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ADCAPure

Pharma, Cosmetic, Fine Chemical & Food

PRODUCT HANDBOOK

VALSTEAM ADCA
valsteam.com

SANITARY BALANCED PRESSURE THERMOSTATIC STEAM TRAPS TSS7

DESCRIPTION

The ADCAPure TSS7 all stainless steel thermostatic steam traps and air vents are specifically designed for use in hygienic applications such as reactors, CIP/SIP, autoclaves, sterilizers and distribution lines in clean and pure steam systems.
Their small size makes them ideal for use with a wide variety of equipment.

MAIN FEATURES

Modulating discharge.
Excellent air discharge.
Simple and compact design.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Special designs on request.

USE: Saturated clean steam.

AVAILABLE MODELS: TSS7 – clean steam trap.

SIZES: 1/2" to 1".

CONNECTIONS: Clamp ferrules ASME BPE.
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: Vertical installation.
See IMI – Installation and maintenance instructions.

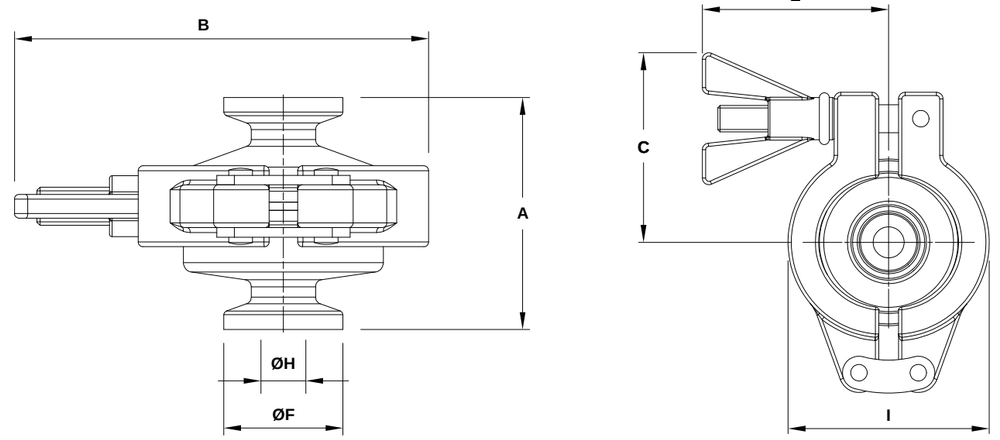
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" to 1"	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum allowable temperature	177 ºC
Maximum operating pressure	6 bar
Maximum operating temperature	165 ºC

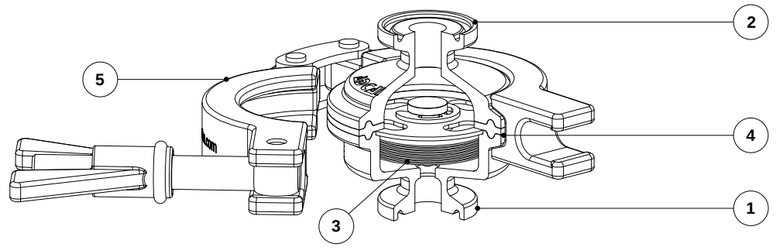
* Other limits on request. Maximum operating conditions may be limited by the steam trap end connections due to normative restrictions.

FLOW RATE CAPACITY (kg/h)										
MODEL	**SIZE**	**DIFFERENTIAL PRESSURE (bar)**								
		0,2	**0,3**	**0,5**	**1**	**1,5**	**2**	**3**	**4**	**6**
TSS7 (A)	**1/2" to 1"**	73	92	177	269	334	468	730	792	900
TSS7 (B)	**1/2" to 1"**	398	475	574	656	745	820	944	1190	1436

A – Condensate discharge at 5 ºC below saturation temperature; **B** – Cold water capacity around 20 ºC.



DIMENSIONS – ASME BPE (mm)								
SIZE	**A**	**B**	**C**	**E**	**ØF**	**ØH**	**I**	**WEIGHT (kg)**
1/2"	49	87	57,5	56,5	25	9,4	61	0,6
3/4"	49	87	57,5	56,5	25	15,8	61	0,6
1"	53	87	57,5	56,5	50,4	22,1	61	0,7



MATERIALS		
POS. No.	**DESIGNATION**	**MATERIAL**
1	Body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	* Thermostat	AISI 316L / 1.4404
4	* Gasket	** Glass microsphere filled PTFE
5	Safety clamp	AISI 316 / 1.4401

* Available spare parts. ** Others on request.
Remark: FDA / USP Class VI seals certificate on request.

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IS TSS7.015 E 10.17

ORDERING CODES TSS7								
MODEL	**TSS7**	**X**	**T**	**X**	**X**	**DX**	**15**	
TSS7 – Sanitary thermostatic steam trap	**TSS7**							
MATERIAL								
AISI 316L / 1.4404		**X**						
BODY SEALING								
Glass microsphere filled PTFE			**T**					
SURFACE FINISH (a)								
Standard surface finish				**X**				
Mirror mechanical polished external surfaces (SF1)				**P**				
Electropolished internal wetted parts (SF5)				**E**				
Electropolished internal wetted parts (SF4)				**Q**				
SPECIAL FEATURES								
None					**X**			
PIPE CONNECTIONS								
Clamp ferrule ASME BPE						**DX**		
SIZE								
1/2"							**15**	
3/4"							**20**	
1"							**25**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS								
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.

SANITARY BALANCED PRESSURE THERMOSTATIC STEAM TRAPS TSS6

DESCRIPTION

The ADCAPure TSS6 all stainless steel thermostatic steam traps and air vents are specifically designed for use in hygienic applications such as reactors, CIP/SIP, autoclaves, sterilizers and distribution lines in clean and pure steam systems.
Their small size makes them ideal for use with a wide variety of equipment.

MAIN FEATURES

Modulating discharge.
Excellent air discharge.
Simple and compact design.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Special designs on request.

USE: Saturated clean steam.

AVAILABLE MODELS: TSS6 – clean steam trap.

SIZES: 1/2" to 11/2"; DN 08 to DN 25.

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: Vertical installation.
See IMI – Installation and maintenance instructions.

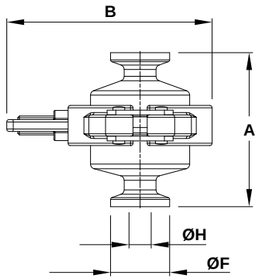
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" to 11/2" – DN 08 to 25	SEP

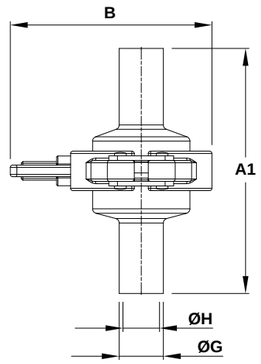
LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum allowable temperature	177 ºC
Maximum operating pressure	6 bar
Maximum operating temperature	165 ºC

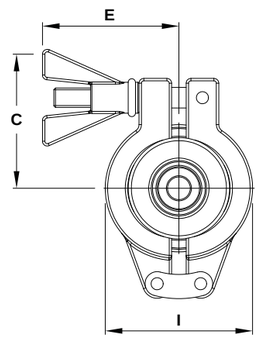
* Other limits on request. Maximum operating conditions may be limited by the steam trap end connections due to normative restrictions.

FLOW RATE CAPACITY (kg/h)										
MODEL	SIZE	DIFFERENTIAL PRESSURE (bar)								
		0,2	0,3	0,5	1	1,5	2	3	4	6
TSS6 (A)	1/2" to 11/2" – DN 08 to 25	320	380	410	550	680	909	1081	1199	1403
TSS6 (B)	1/2" to 11/2" – DN 08 to 25	470	495	518	697	792	1026	1231	1436	1682

A – Condensate discharge at 5 ºC below saturation temperature; **B** – Cold water capacity around 20 ºC.







DIMENSIONS – ASME BPE (mm)										
SIZE	A	A1	B	C	E	ØF	ØG	ØH	I	WEIGHT (kg)
1/2"	65	95	87	57,5	56,5	25	12,7	9,4	61	0,7
3/4"	65	95	87	57,5	56,5	25	19,1	15,8	61	0,7
1"	65	95	87	57,5	56,5	50,4	25,4	22,1	61	0,8
11/2"	65	NA	87	57,5	56,5	50,4	NA	34,8	61	0,8

DIMENSIONS – DIN (mm)										
SIZE	A	A1	B	C	E	ØF	ØG	ØH	I	WEIGHT (kg)
DN 10	65	95	87	57,5	56,5	34	13	10	61	0,7
DN 15	65	95	87	57,5	56,5	34	19	16	61	0,7
DN 20	65	95	87	57,5	56,5	34	23	20	61	0,8
DN 25	65	95	87	57,5	56,5	50,5	29	26	61	0,8

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

DIMENSIONS – ISO (mm)										
SIZE	A	A1	B	C	E	ØF	ØG	ØH	I	WEIGHT (kg)
DN 08	65	95	87	57,5	56,5	25	13,5	10,3	61	0,7
DN 10	65	95	87	57,5	56,5	25	17,2	14	61	0,7
DN 15	65	95	87	57,5	56,5	50,5	21,3	18,1	61	0,8
DN 20	65	95	87	57,5	56,5	50,5	26,9	23,7	61	0,8
DN 25	65	95	87	57,5	56,5	50,5	33,7	29,7	61	0,7

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

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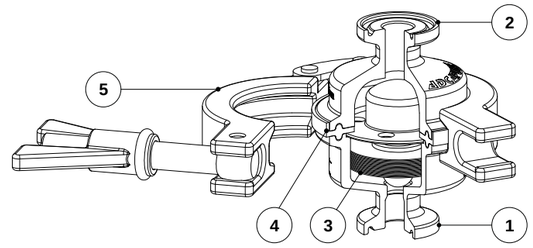

MATERIALS		
POS. No.	DESIGNATION	MATERIAL
1	Body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	* Thermostat	AISI 316L / 1.4404
4	* Gasket	** Glass microsphere filled PTFE
5	Safety clamp	AISI 316 / 1.4401

* Available spare parts. ** Others on request.
Remark: FDA / USP Class VI seals certificate on request.

ORDERING CODES TSS6								
MODEL	TSS6	X	T	X	X	DX	08	
TSS6 – Sanitary thermostatic steam trap	TSS6							
MATERIAL								
AISI 316L / 1.4404		X						
BODY SEALING								
Glass microsphere filled PTFE			T					
SURFACE FINISH (a)								
Standard surface finish				X				
Mirror mechanical polished external surfaces (SF1)				P				
Electropolished internal wetted parts (SF5)				E				
Electropolished internal wetted parts (SF4)				Q				
SPECIAL FEATURES								
None					X			
PIPE CONNECTIONS								
Clamp ferrule ASME BPE						DX		
Clamp ferrule DIN (DIN 32676-A)						FX		
Clamp ferrule ISO (DIN 32676-B)						EX		
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								
DN 08							08	
DN 10							10	
1/2" or DN 15							15	
3/4" or DN 20							20	
1" or DN 25							25	
11/2"							40	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS								
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.

