

## SANITARY PRESSURE REDUCING VALVES P173

### DESCRIPTION

The ADCAPure P173 is a series of inline direct acting, diaphragm sensing pressure reducing valves.

These spring-loading loaded regulators 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

Compact inline design.

Non-rising adjustment knob.

FDA / USP Class VI compliant seals.

Completely machined from bar stock material, no castings or forgings are used.

### STANDARD SURFACE FINISH

Internal wetted parts:  $\leq 0,51 \mu\text{m Ra} - \text{SF1}$ .

External:  $\leq 0,76 \mu\text{m Ra} - \text{SF3}$ .

Other surface conditions see TIS.GIA – General information ADCAPure.

Ultrasonic cleaning.

**OPTIONS:**

- Leakage line connection.
- Top cap (adjustment screw with cover).
- Gauge connection on body.
- Lock system, allows inline clean-in-place (CIP) and sterilization-in-place (SIP) operations.
- Bottom cover with drain connection.
- 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:** P173.

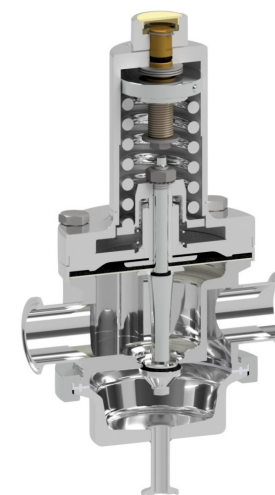
**SIZES:** 1 1/2" and 2"; DN 32 to DN 50.

**REGULATING RANGES:** 0,8 to 1,5 bar; 1 to 3 bar; 1,5 to 5 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.  
See IMI – Installation and maintenance instructions.



CE MARKING – GROUP 2 (PED – European Directive)	
PN 10	Category
1 1/2" and 2" – DN 32 to 50	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum upstream pressure	8 bar
Maximum downstream pressure	5 bar
Minimum downstream pressure **	0,8 bar
Maximum operating temperature ***	180 °C


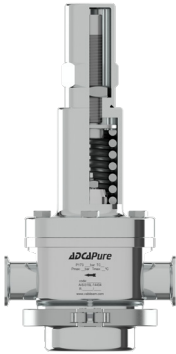



\* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.

\*\* For tight shut off, with adjustment spring relaxed, ensure a minimum downstream pressure of 0,2 bar.

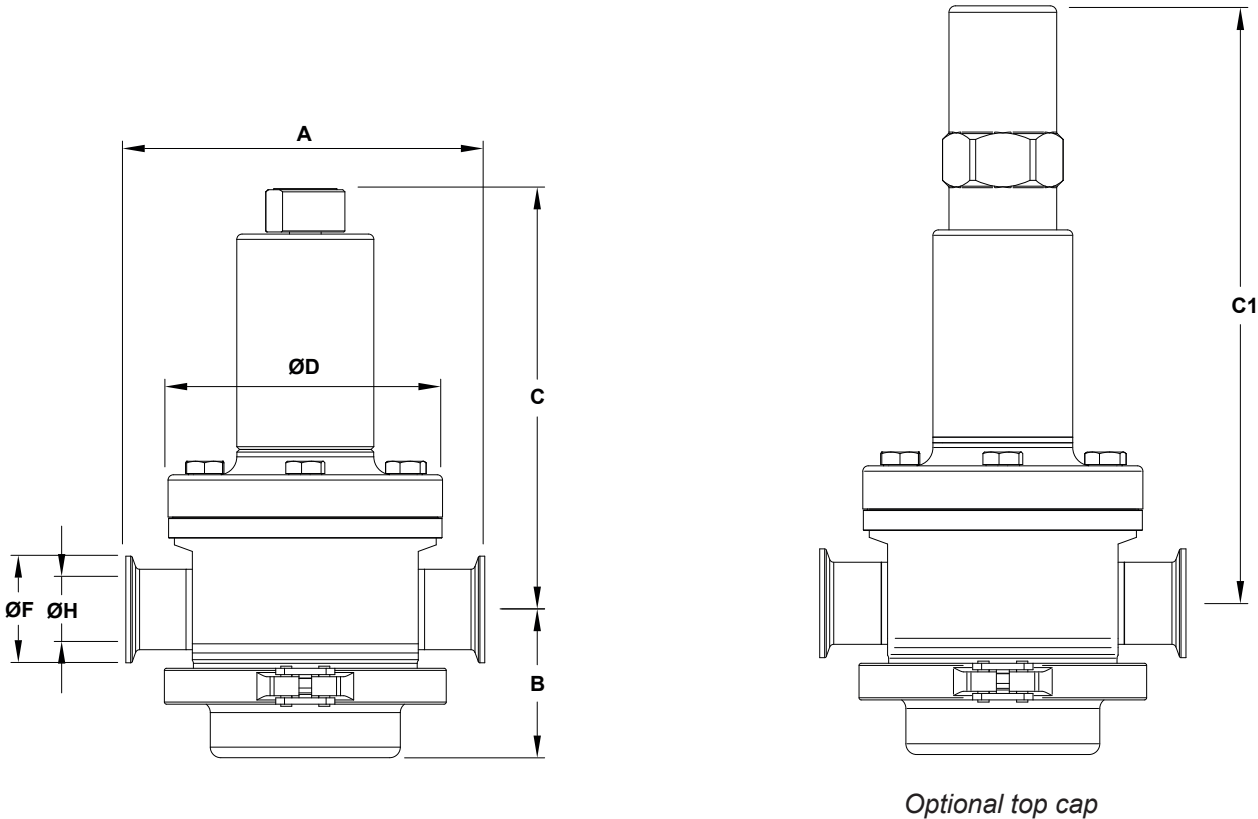
\*\*\* See "Ordering Codes" table for restrictions.

