

## SANITARY PRESSURE REDUCING VALVE P173

### DESCRIPTION

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

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 on the standard version.

### STANDARD SURFACE FINISH

Internal wetted parts:  $\leq 0,51$  micron Ra – SF1.

External:  $\leq 0,76$  micron Ra – SF3.

Other surface conditions see IS PV20.00 E – Technical information.

Ultrasonic cleaning.

### OPTIONS:

Leakage line connection (1/8").

Different soft sealings for liquids and gases.

Lock system, allows inline clean-in-place (CIP) and sterilization-in-place (SIP) operations.

Gauge connection on body.

Top cap (adjustment screw with cover).

Bottom cover with drain connection.

### USE:

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

### AVAILABLE

#### MODELS:

P173.

### SIZES:

1 1/2" to 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:

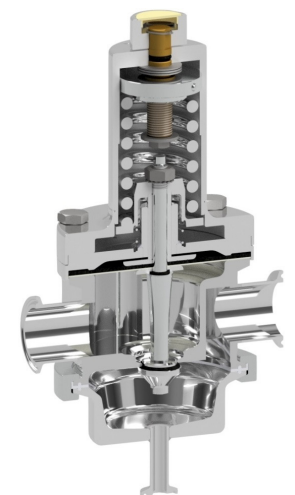
Assembling and packaging in a clean room certified according to ISO 14644-1.

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.



### LIMITING CONDITIONS

Valve model	P173
Body design conditions	PN 16
Maximum upstream pressure	8 bar or 4 bar *
Maximum downstream pressure	5 bar
Minimum downstream pressure **	0,8 bar
Maximum operating temperature ***	180 °C

\* See "Flow rates coefficients" table.

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

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

### CE MARKING – GROUP 2 (PED – European Directive)

PN 16	Category
1 1/2" to 2" – DN 32 to 50	SEP

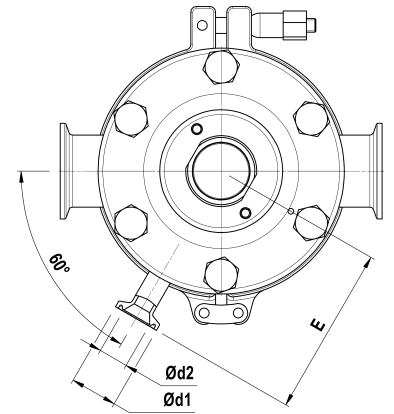
**FLOW RATES COEFFICIENTS (m³/h)**

SIZE	BPE			DIN			ISO		
	1 1/2"	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 of 4 bar inlet pressure.

**DIMENSIONS (mm) ASME BPE**

SIZE	A	B	B1	C	D	d1	d2	E	F	H	NPS 1/2"		WGT. (kg)
											F1	H1	
1 1/2"	170	94	70	199	130	25	15,75	90	50,5	34,8	25	9,4	8,6
2"	170	99	76	205	130	25	15,75	90	64	47,5	25	9,4	8,9



Optional pressure gauge connections

**DIMENSIONS (mm) DIN**

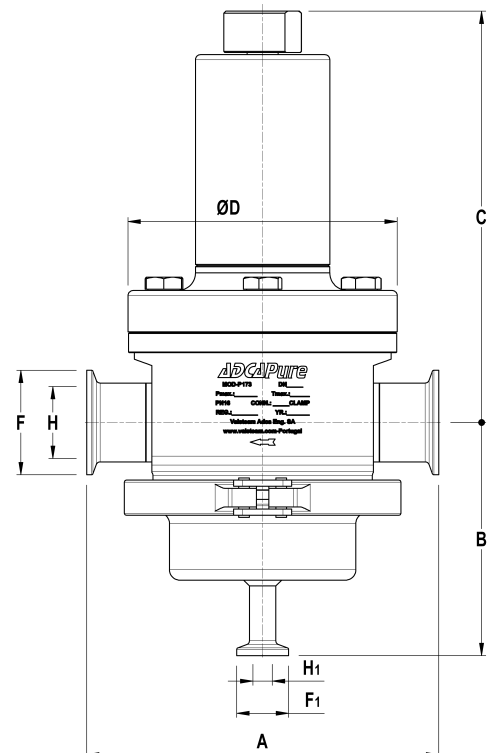
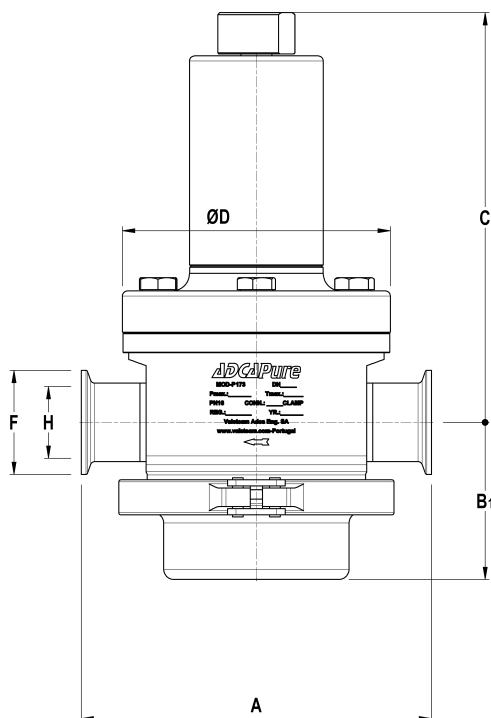
SIZE	A	B	B1	C	D	d1	d2	E	F	H	DN 10		WGT. (kg)
											F1	H1	
DN 40	170	94	70	199	130	25	15,75	90	50,5	38	34	10	8,6
DN 50	170	99	76	205	130	25	15,75	90	64	50	34	10	8,9