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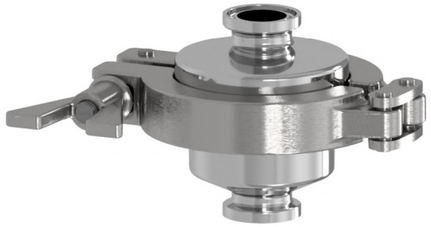
SANITARY BALANCED PRESSURE THERMOSTATIC STEAM TRAPS TSS6H

DESCRIPTION



The ADCAPure TSS6H all stainless steel thermostatic steam traps and air vents are specifically designed for use in hygienic applications such as reactors, CIP/SIP, autoclaves, sterilizers and distribution lines in clean and pure steam systems.
Their small size makes them ideal for use with a wide variety of equipment.
The thermostatic element is very sensitive and designed to open with a minimum sub-cooling of approximately 2 ºC related to the saturated steam temperature.

MAIN FEATURES

Modulating discharge.
Excellent air discharge.
Simple and compact design.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Special designs on request.

USE: Saturated clean steam.

AVAILABLE MODELS: TSS6H – high capacity clean steam trap.

SIZES: 1/2" to 11/2".

CONNECTIONS: ASME BPE clamp ferrules.
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: Vertical installation.
See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" to 11/2"	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum allowable temperature	177 ºC
Maximum operating pressure	6 bar
Maximum operating temperature	165 ºC

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

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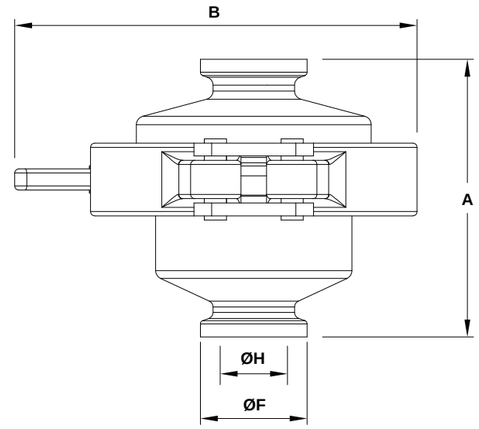
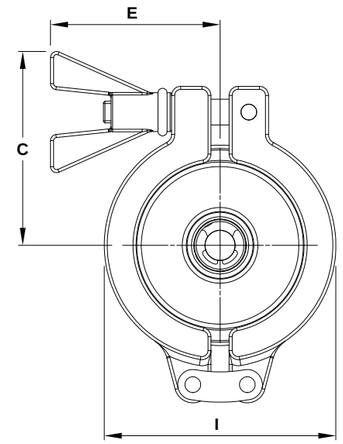
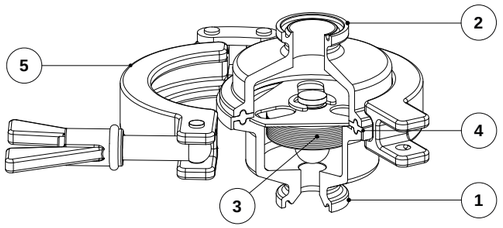
FLOW RATE CAPACITY (kg/h)											
MODEL	**SIZE**	**DIFFERENTIAL PRESSURE (bar)**									
		0,2	**0,3**	**0,5**	**1**	**1,5**	**2**	**3**	**4**	**5**	**6**
TSS6H (A)	**1/2"**	320	380	410	550	680	909	1081	1199	1372	1403
TSS6H (B)	**1/2"**	912	980	1079	1641	1964	2216	2831	3242	3611	3693
TSS6H (A)	**3/4"**	605	640	710	900	1096	1284	1801	2000	2330	2510
TSS6H (B)	**3/4"**	1186	1294	1354	1970	2372	2737	3312	3845	4227	4584
TSS6H (A)	**1" and 11/2"**	780	810	915	1188	1412	1840	2305	2970	3494	3962
TSS6H (B)	**1" and 11/2"**	1291	1378	1477	2052	2531	2873	3529	4104	4494	4966

A – Condensate discharge at 5 ºC below saturation temperature; **B** – Cold water capacity around 20 ºC.





DIMENSIONS – ASME BPE (mm)								
SIZE	**A**	**B**	**C**	**E**	**ØF**	**ØH**	**I**	**WEIGHT (kg)**
1/2"	65	94	64	56	25	9,4	76,5	0,7
3/4"	65	94	64	56	25	15,8	76,5	0,7
1"	65	94	64	56	50,4	22,1	76,5	0,8
11/2"	65	94	64	56	50,4	34,8	76,5	0,8



MATERIALS		
POS. No.	**DESIGNATION**	**MATERIAL**
1	Body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	* Thermostat	AISI 316L / 1.4404
4	* Gasket	** Glass microsphere filled PTFE
5	Safety clamp	AISI 316 / 1.4401

* Available spare parts. ** Others on request.
Remark: FDA / USP Class VI seals certificate on request.

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IS TSS6H.015 E 10.17

ORDERING CODES TSS6H								
MODEL	**TSS6H**	**X**	**T**	**X**	**X**	**DX**	**15**	
TSS6H – Sanitary thermostatic steam trap	**TSS6H**							
MATERIAL								
AISI 316L / 1.4404		**X**						
BODY SEALING								
Glass microsphere filled PTFE			**T**					
SURFACE FINISH (a)								
Standard surface finish				**X**				
Mirror mechanical polished external surfaces (SF1)				**P**				
Electropolished internal wetted parts (SF5)				**E**				
Electropolished internal wetted parts (SF4)				**Q**				
SPECIAL FEATURES								
None					**X**			
PIPE CONNECTIONS								
Clamp ferrule ASME BPE						**DX**		
SIZE								
1/2"							**15**	
3/4"							**20**	
1"							**25**	
11/2"							**40**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS								
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.

SANITARY BALANCED PRESSURE THERMOSTATIC STEAM TRAPS TSS6A

DESCRIPTION

The ADCAPure TSS6A all stainless steel thermostatic steam traps and air vents are specifically designed for use in hygienic applications such as reactors, CIP/SIP, autoclaves, sterilizers and distribution lines in clean and pure steam systems.
Their small size makes them ideal for use with a wide variety of equipment.

TSS6A

MAIN FEATURES

Modulating discharge.
Excellent air discharge.
Simple and compact design.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Special designs on request.

USE: Saturated clean steam.

AVAILABLE MODELS: TSS6A – horizontal inlet and outlet.
TSS6AI – horizontal inlet and vertical outlet.
TSS6AO – vertical inlet and horizontal outlet.

SIZES: 1/2" and 3/4".

CONNECTIONS: ASME BPE clamp ferrules.
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: Installation with the safety clamp in the horizontal position.
See IMI – Installation and maintenance instructions.

TSS6AI

TSS6AO

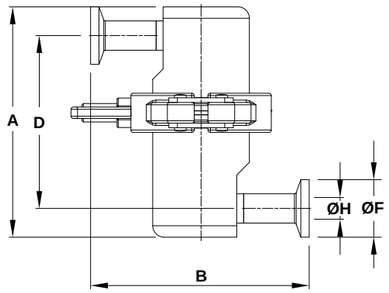
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" and 3/4"	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum allowable temperature	177 °C
Maximum operating pressure	6 bar
Maximum operating temperature	165 °C

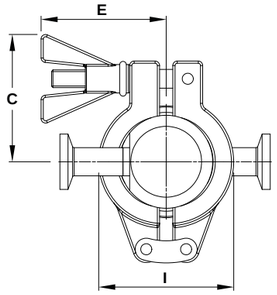
* Other limits on request. Maximum operating conditions may be limited by the steam trap end connections due to normative restrictions.

FLOW RATE CAPACITY (kg/h)										
MODEL	SIZE	DIFFERENTIAL PRESSURE (bar)								
		0,2	0,3	0,5	1	1,5	2	3	4	6
TSS6A (A) *	1/2" and 3/4"	320	380	410	550	680	909	1081	1199	1403
TSS6A (B) *	1/2" and 3/4"	470	495	518	697	792	1026	1231	1436	1682

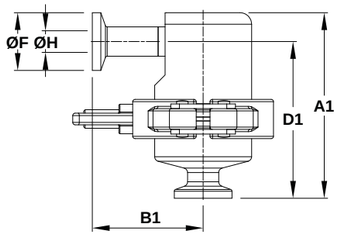
A – Condensate discharge at 5 ºC below saturation temperature; **B** – Cold water capacity around 20 ºC. * Also valid for TSS6AI and TSS6AO.



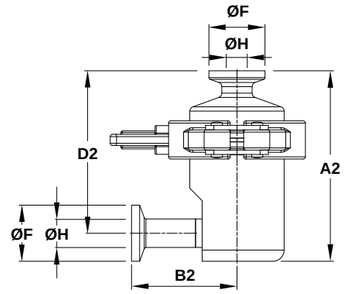
TSS6A



TSS6A

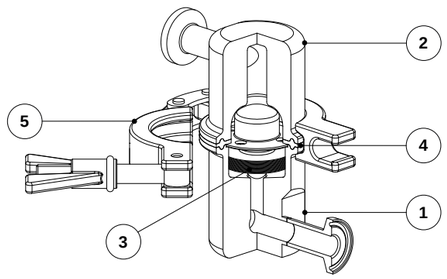


TSS6AI



TSS6AO

DIMENSIONS – ASME BPE (mm)															
SIZE	A	A1	A2	B	B1	B2	C	D	D1	D2	E	ØF	ØH	I	WGT. (kg)
1/2"	100	80,5	85	95	48	47	57,5	75	68	72,5	56,5	25	9,4	61	1,2
3/4"	100	80,5	85	95	48	47	57,5	75	68	72,5	56,5	25	15,8	61	1,2



MATERIALS		
POS. No.	DESIGNATION	MATERIAL
1	Body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	* Thermostat	AISI 316L / 1.4404
4	* Gasket	** Glass microsphere filled PTFE
5	Safety clamp	AISI 316 / 1.4401

* Available spare parts. ** Others on request.
Remark: FDA / USP Class VI seals certificate on request.

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ORDERING CODES TSS6A									
MODEL	TSS6A	X	X	T	X	X	DX	15	
TSS6A – Sanitary thermostatic steam trap	TSS6A								
DESIGN									
Horizontal inlet and outlet		X							
Horizontal inlet and vertical outlet		I							
Vertical inlet and horizontal outlet		O							
MATERIAL									
AISI 316L / 1.4404			X						
BODY SEALING									
Glass microsphere filled PTFE				T					
SURFACE FINISH (a)									
Standard surface finish					X				
Mirror mechanical polished external surfaces (SF1)					P				
Electropolished internal wetted parts (SF5)					E				
Electropolished internal wetted parts (SF4)					Q				
SPECIAL FEATURES									
None						X			
PIPE CONNECTIONS									
Clamp ferrule ASME BPE							DX		
SIZE									
1/2"								15	
3/4"								20	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS									
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.

