

SANITARY PRESSURE REDUCING VALVES P163

DESCRIPTION

The ADCAPure P163 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

Spring or dome-loading.

Non-rising adjustment knob.

Compact inline design with clamped body.

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.

Dome-loading.

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:

P163.

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 5 bar.

CONNECTIONS:

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

PACKAGING:

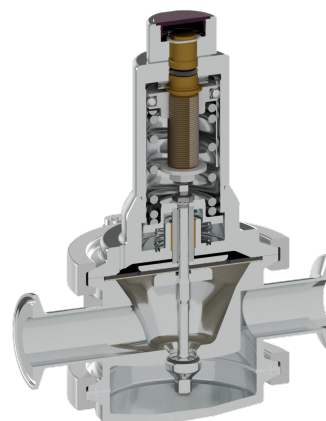
Assembling and packaging in a clean room certified according to ISO 14644-1.

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
1/2" to 2" – DN 15 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.

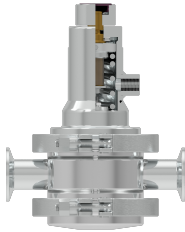
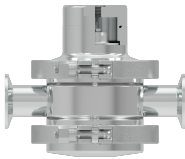
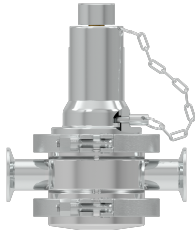
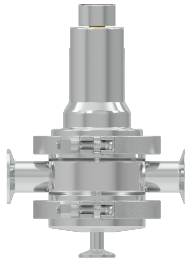
** For tight shut off, with adjustment spring relaxed, ensure a minimum downstream pressure of 0,2 bar.

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

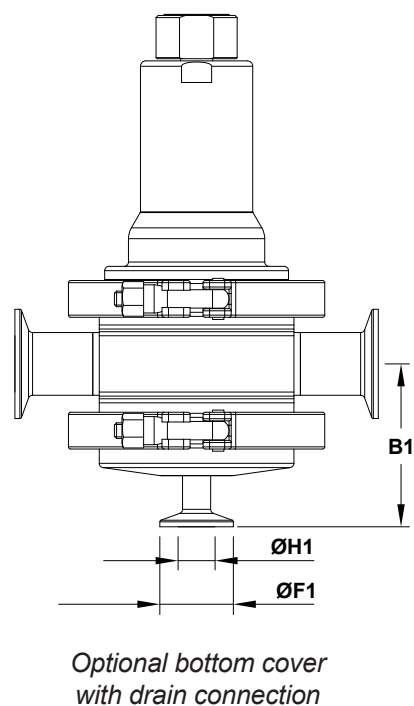
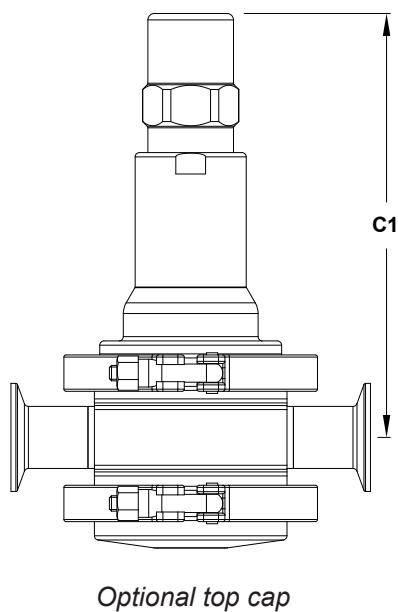
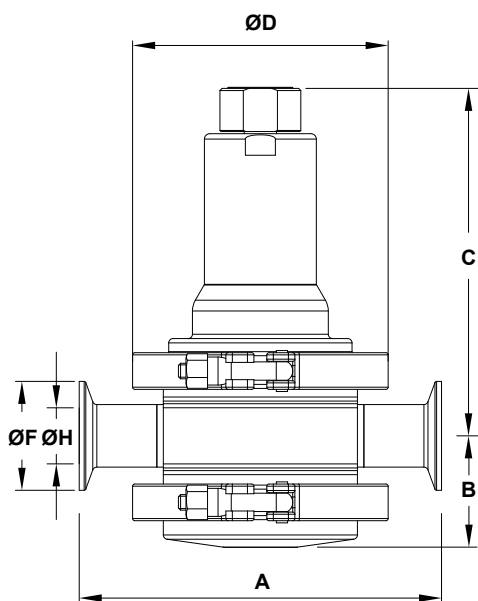
FLOW RATE COEFFICIENTS (m³/h)