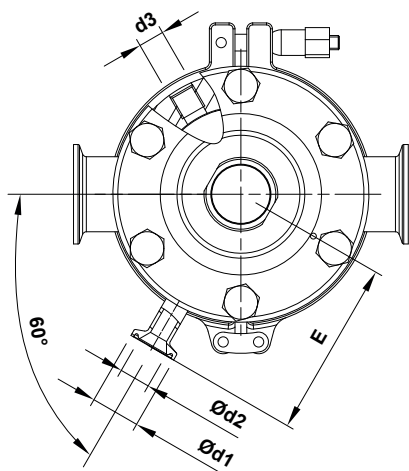
FLOW RATES COEFFICIENTS (m³/h)									
SIZE	BPE			DIN			ISO		
	11/2"	2"	2" *	DN 40	DN 50	DN 50 *	DN 32	DN 40	DN 50
Kvs	5,5	5,5	8,5 *	5,5	5,5	8,5	5,5	5,5	NA

\* Limited to a maximum inlet pressure of 4 bar

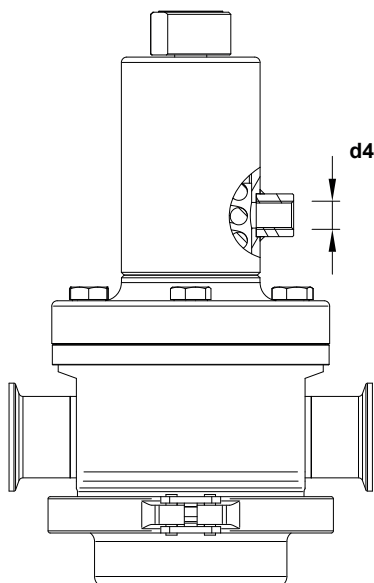
OPTIONS				
LEAKAGE LINE CONNECTION	TOP CAP	GAUGE CONNECTION	LOCK SYSTEM	BOTTOM COVER WITH DRAIN CONNECTION
				

### DIMENSIONS

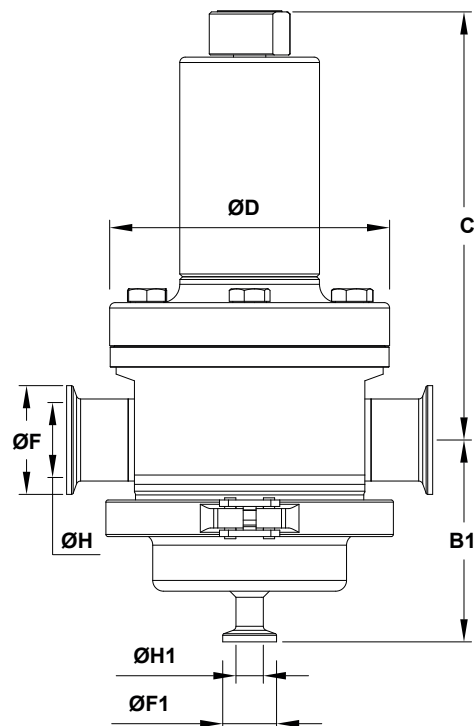




Optional leakage line connection



Optional gauge connection



Optional bottom cover with  
drain connection

**DIMENSIONS – ASME BPE (mm)**

SIZE	A	B	B1	C	C1	ØD	Ød1	Ød2	d3	d4	E	ØF	ØH	ØF1	ØH1	WGT. (kg)
11/2"	170	70	94	199	277	130	25	15,75	1/4"	1/4"	90	50,5	34,8	25	9,4	8,6
2"	170	76	99	205	283	130	25	15,75	1/4"	1/4"	90	64	47,5	25	9,4	8,9