VALSTEAM ADCA
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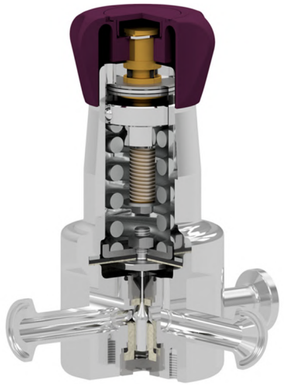
IS TSS6A.015 E 10.17

SANITARY PRESSURE REDUCING VALVES
P130L

DESCRIPTION

The ADCAPure P130L is a series of low flow, direct acting, diaphragm sensing pressure reducing valves. These regulators, available with spring or dome-loading, are designed for use with clean air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction materials and valve design.
Specifically designed for the high purity gas systems found in the pharmaceutical, cosmetic, fine chemical and food & beverage processes.



MAIN FEATURES

Compact design.
Non-rising adjustment knob.
FDA / USP Class VI compliant seals.
Completely machined from 316L stainless steel bar stock, no castings or forgings are used.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

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

USE: Clean air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction.

AVAILABLE MODELS: P130L.

SIZES: 1/2" to 3/4"; DN 08 to DN 20.

REGULATING RANGES: 0,2 to 1,5 bar; 0,3 to 3 bar; 2 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 is recommended.
See IMI – Installation and maintenance instructions.

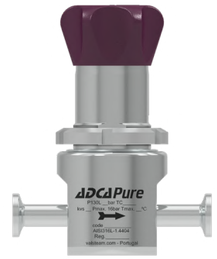
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 16	**CATEGORY**
1/2" to 3/4" – DN 08 to 20	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar
Maximum upstream pressure	16 bar
Maximum downstream pressure	8 bar
Minimum downstream pressure	0,2 bar
Maximum operating temperature	150 ºC

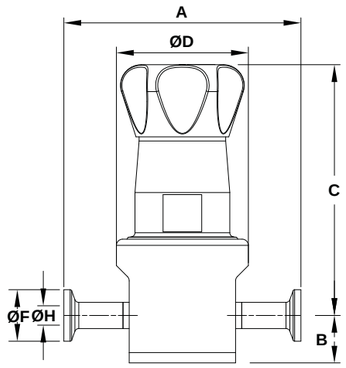
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.

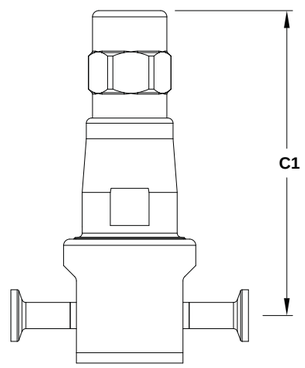
FLOW RATE COEFFICIENTS (m³/h)									
SIZE	**ASME BPE**			**DIN**			**ISO**		
	1/2" to 3/4"			**DN 10 to 20**			**DN 08 to 15**		
Kvs	0,06	0,19	0,25	0,06	0,19	0,25	0,06	0,19	0,25

OPTIONS

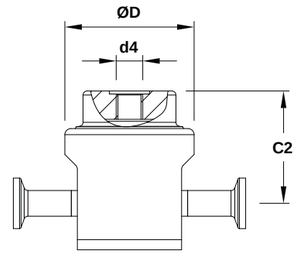
LEAKAGE LINE CONNECTION	PANEL MOUNTING	DOME-LOADING
		
TOP CAP	**GAUGE CONNECTION**	**WALL MOUNTING**
		

DIMENSIONS





Optional top cap



Optional dome-loading

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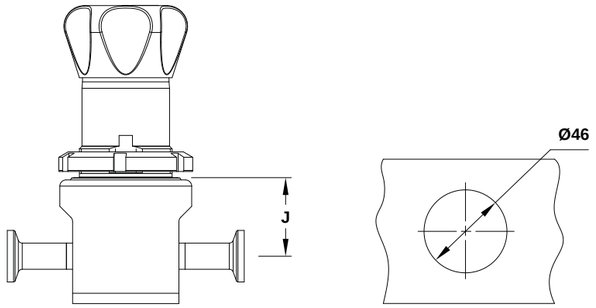
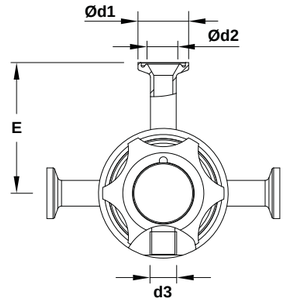
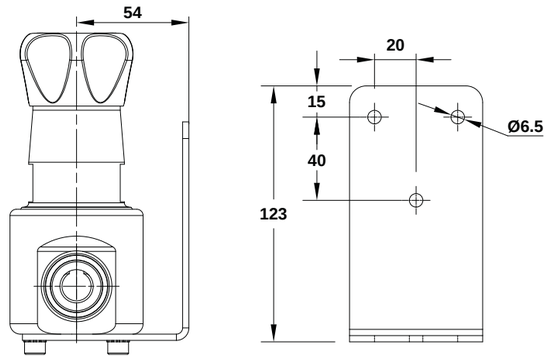


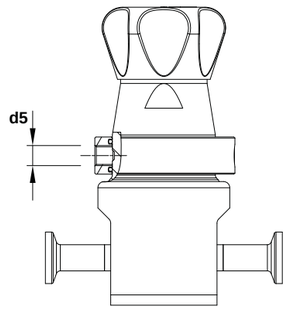
Optional panel mounting



Optional gauge connection



Optional wall mounting



Optional leakage line connection

DIMENSIONS – ASME BPE (mm)

SIZE	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	J	WGT. (kg) *
1/2"	115	23	120	147,6	55,6	64	25	15,75	1/4"	1/4"	1/8"	65	25	9,4	38,1	2,13
3/4"	115	23	120	147,6	55,6	64	25	15,75	1/4"	1/4"	1/8"	65	25	15,8	38,1	2,14

* Valves with nylon adjustment knob weigh 0,3 kg less.

DIMENSIONS – DIN (mm)

SIZE	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	J	WGT. (kg) *
DN 10	115	23	120	147,6	55,6	64	25	15,75	1/4"	1/4"	1/8"	65	34	10	38,1	2,11
DN 15	115	23	120	147,6	55,6	64	25	15,75	1/4"	1/4"	1/8"	65	34	16	38,1	2,13
DN 20	115	23	120	147,6	55,6	64	25	15,75	1/4"	1/4"	1/8"	65	34	20	38,1	2,15

* Valves with nylon adjustment knob weigh 0,3 kg less.
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	J	WGT. (kg) *
DN 08	115	23	120	147,6	55,6	64	25	15,75	1/4"	1/4"	1/8"	65	25	10,3	38,1	2,11
DN 10	115	23	120	147,6	55,6	64	25	15,75	1/4"	1/4"	1/8"	65	25	14	38,1	2,12
DN 15	115	23	120	147,6	55,6	64	25	15,75	1/4"	1/4"	1/8"	65	50,5	18,1	38,1	2,13

* Valves with nylon adjustment knob weigh 0,3 kg less.
Remarks: Clamp ferrules according to DIN 32676-B. Tube weld (ETO) according to DIN 11866-B (ISO 1127).

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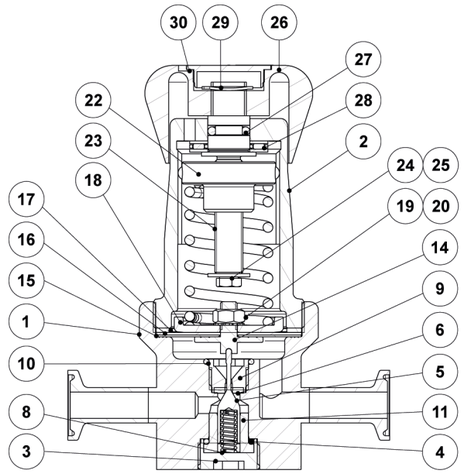
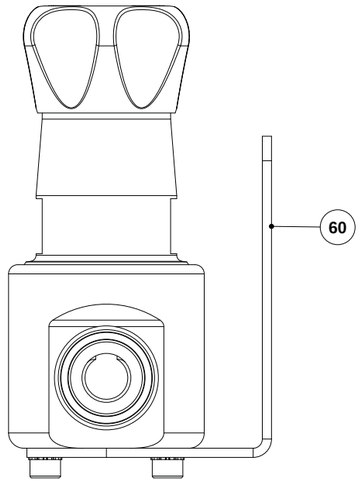
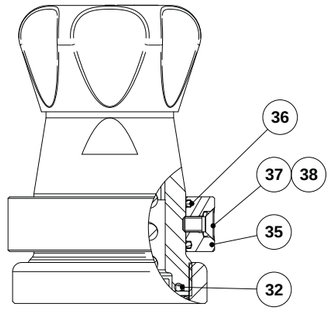
MATERIALS

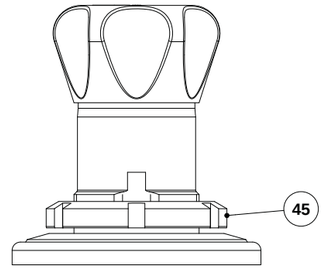




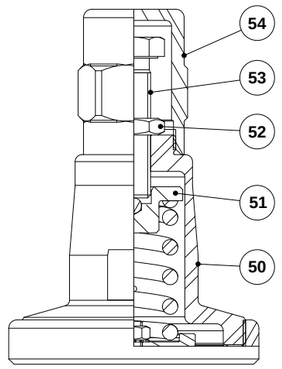
Optional wall mounting



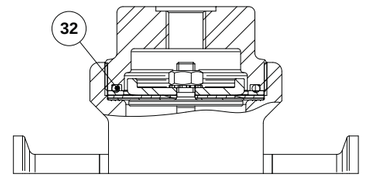
Optional leakage line connection



Optional panel mounting



Optional top cap



Optional dome-loading

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MATERIALS

POS. No.	DESIGNATION	MATERIAL
1	Valve body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	Bottom cover	AISI 316L / 1.4404
4	* O-ring	** EPDM
5	* Plug	AISI 316L / 1.4404
6	* Valve seat seal	** EPDM; PTFE
8	* Valve spring	AISI 316 / 1.4401 electropolished
9	Seat retainer	AISI 316L / 1.4404
10	* O-ring	** EPDM
11	* Guide	** PTFE
13	* O-ring **(a)**	** EPDM
14	* Pusher disc	AISI 316L / 1.4404
15	* Lower diaphragm	PTFE (Gylon)
16	* Upper diaphragm	EPDM
17	Washer	AISI 304 / 1.4301
18	* Plate	AISI 316 / 1.4401
19	* Nut	Stainless steel A2-70
20	* Washer	Stainless steel A2
21	* Adjustment spring	AISI 302 / 1.4300
22	Spring guide	AISI 316 / 1.4401
23	Adjustment screw	Brass
24	Washer	Stainless steel A2
25	Bolt	Stainless steel A2-70
26	Adjustment knob	AISI 316L / 1.4404; Nylon
27	O-ring	NBR
28	Bearing	Corrosion resistant steel
29	Shaft ring	Stainless steel
30	Cover nut	Plastic
32	* O-ring	EPDM
35	Leakage line ring	AISI 316 / 1.4401
36	O-ring	NBR
37	Bolt	AISI 304 / 1.4301
38	O-ring	FPM
45	Lock nut	CF8M / 1.4408
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	Support plate	AISI 316L / 1.4404

* Available spare parts. ** Others on request.
(a) Only for valve with self relieving option.
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.

