"	96	64	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	197	88	119	25	15,75	1/4"	1/4"	1/4"	83	34	16	4,4
DN 20	77	40	158	195	86	119	25	15,75	1/4"	1/4"	1/4"	83	34	20	4,3
DN 25	84	47	161	198	89	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	26	4,6
DN 32	84	50	163	200	91	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	32	4,8
DN 40	93	69	202	239	122	134	25	15,75	1/4"	1/4"	1/4"	96	50,5	38	8
DN 50	93	75	206	243	126	134	25	15,75	1/4"	1/4"	1/4"	96	64	50	8,6

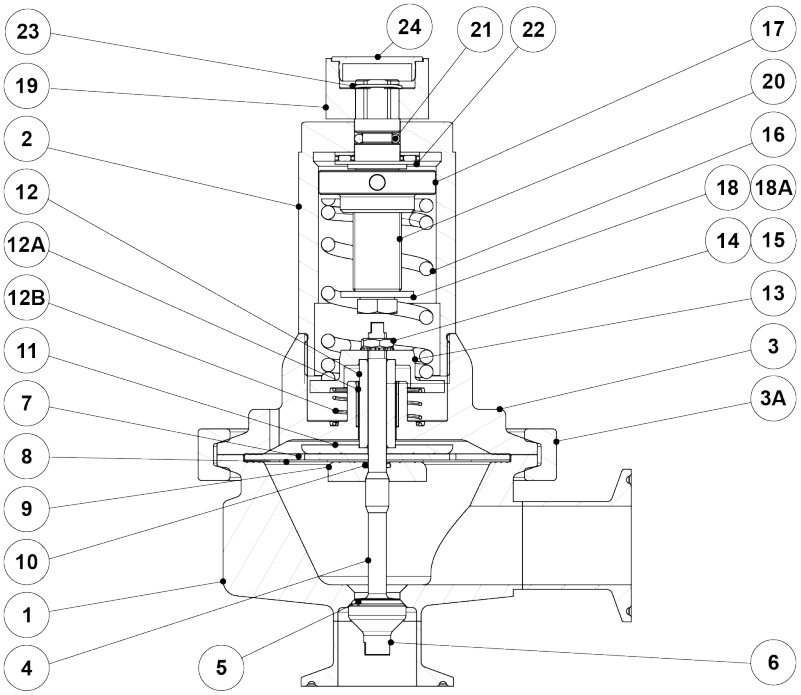
Remarks: Clamp ferrules according to DIN 32676-A. Tube weld (ETO) according to DIN 11866-A (DIN 11850-2).

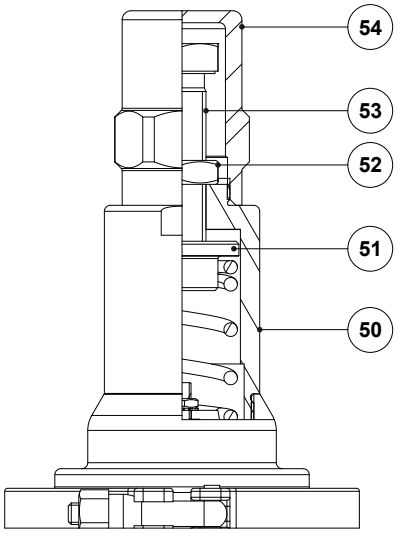
DIMENSIONS – ISO (mm)

SIZE	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	WGT. (kg)
DN 15	84	43	159	196	87	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	18,1	4,4
DN 20	84	46	162	199	90	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	23,7	4,6
DN 25	84	49	164	201	92	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	29,7	4,8
DN 32	93	70	202	239	122	134	25	15,75	1/4"	1/4"	1/4"	96	64	38,4	8,2
DN 40	93	75	206	243	126	134	25	15,75	1/4"	1/4"	1/4"	96	64	44,3	8,8

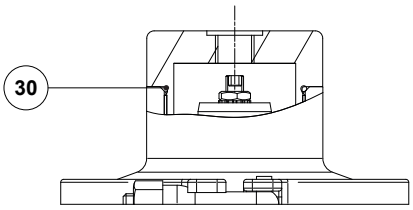
Remarks: Clamp ferrules according to DIN 32676-B. Tube weld (ETO) according to DIN 11866-B (ISO 1127).

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	* Soft plug	** 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
11	Upper diaphragm plate	AISI 316L / 1.4404
12	Stem guide	AISI 316L / 1.4404
12A	Plain bearing	Bronze
12B	Spring	AISI 302 / 1.4300
13	Spring plate	AISI 316L / 1.4404
14	Nut	AISI 304 / 1.4301
15	* Washer	AISI 304 / 1.4301
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.

LRQA CERTIFIED ISO 9001

ORDERING CODES PS161

Valve model	PS16	1	4	1	T	M	I	X	X	X	DI	15	E
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-loaded) **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 11/2", 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)					E								
Seat material b)													
Metal to metal (non-standard, except in ASME BPE 1/2" size)						M							
EPDM						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 port options													
Without gauge ports								X					
Tri-clamp gauge port on the left side (rel. to the flow direction) – upstream pressure								7					
Tri-clamp gauge port on the right side (rel. to the flow direction) – upstream pressure								6					
Tri-clamp gauge port on both sides – upstream pressure								5					
Threaded gauge port on the left side (rel. to the flow direction) – upstream pressure – ISO 228 G 1/4"								4					
Threaded gauge port on the right side (rel. to the flow direction) – upstream pressure – ISO 228 G 1/4"								3					
Threaded gauge port on both sides – upstream pressure – ISO 228 G 1/4"								2					
Threaded gauge port on the left side (rel. to the flow direction) – upstream pressure – 1/4" NPT								W					
Threaded gauge port on the right side (rel. to the flow direction) – upstream pressure – 1/4" NPT								Y					
Threaded gauge port on both sides – upstream 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 valves / Extras													
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 IS PV20.00 – Technical information – for further details and other surface finish options.