**DIMENSIONS – DIN (mm)**

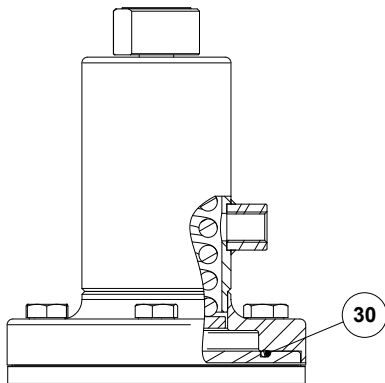
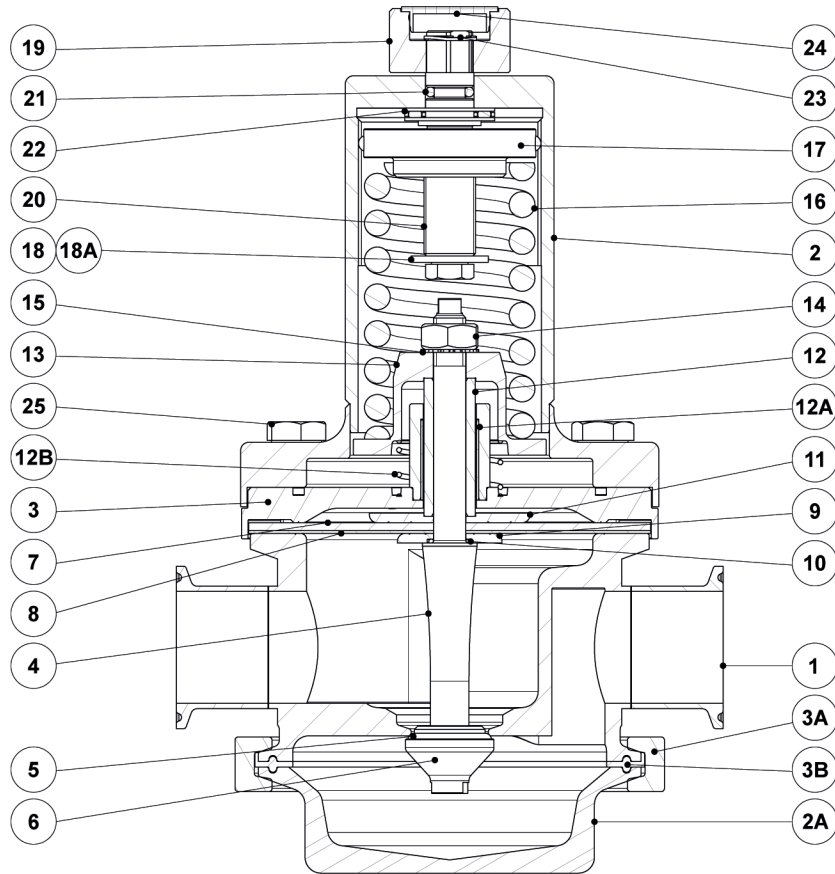
SIZE	A	B	B1	C	C1	ØD	Ød1	Ød2	d3	d4	E	ØF	ØH	ØF1	ØH1	WGT. (kg)
DN 40	170	70	94	199	277	130	25	15,75	1/4"	1/4"	90	50,5	38	34	10	8,6
DN 50	170	76	99	205	283	130	25	15,75	1/4"	1/4"	90	64	50	34	10	8,9

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

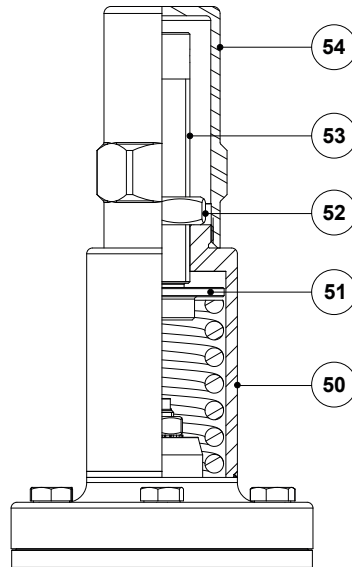
**DIMENSIONS – ISO (mm)**

SIZE	A	B	B1	C	C1	ØD	Ød1	Ød2	d3	d4	E	ØF	ØH	ØF1	ØH1	WGT. (kg)
DN 32	170	70	93	199	277	130	25	15,75	1/4"	1/4"	90	64	38,4	25	10,3	8,6
DN 40	170	76	99	205	283	130	25	15,75	1/4"	1/4"	90	64	44,3	25	10,3	9,2