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ORDERING CODES P130L

VALVE MODEL	P3L	1	3	T	T	X	I	X	X	X	D	08	
P130L – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve	P3L												
REGULATING RANGE													
0,2 to 1,5 bar		1											
0,3 to 3 bar		2											
2 to 8 bar		3											
0,2 to 8 bar (dome-loading) **(a)**		A											
FLOW RATE COEFFICIENT													
Kvs 0,06			3										
Kvs 0,19			6										
Kvs 0,25			7										
DIAPHRAGM													
PTFE (Gylon)				T									
EPDM (non-standard)				E									
VALVE SEALING													
EPDM					E								
PTFE					T								
RELIEVING AND LEAKAGE LINE CONNECTION													
Non-relieving **(b)**						X							
Non-relieving with leakage line connection – ISO 228 G 1/8"						N							
Non-relieving with leakage line connection – 1/8" NPT						C							
Relieving (only for non-dangerous gases)						R							
Relieving with leakage line connection – ISO 228 G 1/8"						L							
Relieving with leakage line connection – 1/8" NPT						M							
ADJUSTMENT KNOB AND TOP CAP													
Stainless steel adjustment knob							I						
Nylon adjustment knob							P						
Top cap (adjustment screw with cover)							T						
Dome-loading – ISO 228 G 1/4" **(b)**							X						
Dome-loading – 1/4" NPT **(b)**							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 (c)									X				
Standard surface finish									X				
Mirror mechanical polished external surfaces (SF1)									P				
Electropolished internal wetted parts (SF5)									E				
SPECIAL FEATURES										X			
None										X			
Degreased for oxygen										O			
PIPE CONNECTIONS											D		
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													
DN 08												08	
DN 10												10	
1/2" or DN 15												15	
3/4" or DN 20												20	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS													
Full description or additional codes have to be added in case of non-standard combination													E

(a) The loading control pressure can be up to a maximum of 1,2 bar above the required downstream pressure. **(b)** Mandatory in case of dome-loading. **(c)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

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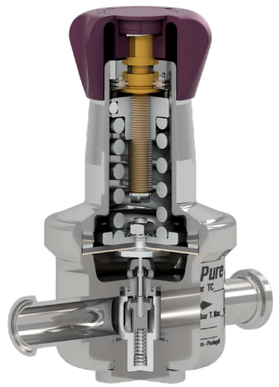
IS P130L.008 E 14.18

SANITARY PRESSURE REDUCING VALVES
P130K

DESCRIPTION

The ADCAPure P130K is a series of direct acting, diaphragm sensing pressure reducing valves.
These regulators, available with spring or dome-loading, are designed for use with clean air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction materials and valve design.
Specifically designed for the high purity gas systems found in the pharmaceutical, cosmetic, fine chemical and food & beverage processes.



MAIN FEATURES

Compact design.
Non-rising adjustment knob.
FDA / USP Class VI compliant seals.
Completely machined from 316L stainless steel bar stock, no castings or forgings are used.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

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

USE: Clean air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction.

AVAILABLE MODELS: P130K.

SIZES: 1/2" and 3/4"; DN 08 to DN 20.

REGULATING RANGES: 0,2 to 1,5 bar; 0,3 to 3 bar; 2 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 is recommended.
See IMI – Installation and maintenance instructions.

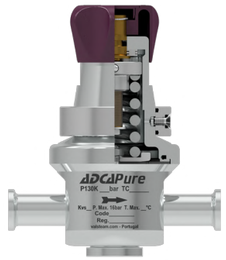
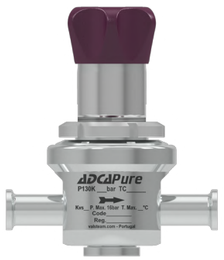
CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
1/2" and 3/4" – DN 08 to 20	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar
Maximum upstream pressure	16 bar
Maximum downstream pressure	8 bar
Minimum downstream pressure	0,2 bar
Maximum operating temperature	150 ºC

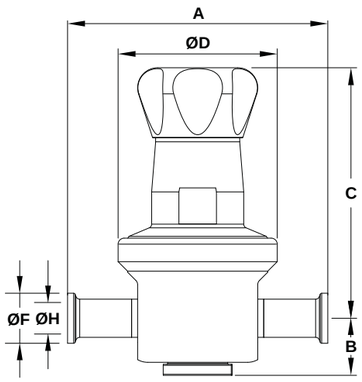
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.

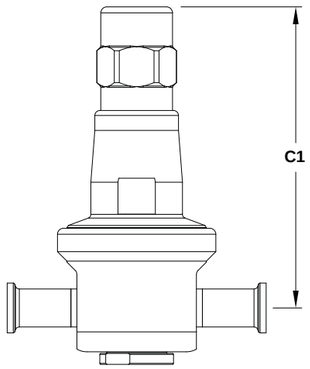
FLOW RATE COEFFICIENTS (m³/h)						
SIZE	**ASME BPE**		**DIN**		**ISO**	
	1/2" and 3/4"		**DN 10 to 20**		**DN 08 to 15**	
Kvs	0,7	1,3	0,7	1,3	0,7	1,3

OPTIONS

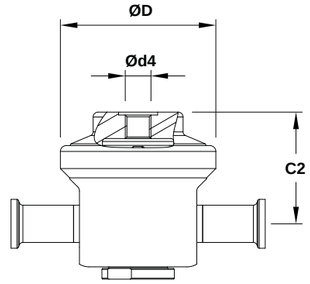
LEAKAGE LINE CONNECTION	PANEL MOUNTING	DOME-LOADING
		
TOP CAP	**GAUGE CONNECTION**	**WALL MOUNTING**
		

DIMENSIONS





Optional top cap



Optional dome-loading

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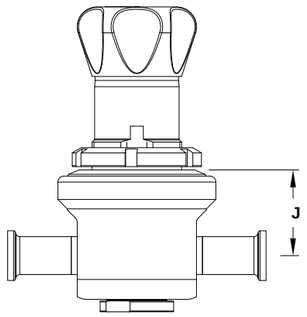
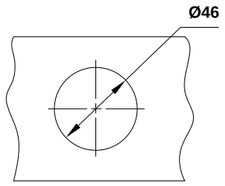
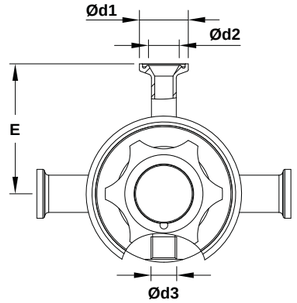
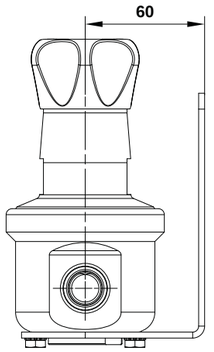


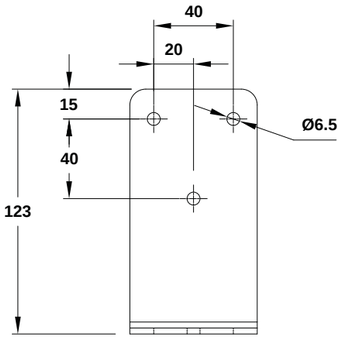


Optional panel mounting

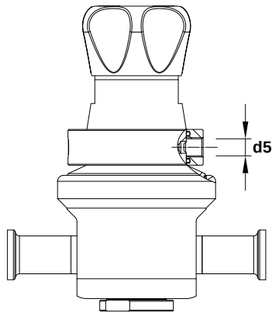


Optional gauge connection





Optional wall mounting



Optional leakage line connection

DIMENSIONS – ASME BPE (mm)																
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**Ød1**	**Ød2**	**d3**	**d4**	**d5**	**E**	**ØF**	**ØH**	**J**	**WGT. (kg) ***
1/2"	130	28	125	151	57,1	80	25	15,75	1/4"	1/4"	1/8"	66,5	25	9,4	43,1	2,4
3/4"	130	28	125	151	57,1	80	25	15,75	1/4"	1/4"	1/8"	66,5	25	15,8	43,1	2,4

* Valves with nylon adjustment knob weigh 0,3 kg less.

DIMENSIONS – DIN (mm)																
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**Ød1**	**Ød2**	**d3**	**d4**	**d5**	**E**	**ØF**	**ØH**	**J**	**WGT. (kg) ***
DN 10	120	28	125	151	57,1	80	25	15,75	1/4"	1/4"	1/8"	66,5	34	10	43,1	2,5
DN 15	120	28	125	151	57,1	80	25	15,75	1/4"	1/4"	1/8"	66,5	34	16	43,1	2,4
DN 20	120	28	125	151	57,1	80	25	15,75	1/4"	1/4"	1/8"	66,5	34	20	43,1	2,6

* Valves with nylon adjustment knob weigh 0,3 kg less.
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**	**J**	**WGT. (kg) ***
DN 08	120	28	125	151	57,1	80	25	15,75	1/4"	1/4"	1/8"	66,5	25	10,3	43,1	2,5
DN 10	120	28	125	151	57,1	80	25	15,75	1/4"	1/4"	1/8"	66,5	25	14	43,1	2,5
DN 15	120	28	125	151	57,1	80	25	15,75	1/4"	1/4"	1/8"	66,5	50,5	18,1	43,1	2,3

* Valves with nylon adjustment knob weigh 0,3 kg less.
Remarks: Clamp ferrules according to DIN 32676-B. Tube weld (ETO) according to DIN 11866-B (ISO 1127).