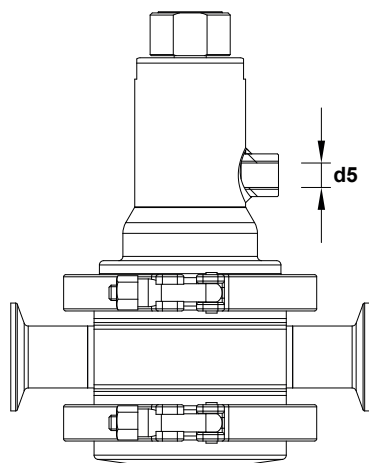
SIZE	ASME BPE					DIN						ISO				
	1/2"	3/4"	1"	1 1/2"	2"	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 15	DN 20	DN 25	DN 32	DN 40
Kvs	1,3	3	4,2	7	13	2,1	3	4,2	4,2	7	13	2,1	4,2	4,2	7	7

OPTIONS

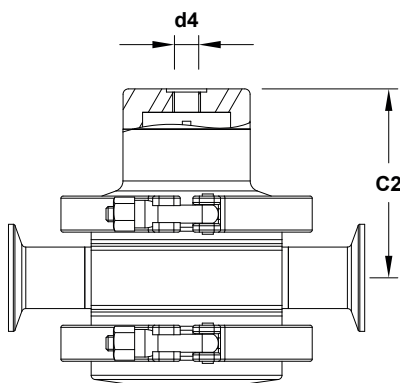
LEAKAGE LINE CONNECTION	DOME-LOADING	TOP CAP
		
GAUGE CONNECTION	LOCK SYSTEM	BOTTOM COVER WITH DRAIN CONNECTION
		

DIMENSIONS

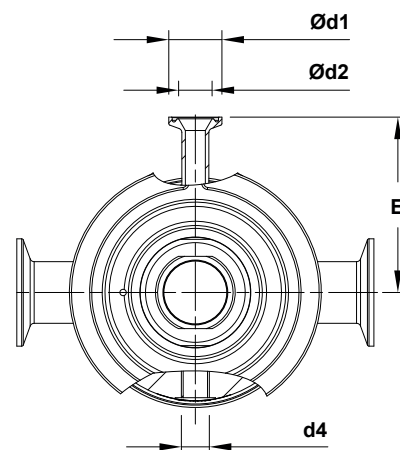




Optional leakage
line connection



Optional dome loading



Optional gauge connection

DIMENSIONS – ASME BPE (mm)

SIZE	A	B	B1	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØF1	ØH	ØH1	WGT. (kg)
1/2"	153	47	70	156	203	84	119	25	15,75	1/4"	1/4"	1/4"	83	25	25	9,4	9,4	5
3/4"	153	51	74	160	207	88	119	25	15,75	1/4"	1/4"	1/4"	83	25	25	15,8	9,4	5,6
1"	153	54	77	163	210	91	119	25	15,75	1/4"	1/4"	1/4"	83	50,4	25	22,1	9,4	5,7
1 1/2"	170	71	95	204	257	124	134	25	15,75	1/4"	1/4"	1/4"	96	50,4	25	34,8	9,4	9,8
2"	170	74	99	207	254	127	134	25	15,75	1/4"	1/4"	1/4"	96	63,9	25	47,5	9,4	9,8

DIMENSIONS – DIN (mm)

SIZE	A	B	B1	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØF1	ØH	ØH1	WGT. (kg)
DN 15	153	51	74	160	207	88	119	25	15,75	1/4"	1/4"	1/4"	83	34	34	16	10	5,6
DN 20	153	49	72	158	205	86	119	25	15,75	1/4"	1/4"	1/4"	83	34	34	20	10	5,3
DN 25	168	52	75	161	208	89	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	34	26	10	5,6
DN 32	168	54	77	163	210	91	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	34	32	10	5,8
DN 40	185	70	94	202	249	122	134	25	15,75	1/4"	1/4"	1/4"	96	50,5	34	38	10	9,5
DN 50	185	74	98	206	253	126	134	25	15,75	1/4"	1/4"	1/4"	96	64	34	50	10	9,8