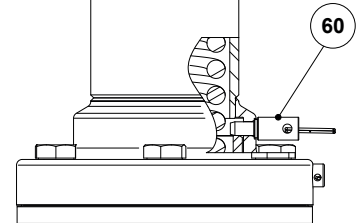
Remarks: Clamp ferrules according to DIN 32676-B. Tube weld (ETO) according to DIN 11866-B (ISO 1127).



Optional leakage line connection



Optional top cap



Optional lock system

MATERIALS		
POS. N°	DESIGNATION	MATERIAL
1	Valve body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
2A	Bottom cover	AISI 316L / 1.4404
3	Intermediate flange	AISI 316L / 1.4404
3A	Clamp	AISI 316 / 1.4401
3B	* Gasket	** PTFE/FPM Envelope
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
12B	Spring	AISI 302 / 1.4300
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
25	Bolt	Stainless steel A2-70
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
60	Locking pin	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 P173

Valve model	P17D	4	4	T	M	I	X	X	X	DI	32	E
P173 – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve with drain	P17D											
P173 – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve without drain	P17											
<b>Regulating range</b>												
0,8 to 1,5 bar		4										
1 to 3 bar		5										
1,5 to 5 bar		6										
<b>Flow rate coefficient</b>												
Kvs 5,5		4										
Kvs 8,5 (only applicable to sizes ASME BPE 2" and DIN DN 50. Limited to a max. 4 bar inlet pressure)		6										
<b>Diaphragm</b>												
PTFE (Gylon)				T								
EPDM (non-standard) – Tmax 150 °C				E								
<b>Valve sealing</b>												
Metal to metal (non-standard)					M							
EPDM – Tmax 150 °C (180 °C with steam and hot water)					E							
PTFE					T							
FPM / Viton (FDA approval only)					V							
<b>Adjustment knob, top cap and leakage line connection</b>												
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						
<b>Gauge connections</b>												
Without gauge connections							X					
Tri-clamp gauge conn. left side (relative to flow direction) – upstream pressure – 1 connection							7					
Tri-clamp gauge conn. right side (relative to flow direction) – upstream pressure – 1 connection							6					
Tri-clamp gauge conn. left side (relative to flow direction) – upstream & downstream press. – 2 connections							9					
Tri-clamp gauge conn. right side (relative to flow direction) – upstream & downstream press. – 2 connections							8					
Tri-clamp gauge conn. both sides – upstream pressure – 2 connections							5					
Threaded gauge conn. left side (relative to flow direction) – upstream pressure – ISO 228 G 1/4"							4					
Threaded gauge conn. right side (relative to flow direction) – upstream pressure – ISO 228 G 1/4"							3					
Threaded gauge conn. left side (relative to flow direction) – upstream & downstream press. – 2 conn. – ISO 228 G 1/4"							1					
Threaded gauge conn. right side (relative to flow direction) – upstream & downstream press. – 2 conn. – ISO 228 G 1/4"							0					
Threaded gauge conn. both sides – upstream pressure – ISO 228 G 1/4"							2					
Threaded gauge conn. left side (relative to flow direction) – upstream pressure – 1/4" NPT							W					
Threaded gauge conn. right side (relative to flow direction) – upstream pressure – 1/4" NPT							Y					
Threaded gauge conn. left side (relative to flow direction) – upstream & downstream press. – 2 conn. – 1/4" NPT							U					
Threaded gauge conn. right side (relative to flow direction) – upstream & downstream press. – 2 conn. – 1/4" NPT							V					
Threaded gauge conn. both sides – upstream pressure – 1/4" NPT							Z					
<b>Surface finish a)</b>												
Standard surface finish								X				
Mirror mechanical polished external surfaces (SF1)								P				
Electropolished internal wetted parts (SF5)								E				
<b>Special features</b>												
None									X			
Degreased for oxygen									O			
CIP / SIP lock system									C			
<b>Pipe connection</b>												
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		
<b>Size</b>												
DN 32 (available with ISO connections only)											32	
11/2" or DN 40											40	
2" or DN 50 (not available with ISO connections)											50	
<b>Special construction / Additional options</b>												
Full description or additional codes have to be added in case of non-standard combination												E

a) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.