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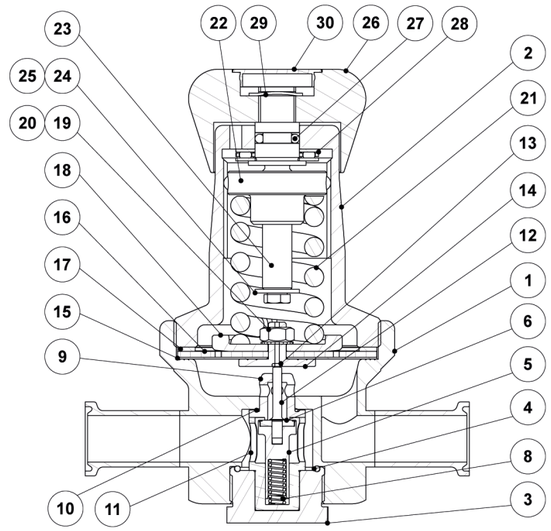
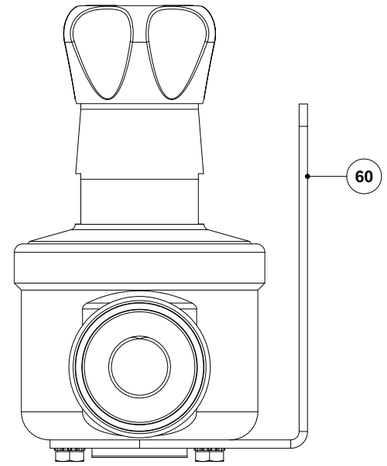
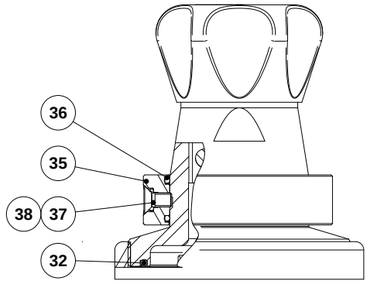
MATERIALS

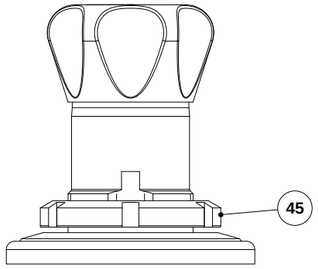




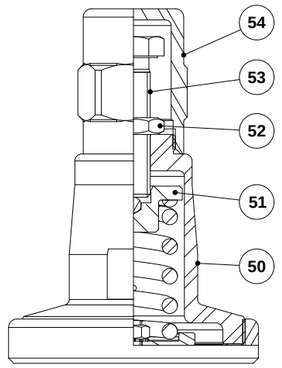
Optional wall mounting



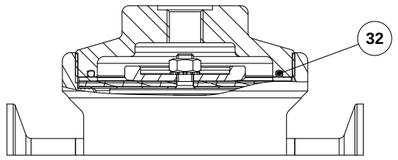
Optional leakage line connection



Optional panel mounting



Optional top cap



Optional dome-loading

VALSTEAM ADCA

IS P130K.008 E 07.20

MATERIALS

POS. Nº	DESIGNATION	MATERIAL
1	Valve body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	Bottom cover	AISI 316L / 1.4404
4	* O-ring	** EPDM
5	* Piston	AISI 316L / 1.4404
6	* Valve seal	** EPDM; PTFE; FPM
8	* Valve spring	AISI 316 / 1.4401 electropolished
9	* Seat	AISI 316L / 1.4404
10	* O-ring	** EPDM
11	* Guide	PEEK
12	* Stem	AISI 316L / 1.4404
13	* O-ring **a)**	** EPDM
14	* Pusher disk	AISI 316L / 1.4404
15	* Lower diaphragm	PTFE (Gylon)
16	* Upper diaphragm	EPDM
17	Washer	AISI 304 / 1.4301
18	* Plate	AISI 316 / 1.4401
19	* Nut	Stainless steel A2-70
20	* Washer	Stainless steel A2
21	* Adjustment spring	AISI 302 / 1.4300
22	Spring guide	AISI 316 / 1.4401
23	Adjustment screw	Brass
24	Washer	Stainless steel A2
25	Bolt	Stainless steel A2-70
26	Adjustment knob	AISI 316L / 1.4404; Nylon
27	O-ring	NBR
28	Bearing	Corrosion resistant steel
29	Shaft ring	Stainless steel
30	Cover nut	Plastic
32	* O-ring	EPDM
35	Leakage line ring	AISI 316 / 1.4401
36	O-ring	NBR
37	Bolt	AISI 304 / 1.4301
38	O-ring	FPM
45	Lock nut	CF8M / 1.4408
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	Support plate	AISI 316L / 1.4404

* Available spare parts. ** Others on request.
a) Only for valve with self-relieving option.
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.

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ORDERING CODES P130K

Valve model	P3K	1	2	T	M	X	I	X	X	X	DI	08	
P130K – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve	P3K												
Regulating range													
0,2 to 1,5 bar		1											
0,3 to 3 bar		2											
2 to 8 bar		3											
0,2 to 8 bar (dome-loading) **a)**		A											
Flow rate coefficient													
Kvs 0,7			3										
Kvs 1,3			5										
Diaphragm													
PTFE (Gylon)				T									
EPDM (non-standard)				E									
Valve sealing													
Metal to metal (non-standard)					M								
EPDM					E								
PTFE					T								
FPM / Viton (USP Class VI on request)					V								
Relieving and leakage line connection													
Non-relieving **b)**						X							
Non-relieving with leakage line connection – ISO 228 G 1/8"						N							
Non-relieving with leakage line connection – 1/8" NPT						C							
Relieving (only for non-dangerous gases)						R							
Relieving with leakage line connection – ISO 228 G 1/8"						L							
Relieving with leakage line connection – 1/8" NPT						M							
Adjustment knob and top cap													
Stainless steel adjustment knob							I						
Nylon adjustment knob							P						
Top cap (adjustment screw with cover)							T						
Dome-loading – ISO 228 G 1/4" **b)**							X						
Dome-loading – 1/4" NPT **b)**							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 c)									X				
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 connection													
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													
DN 08												08	
DN 10												10	
1/2" or DN 15												15	
3/4" or DN 20												20	
Special construction / Additional options													
Full description or additional codes have to be added in case of non-standard combination													E

a) The loading control pressure can be up to a maximum of 1,2 bar above the required downstream pressure. **b)** Mandatory in case of dome-loading.
c) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

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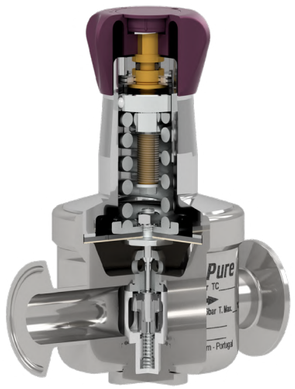
SANITARY PRESSURE REDUCING VALVES
P130J

DESCRIPTION

The ADCAPure P130J is a series of direct acting, diaphragm sensing, balanced plug pressure reducing valves.
These regulators, available with spring or dome-loading, are designed for use with clean air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction materials and valve design.
Specifically designed for the high purity gas systems found in the pharmaceutical, cosmetic, fine chemical and food & beverage processes.



MAIN FEATURES

Compact design.
Non-rising adjustment knob.
FDA / USP Class VI compliant seals.
Completely machined from 316L stainless steel bar stock, no castings or forgings are used.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

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

USE: Clean air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction.

AVAILABLE MODELS: P130J.

SIZES: 1/2" to 1"; DN 08 to DN 25.

REGULATING RANGES: 0,2 to 1,5 bar; 0,3 to 3 bar; 2 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 is recommended.
See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
1/2" to 1" – DN 08 to 25	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar
Maximum upstream pressure	16 bar
Maximum downstream pressure	8 bar
Minimum downstream pressure	0,2 bar
Maximum operating temperature	150 ºC

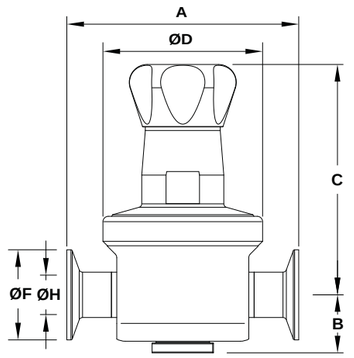
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.

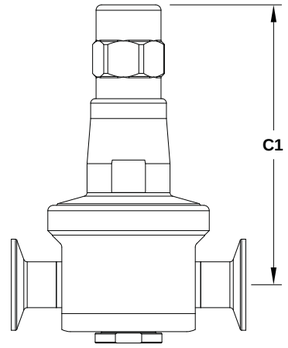
FLOW RATE COEFFICIENTS (m³/h)									
SIZE	ASME BPE			DIN			ISO		
	1/2"	3/4" to 1"		DN 10	DN 15 to 25		DN 08	DN 10 to 20	
Kvs	1,7	1,7	2,4	1,7	1,7	2,4	1,7	1,7	2,4

OPTIONS

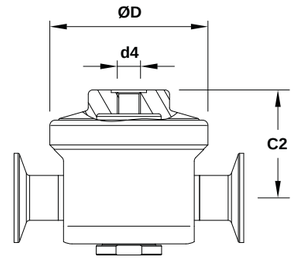
LEAKAGE LINE CONNECTION	PANEL MOUNTING	DOME-LOADING
		
TOP CAP	**GAUGE CONNECTION**	**WALL MOUNTING**
		

DIMENSIONS





Optional top cap



Optional dome-loading

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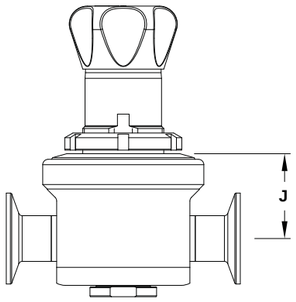
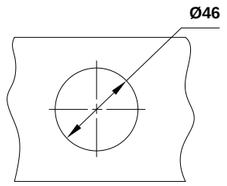
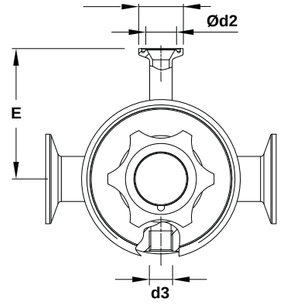
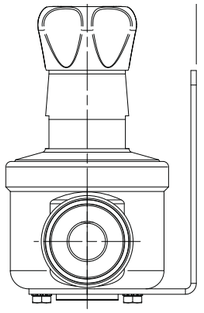


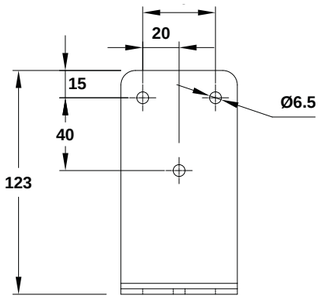


Optional panel mounting

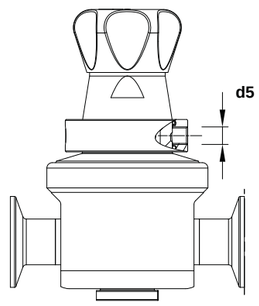


Optional gauge connection





Optional wall mounting



Optional leakage line connection

DIMENSIONS – ASME BPE (mm)

SIZE	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	J	WGT. (kg) *
1/2"	130	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	25	9,4	47,1	3,4
3/4"	130	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	25	15,8	47,1	3,4
1"	130	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	50,4	22,1	47,1	3,4

* Valves with nylon adjustment knob weigh 0,3 kg less.

DIMENSIONS – DIN (mm)

SIZE	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	J	WGT. (kg) *
DN 10	120	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	34	10	47,1	3,4
DN 15	120	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	34	16	47,1	3,3
DN 20	120	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	34	20	47,1	3,3
DN 25	120	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	50,5	26	47,1	3,3

* Valves with nylon adjustment knob weigh 0,3 kg less.
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	J	WGT. (kg) *
DN 08	120	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	25	10,3	47,1	3,4
DN 10	120	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	25	14	47,1	3,4
DN 15	120	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	50,5	18,1	47,1	3,4
DN 20	120	32	129	155	61,1	90	25	15,75	1/4"	1/4"	1/8"	73,5	50,5	23,7	47,1	3,3

* Valves with nylon adjustment knob weigh 0,3 kg less.
Remarks: Clamp ferrules according to DIN 32676-B. Tube weld (ETO) according to DIN 11866-B (ISO 1127).