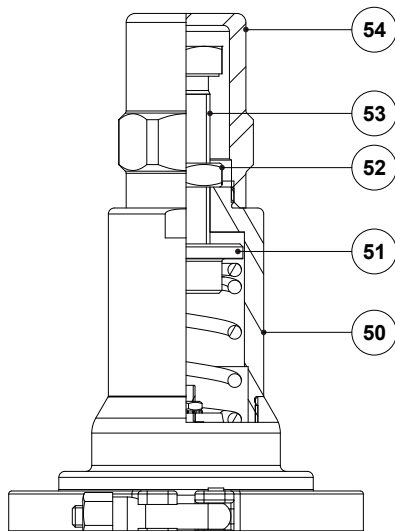
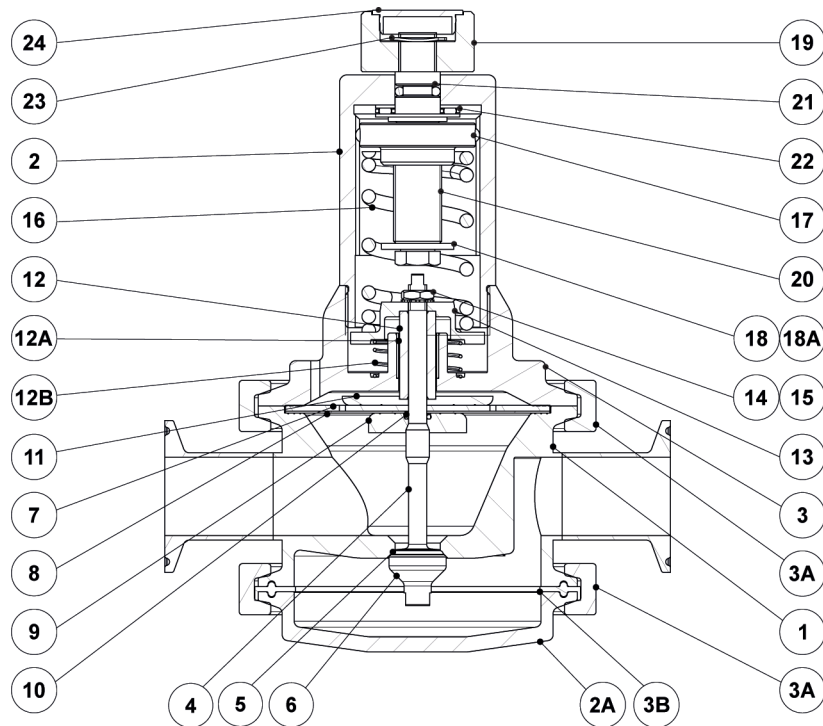
Remarks: Clamp ferrules according to DIN 32676-A. Tube weld (ETO) according to DIN 11866-A (DIN 11850-2).

DIMENSIONS – ISO (mm)

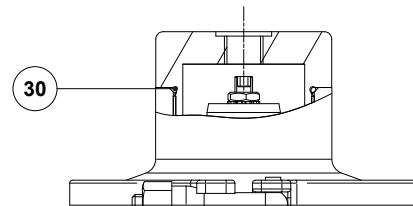
SIZE	A	B	B1	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØF1	ØH	ØH1	WGT. (kg)
DN 15	168	50	73	159	206	87	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	25	18,1	10,3	5,4
DN 20	168	53	76	162	209	90	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	25	23,7	10,3	5,6
DN 25	168	55	78	164	211	92	119	25	15,75	1/4"	1/4"	1/4"	83	50,5	25	29,7	10,3	6
DN 32	185	69	93	202	249	122	134	25	15,75	1/4"	1/4"	1/4"	96	64	25	38,4	10,3	9,6
DN 40	185	76	100	206	253	126	134	25	15,75	1/4"	1/4"	1/4"	96	64	25	44,3	10,3	10

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

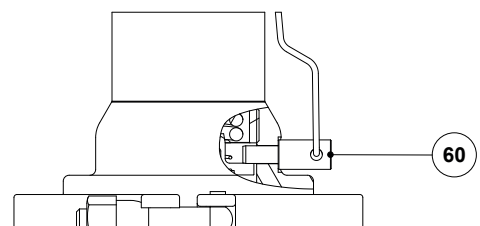
MATERIALS



Optional top cap



Optional dome-loading



Optional lock system

MATERIALS

POS. No.	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
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
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 P163

VALVE MODEL	P63	1	4	1	T	M	I	X	X	X	DI	15
P163 – AISI 316L / 1.4404 diaphragm sensing press. reducing valve without drain	P63											
P163 – AISI 316L / 1.4404 diaphragm sensing press. reducing valve with drain	P63D											
VALVE SERIES												
Series 1		1										
REGULATING RANGE												
0,8 to 1,5 bar			4									
1 to 3 bar			5									
1,5 to 5 bar			6									
0,8 to 5 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		
CIP / SIP lock system										C		
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
1 1/2" 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 downstream 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.