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

**DIMENSIONS (mm) ISO**

SIZE	A	B	B1	C	D	d1	d2	E	F	H	DN 08		WGT. (kg)
											F1	H1	
DN 32	170	93	70	199	130	25	15,75	90	64	38,4	25	10,3	8,6
DN 40	170	99	76	205	130	25	15,75	90	64	44,3	25	10,3	9,2

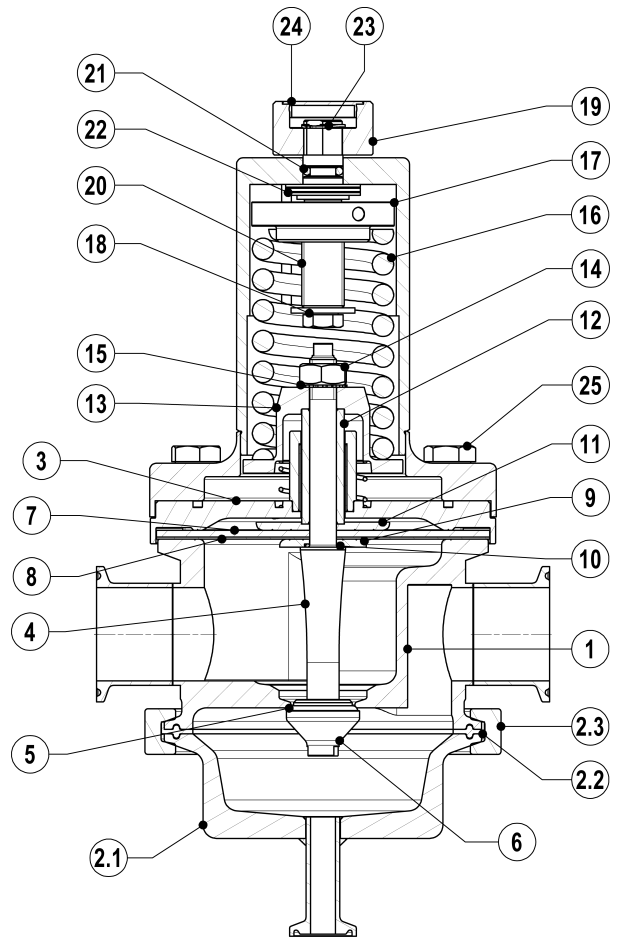
Remarks: Clamp ferrules according to DIN 32676-B; Tube weld (ETO) according to DIN 11866-B (ISO 1127).



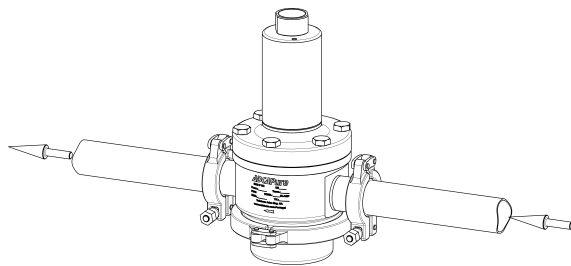
Optional bottom cover with drain connection