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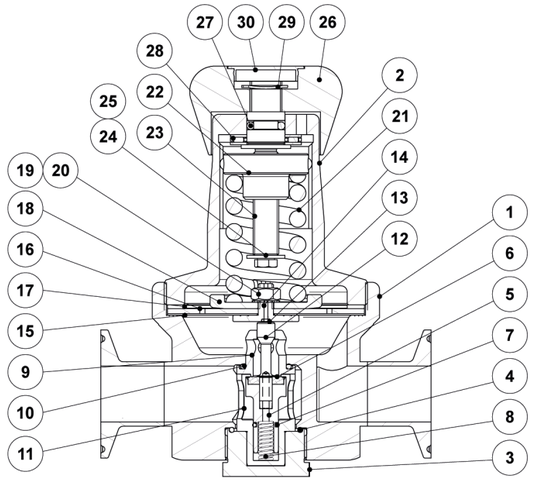
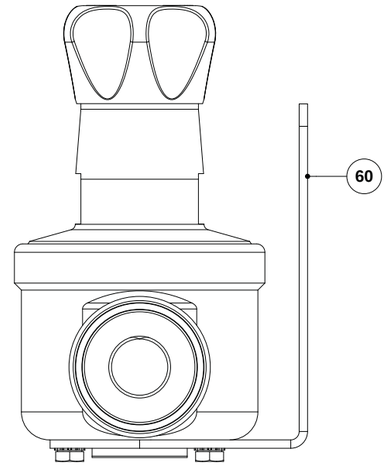
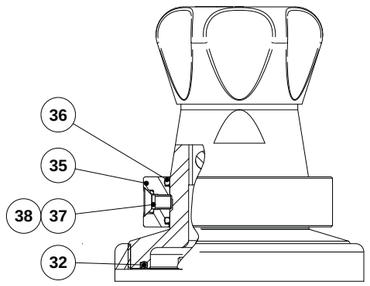
MATERIALS

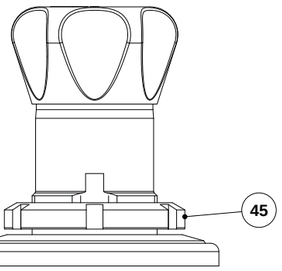




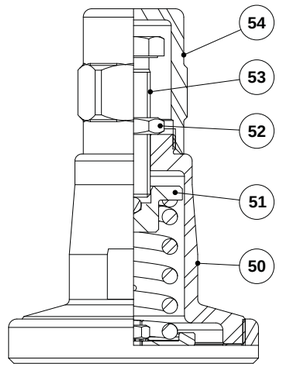
Optional wall mounting



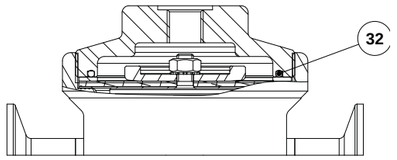
Optional leakage line connection



Optional panel mounting



Optional top cap



Optional dome-loading

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MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	Bottom cover	AISI 316L / 1.4404
4	* O-ring	** EPDM
5	* Piston	AISI 316L / 1.4404
6	* Valve seal	** EPDM; PTFE; FPM
7	* O-ring	** EPDM
8	* Valve spring	AISI 316 / 1.4401 electropolished
9	* Seat	AISI 316L / 1.4404
10	* O-ring	** EPDM
11	Guide	AISI 316L / 1.4404
12	* Stem	AISI 316L / 1.4404
13	* O-ring **a)**	** EPDM
14	* Pusher disk	AISI 316L / 1.4404
15	* Lower diaphragm	PTFE (Gylon)
16	* Upper diaphragm	EPDM
17	Washer	AISI 304 / 1.4301
18	* Plate	AISI 316 / 1.4401
19	* Nut	Stainless steel A2-70
20	* Washer	Stainless steel A2
21	* Adjustment spring	AISI 302 / 1.4300
22	Spring guide	AISI 316 / 1.4401
23	Adjustment screw	Brass
24	Washer	Stainless steel A2
25	Bolt	Stainless steel A2-70
26	Adjustment knob	AISI 316L / 1.4404; Nylon
27	O-ring	NBR
28	Bearing	Corrosion resistant steel
29	Shaft ring	Stainless steel
30	Cover nut	Plastic
32	* O-ring	EPDM
35	Leakage line ring	AISI 316 / 1.4401
36	O-ring	NBR
37	Bolt	AISI 304 / 1.4301
38	O-ring	FPM
45	Lock nut	CF8M / 1.4408
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	Support plate	AISI 316L / 1.4404

* Available spare parts. ** Others on request.
a) Only for valve with self-relieving option.
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.

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ORDERING CODES P130J												
Valve model	**P3J**	**1**	**2**	**T**	**M**	**X**	**I**	**X**	**X**	**X**	**DI**	**25**	
P130J – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve	**P3J**												
Regulating range													
0,2 to 1,5 bar		**1**											
0,3 to 3 bar		**2**											
2 to 8 bar		**3**											
0,2 to 8 bar (dome-loading) **a)**		**A**											
Flow rate coefficient													
Kvs 1,7			**3**										
Kvs 2,4 (not applicable to sizes 1/2" ASME BPE, DIN DN 10 and ISO DN 08)			**5**										
Diaphragm													
PTFE (Gylon)				**T**									
EPDM (non-standard)				**E**									
Valve sealing													
Metal to metal (non-standard)					**M**								
EPDM					**E**								
PTFE					**T**								
FPM / Viton (USP Class VI on request)					**V**								
Relieving and leakage line connection													
Non-relieving **b)**						**X**							
Non-relieving with leakage line connection – ISO 228 G 1/8"						**N**							
Non-relieving with leakage line connection – 1/8" NPT						**C**							
Relieving (only for non-dangerous gases)						**R**							
Relieving with leakage line connection – ISO 228 G 1/8"						**L**							
Relieving with leakage line connection – 1/8" NPT						**M**							
Adjustment knob and top cap													
Stainless steel adjustment knob							**I**						
Nylon adjustment knob							**P**						
Top cap (adjustment screw with cover)							**T**						
Dome-loading – ISO 228 G 1/4" **b)**							**X**						
Dome-loading – 1/4" NPT **b)**							**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 c)													
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 connection													
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													
DN 08												**08**	
DN 10												**10**	
1/2" or DN 15												**15**	
3/4" or DN 20												**20**	
1" or DN 25												**25**	
Special construction / Additional options													
Full description or additional codes have to be added in case of non-standard combination													**E**

a) The loading control pressure can be up to a maximum of 1,2 bar above the required downstream pressure. **b)** Mandatory in case of dome-loading.
c) Consult TIS.GIA – General information ADCAPure – details and other surface finish options.

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IS P130J.008 E 06.20

SANITARY PRESSURE REDUCING VALVES
P130H

DESCRIPTION

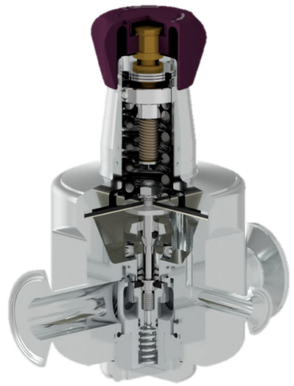
The ADCAPure P130H is a series of direct acting, diaphragm sensing, balanced plug pressure reducing valves.
These regulators, available with spring or dome-loading, are designed for use with clean air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction materials and valve design.
Specifically designed for the high purity gas systems found in the pharmaceutical, cosmetic, fine chemical and food & beverage processes.

MAIN FEATURES

Compact design.
Non-rising adjustment knob.
FDA / USP Class VI compliant seals.
Completely machined from 316L stainless steel bar stock, no castings or forgings are used.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm 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 air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction.

AVAILABLE MODELS: P130H.

SIZES: 1"; DN 25.

REGULATING RANGES: 0,2 to 1,5 bar; 0,3 to 3 bar; 2 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 is recommended.
See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
1" – DN 25	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar
Maximum upstream pressure	16 bar
Maximum downstream pressure	8 bar
Minimum downstream pressure	0,2 bar
Maximum operating temperature	150 ºC

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

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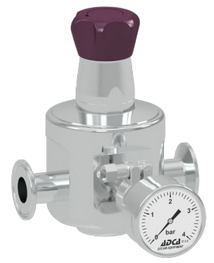
FLOW RATE COEFFICIENTS (m³/h)						
SIZE	**ASME BPE**		**DIN**		**ISO**	
	1"		**DN 25**		**DN 25**	
Kvs	3,2	4,2	3,2	4,2	3,2	4,2

OPTIONS

LEAKAGE LINE CONNECTION	DOME-LOADING	TOP CAP	GAUGE CONNECTION
			

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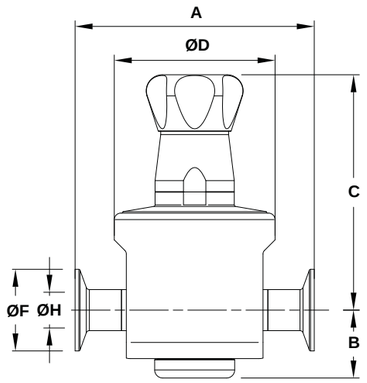
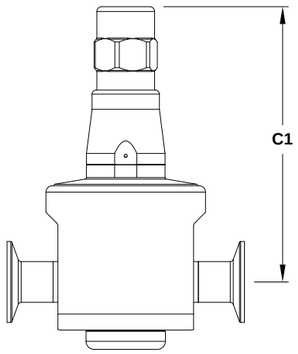
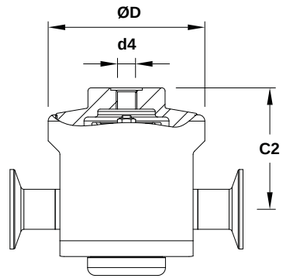
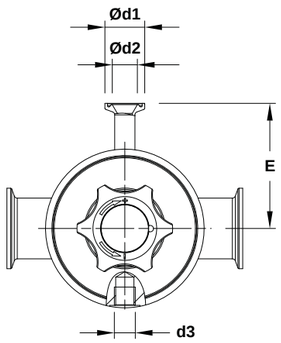




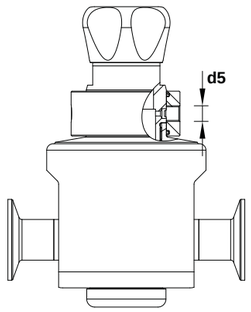
Optional top cap



Optional dome-loading



Optional gauge connection



Optional leakage line connection

DIMENSIONS – ASME BPE (mm)															
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**Ød1**	**Ød2**	**d3**	**d4**	**d5**	**E**	**ØF**	**ØH**	**WGT. (kg) ***
1"	148	42	146	171,6	77,1	100	25	15,75	1/4"	1/4"	1/8"	78,5	50,4	22,1	5,14

* Valves with nylon adjustment knob weigh 0,3 kg less.

DIMENSIONS – DIN (mm)															
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**Ød1**	**Ød2**	**d3**	**d4**	**d5**	**E**	**ØF**	**ØH**	**WGT. (kg) ***
DN 25	135	42	146	171,6	77,1	100	25	15,75	1/4"	1/4"	1/8"	78,5	50,5	26	5,17

* Valves with nylon adjustment knob weigh 0,3 kg less.
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 25	135	46	142	171,6	73,1	100	25	15,75	1/4"	1/4"	1/8"	78,5	50,5	29,7	5,16

* Valves with nylon adjustment knob weigh 0,3 kg less.
Remarks: Clamp ferrules according to DIN 32676-B. Tube weld (ETO) according to DIN 11866-B (ISO 1127).

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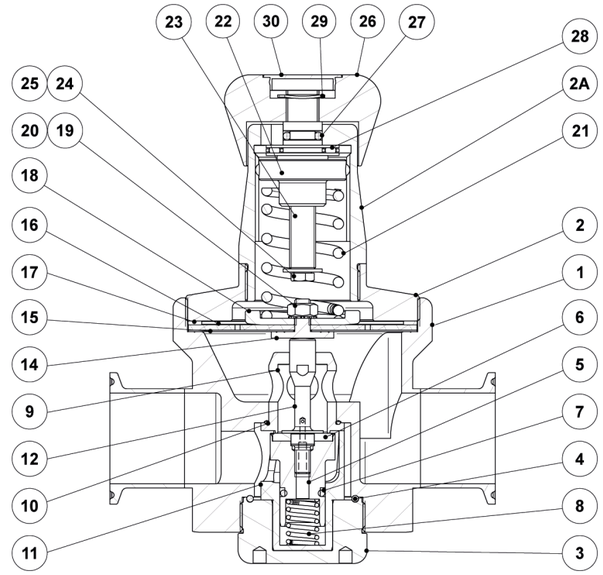
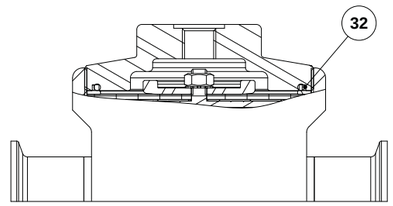
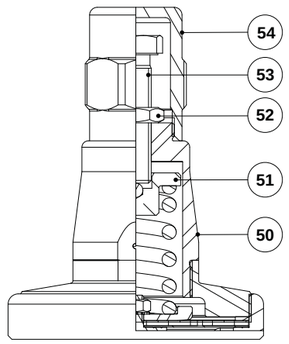
MATERIALS

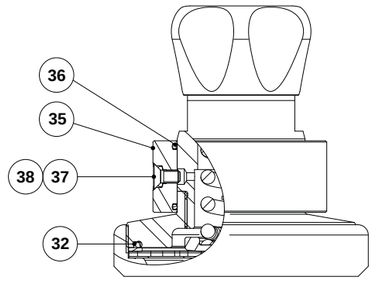




Optional dome-loading



Optional top cap



Optional leakage line connection

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MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
2A	Spring cover	AISI 316L / 1.4404
3	Bottom cover	AISI 316L / 1.4404
4	* O-ring	** EPDM
5	* Piston	AISI 316L / 1.4404
6	* Valve seal	** EPDM; PTFE; FPM
7	* O-ring	** EPDM
8	* Valve spring	AISI 316 / 1.4401 electropolished
9	* Seat	AISI 316L / 1.4404
10	* O-ring	** EPDM
11	Guide	AISI 316L / 1.4404
12	* Stem	AISI 316L / 1.4404
14	* Pusher disk	AISI 316L / 1.4404
15	* Lower diaphragm	PTFE (Gylon)
16	* Upper diaphragm	EPDM
17	Washer	AISI 304 / 1.4301
18	* Plate	AISI 304 / 1.4301
19	* Nut	Stainless steel A2-70
20	* Washer	Stainless steel A2
21	* Adjustment spring	AISI 302 / 1.4300
22	Spring guide	AISI 316 / 1.4401
23	Adjustment screw	Brass
24	Washer	Stainless steel A2
25	Bolt	Stainless steel A2-70
26	Adjustment knob	AISI 316L / 1.4404; Nylon
27	O-ring	NBR
28	Bearing	Corrosion resistant steel
29	Shaft ring	Stainless steel
30	Cover nut	Plastic
32	* O-ring	EPDM
35	Leakage line ring	AISI 316 / 1.4401
36	O-ring	NBR
37	Bolt	AISI 304 / 1.4301
38	O-ring	FPM
50	Cover	AISI 316L / 1.4404
51	Spring guide	Brass
52	Lock nut	Stainless steel A2
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.

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ORDERING CODES P130H													
Valve model	**P3H**	**1**	**2**	**T**	**M**	**X**	**I**	**X**	**X**	**X**	**DI**	**25**	
P130H – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve	**P3H**												
Regulating range													
0,2 to 1,5 bar		**1**											
0,3 to 3 bar		**2**											
2 to 8 bar		**3**											
0,2 to 8 bar (dome-loading) **a)**		**A**											
Flow rate coefficient													
Kvs 3,2			**1**										
Kvs 4,2			**2**										
Diaphragm													
PTFE (Gylon)				**T**									
EPDM (non-standard)				**E**									
Valve sealing													
Metal to metal (non-standard)					**M**								
EPDM					**E**								
PTFE					**T**								
FPM / Viton (USP Class VI on request)					**V**								
Leakage line connection													
Without leakage line connection						**X**							
Leakage line connection – ISO 228 G 1/8"						**N**							
Leakage line connection – 1/8" NPT						**C**							
Adjustment knob and top cap													
Stainless steel adjustment knob							**I**						
Nylon adjustment knob							**P**						
Top cap (adjustment screw with cover)							**T**						
Dome-loading – ISO 228 G 1/4" **b)**							**X**						
Dome-loading – 1/4" NPT **b)**							**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 c)													
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 connection													
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" or DN 25												**25**	
Special construction / Additional options													
Full description or additional codes have to be added in case of non-standard combination													**E**

a) The loading control pressure can be up to a maximum of 1,2 bar above the required downstream pressure. **b)** Mandatory in case of dome-loading.
c) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

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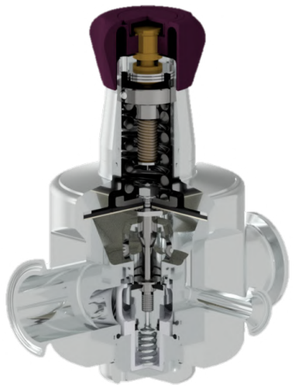
IS P130H.025 E 13.18

SANITARY PRESSURE REDUCING VALVES
P130G

DESCRIPTION

The ADCAPure P130G is a series of direct acting, diaphragm sensing, balanced plug pressure reducing valves.
These regulators, available with spring or dome-loading, are designed for use with clean air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction materials and valve design.
Specifically designed for the high purity gas systems found in the pharmaceutical, cosmetic, fine chemical and food & beverage processes.



MAIN FEATURES

Compact design.
Non-rising adjustment knob.
FDA / USP Class VI compliant seals.
Completely machined from 316L stainless steel bar stock, no castings or forgings are used.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm 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 air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction.
AVAILABLE MODELS:	P130G.
SIZES:	11/2"; DN 32 and DN 40.
REGULATING RANGES:	0,2 to 1,5 bar; 0,3 to 3 bar; 2 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 is recommended. See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
11/2" – DN 32 and 40	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar
Maximum upstream pressure	16 bar
Maximum downstream pressure	8 bar
Minimum downstream pressure	0,2 bar
Maximum operating temperature	150 ºC

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

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FLOW RATE COEFFICIENTS (m³/h)									
SIZE	**ASME BPE**			**DIN**			**ISO**		
	11/2"			**DN 32 and 40**			**DN 32**		
Kvs	4,2	4,8	6,3	4,2	4,8	6,3	4,2	4,8	6,3

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

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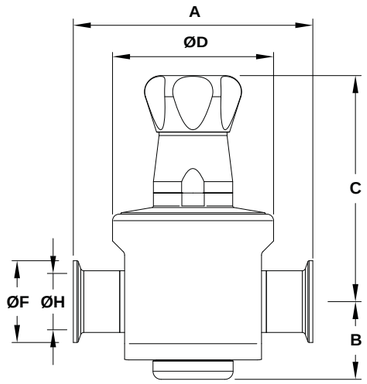
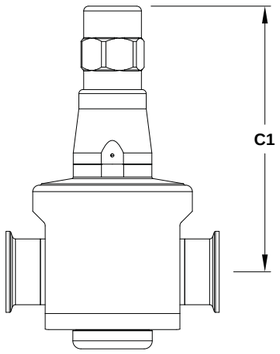
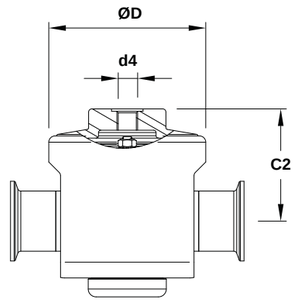
IS P130G.032 E 11.18

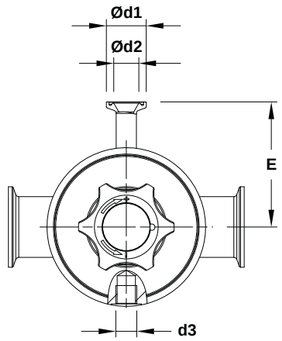




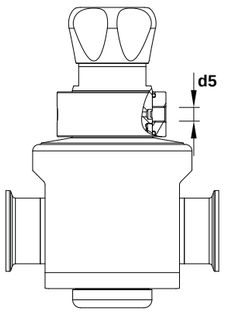
Optional top cap



Optional dome-loading



Optional gauge connection



Optional leakage line connection

DIMENSIONS – ASME BPE (mm)															
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**Ød1**	**Ød2**	**d3**	**d4**	**d5**	**E**	**ØF**	**ØH**	**WGT. (kg) ***
11/2"	148	48	140	165,6	71,1	100	25	15,75	1/4"	1/4"	1/8"	78,5	50,4	34,8	4,99

* Valves with nylon adjustment knob weigh 0,3 kg less.

DIMENSIONS – DIN (mm)															
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**Ød1**	**Ød2**	**d3**	**d4**	**d5**	**E**	**ØF**	**ØH**	**WGT. (kg) ***
DN 32	133	48	140	165,6	71,1	100	25	15,75	1/4"	1/4"	1/8"	78,5	50,5	32	4,98
DN 40	133	48	140	165,6	71,1	100	25	15,75	1/4"	1/4"	1/8"	78,5	50,5	38	4,94

* Valves with nylon adjustment knob weigh 0,3 kg less.
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 32	133	48	140	165,6	71,1	100	25	15,75	1/4"	1/4"	1/8"	78,5	64	38,4	5,1

* Valves with nylon adjustment knob weigh 0,3 kg less.
Remarks: Clamp ferrules according to DIN 32676-B. Tube weld (ETO) according to DIN 11866-B (ISO 1127).