**MATERIALS**

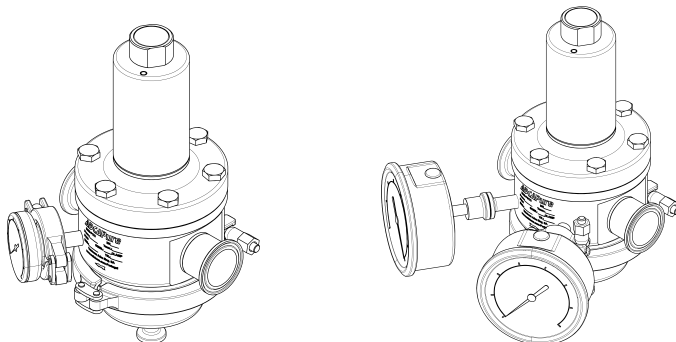
POS. N°	DESIGNATION	MATERIAL
1	Body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
2.1	Bottom cover	AISI 316L / 1.4404
2.2	Gasket	PTFE / TFM® envelope gasket
2.3	Safety clamp	AISI 316 / 1.4401
3	Centering plate	AISI 316L / 1.4404
4	* Valve stem	AISI 316L / 1.4404
5	* Soft plug	** EPDM; PTFE; FPM
6	* Valve plug	AISI 316L / 1.4404
7	* Upper diaphragm	EPDM
8	* Lower diaphragm	PTFE (Gylon)
9	Diaphragm plate	AISI 316L / 1.4404
10	* O-ring	EPDM
11	Diaphragm plate	AISI 316L / 1.4404
12	Stem guide	AISI 316 / 1.4401
13	Spring plate	AISI 316 / 1.4401
14	Nut	Stainless steel A2-70
15	Washer	AISI 316 / 1.4401
16	* Adjustment spring	AISI 302 / 1.4300
17	Top spring plate	AISI 316 / 1.4401
18	Retaining washer	Stainless steel A2-70
19	Adjustment nut	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	Bolts	Stainless steel A2-70



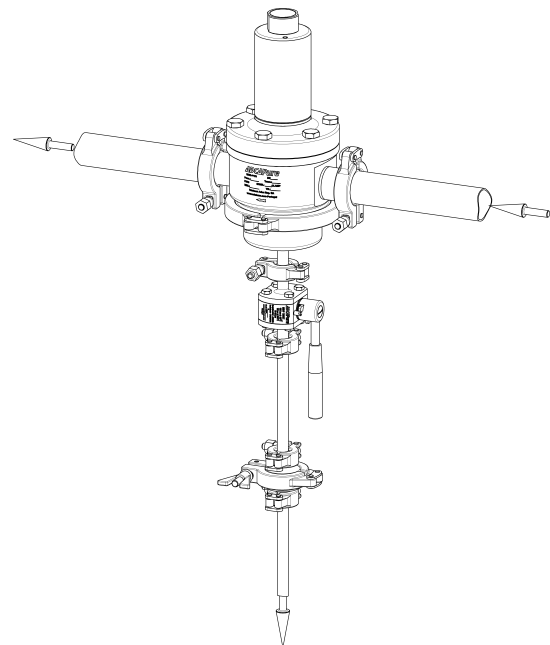
\* Available spare parts; \*\* Others on request.  
FDA / USP Class VI seals certificate on request.  
For viton diaphragm the only approval available is the FDA (pos. 7).



*Valve without bottom drain connection, for clean gases*



*Optional pressure gauge connections*



*Valve with condensate drain for clean steam*

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)				E								
<b>Seat material</b>												
Metal to metal (non-standard)					M							
EPDM					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/ diaphragm cover leakage connection in case of diaphragm failure						L						
Top cap (adjustment screw with cover) w/ diaphragm cover leakage connection in case of diaphragm failure						U						
<b>Gauge port options</b>												
Without gauge ports								X				
Tri-clamp gauge port on the left side (rel. to the flow direction) – downstream pressure – 1 connection									7			
Tri-clamp gauge port on the right side (rel. to the flow direction) – downstream pressure – 1 connection									6			
Tri-clamp gauge port on the left side (rel. to the flow direction) – upstream and downstream press. – 2 conn. a)									9			
Tri-clamp gauge port on the right side (rel. to the flow direct.) – upstream and downstream press. – 2 conn. a)									8			
Tri-clamp gauge port on both sides – downstream pressure – 2 connections									5			
Threaded gauge port on the left side (rel. to the flow direction) – downstream pressure – ISO 7 Rp 1/4"									4			
Threaded gauge port on the right side (rel. to the flow direction) – downstream pressure – ISO 7 Rp 1/4"									3			
Threaded gauge port on left side (rel. to the flow direction) – upstream and downstream press. – 2 conn. – ISO 7 Rp 1/4"									1			
Threaded gauge port on right side (rel. to the flow direction) – upstream/downstream pressure – 2 conn. – ISO 7 Rp 1/4"									0			
Threaded gauge port on both sides – downstream pressure – ISO 7 Rp 1/4"									2			
Threaded gauge port on the left side (rel. to the flow direction) – downstream pressure – 1/4" NPT									W			
Threaded gauge port on the right side (rel. to the flow direction) – downstream pressure – 1/4" NPT									Y			
Threaded gauge port on left side (rel. to the flow direction) – upstream and downstream press. – 2 conn. – 1/4" NPT									U			
Threaded gauge port on right side (rel. to the flow direction) – upstream and downstream pressure – 2 conn. – 1/4" NPT									V			
Threaded gauge port on both sides – downstream pressure – 1/4" NPT									Z			
<b>Surface finish b)</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
1 1/2" or DN 40												40
2" or DN 50 (not available with ISO connections)												50
<b>Special valves / Extras</b>												
Full description or additional codes have to be added in case of non-standard combination												E

a) Under special request and after approval of technical solution; b) Consult IS PV20.00 for further details and other surface finish options.