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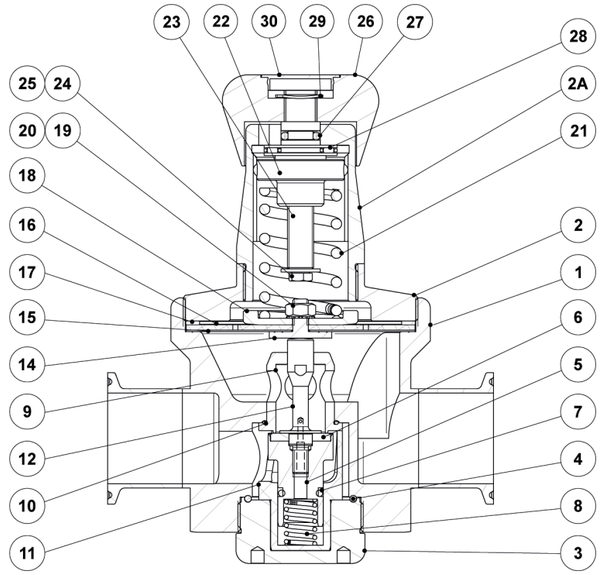
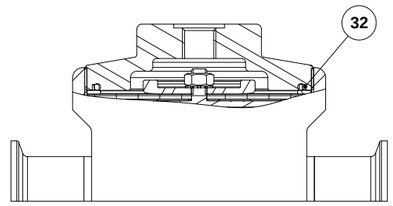
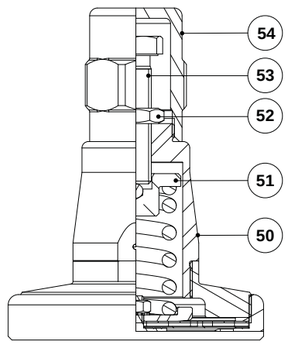
MATERIALS

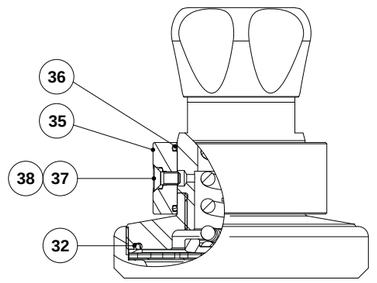




Optional dome-loading



Optional top cap



Optional leakage line connection

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IS P130G.032 E 11.18

MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
2A	Spring cover	AISI 316L / 1.4404
3	Bottom cover	AISI 316L / 1.4404
4	* O-ring	** EPDM
5	* Piston	AISI 316L / 1.4404
6	* Valve seal	** EPDM; PTFE; FPM
7	* O-ring	** EPDM
8	* Valve spring	AISI 316 / 1.4401 electropolished
9	* Seat	AISI 316L / 1.4404
10	* O-ring	** EPDM
11	* Guide	AISI 316L / 1.4404
12	* Stem	AISI 316L / 1.4404
14	Pusher disk	AISI 316L / 1.4404
15	* Lower diaphragm	PTFE (Gylon)
16	* Upper diaphragm	EPDM
17	Washer	AISI 304 / 1.4301
18	Plate	AISI 304 / 1.4301
19	Nut	Stainless steel A2-70
20	* Washer	Stainless steel A2
21	* Adjustment spring	AISI 302 / 1.4300
22	Spring guide	AISI 316 / 1.4401
23	Adjustment screw	Brass
24	Washer	Stainless steel A2
25	Bolt	Stainless steel A2-70
26	Adjustment knob	AISI 316L / 1.4404; Nylon
27	O-ring	NBR
28	Bearing	Corrosion resistant steel
29	Shaft ring	Stainless steel
30	Cover nut	Plastic
32	* O-ring	EPDM
35	Leakage line ring	AISI 316 / 1.4401
36	O-ring	NBR
37	Bolt	AISI 304 / 1.4301
38	O-ring	FPM
50	Cover	AISI 316L / 1.4404
51	Spring guide	Brass
52	Lock nut	Stainless steel A2
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.

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ORDERING CODES P130G													
Valve model	**P3G**	**1**	**2**	**T**	**M**	**X**	**I**	**X**	**X**	**X**	**DI**	**32**	**E**
P130G – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve	**P3G**												
Regulating range													
0,2 to 1,5 bar		**1**											
0,3 to 3 bar		**2**											
2 to 8 bar		**3**											
0,2 to 8 bar (dome-loaded) **a)**		**A**											
Flow rate coefficient													
Kvs 4,2			**2**										
Kvs 4,8			**3**										
Kvs 6,3			**5**										
Diaphragm													
PTFE (Gylon)				**T**									
EPDM (non-standard)				**E**									
Valve sealing													
Metal to metal (non-standard)					**M**								
EPDM					**E**								
PTFE					**T**								
FPM / Viton (USP Class VI on request)					**V**								
Leakage line connection													
Without leakage line connection						**X**							
Leakage line connection – ISO 228 G 1/8"						**N**							
Leakage line connection – 1/8" NPT						**C**							
Adjustment knob and top cap													
Stainless steel adjustment knob							**I**						
Nylon adjustment knob							**P**						
Top cap (adjustment screw with cover)							**T**						
Dome-loading – ISO 228 G 1/4" **b)**							**X**						
Dome-loading – 1/4" NPT							**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 c)													
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 connection													
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													
DN 32												**32**	
11/2" or DN 40												**40**	
Special construction / Additional options													
Full description or additional codes have to be added in case of non-standard combination													**E**

a) The loading control pressure can be up to a maximum of 1,2 bar above the required downstream pressure. **b)** Mandatory in case of dome-loading.
c) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

VALSTEAM ADCA
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IS P130G.032 E 11.18

SANITARY PILOT OPERATED PRESSURE REDUCING VALVES P147

DESCRIPTION

The ADCAPure P147 is a series of pilot operated, diaphragm sensing pressure reducing valves.
These regulators, available with spring or dome-loading, are designed for use with clean air, nitrogen, carbon dioxide, oxygen, argon and other gases compatible with the construction materials and valve design. Specifically designed for the high purity gas systems found in the pharmaceutical, cosmetic, fine chemical and food & beverage processes.

MAIN FEATURES

Precise control of downstream pressure from 0,2 to 8 bar.
FDA / USP Class VI compliant seals.
Guided piston and valve stem.
Non-rising adjustment knob.
Completely machined from 316L stainless steel bar stock, no castings or forgings are used.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – 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.
Dome-loading.
Bottom cover with drain connection.
Different soft sealings for liquids and gases.

USE: Clean air, nitrogen, carbon dioxide, oxygen, argon and other gases compatible with the construction.
Clean steam (under special request).

AVAILABLE MODELS: P147.

SIZES: 21/2" and 3"; DN 65 and DN 80.

REGULATING RANGES: 0,2 – 1,5 bar; 0,3 – 3 bar; 2 – 8 bar.

CONNECTIONS: ASME BPE and DIN clamp ferrules. 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 16	**Category**
All sizes	1 (CE marked)

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar
Maximum upstream pressure	16 bar
Maximum downstream pressure	8 bar
Minimum downstream pressure	0,2 bar
Maximum operating temperature	150 ºC

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

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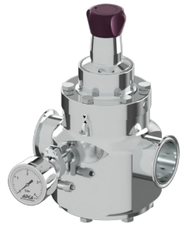
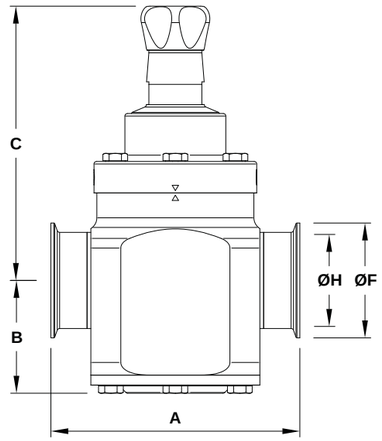
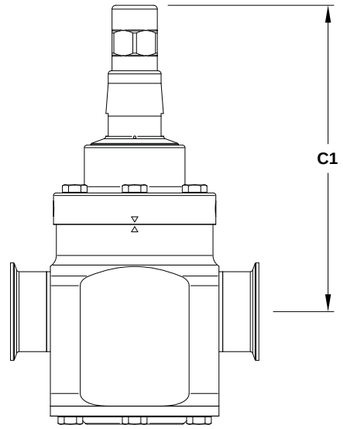
FLOW RATE COEFFICIENTS (m³/h)				
SIZE	**BPE**		**DIN**	
	21/2"	**3"**	**DN 65**	**DN 80**
Kvs	41	46	41	46

OPTIONS

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

DIMENSIONS





Optional top cap

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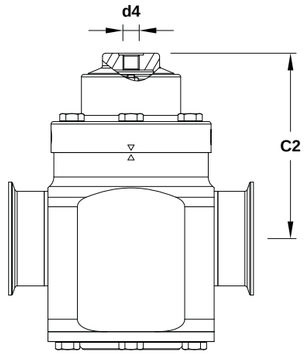
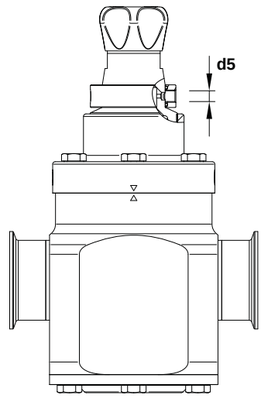
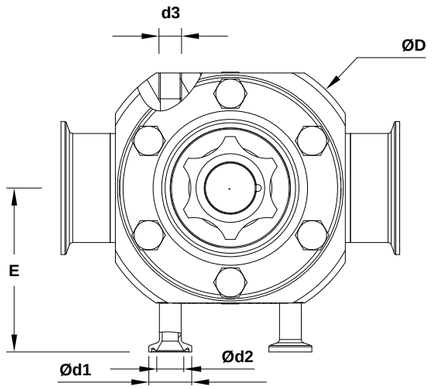
IS P147.065 E 07.18



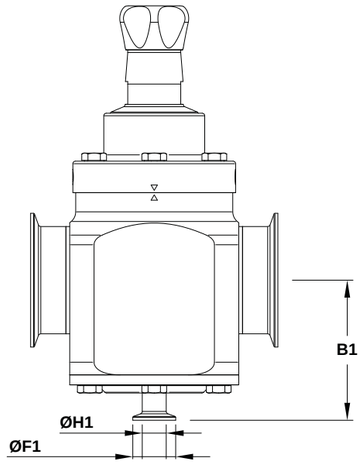
Optional dome-loading



Optional leakage line connection



Optional gauge connection



Optional bottom cover with drain 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) ***
21/2"	197	89	111	218	243	149	160	25	15,75	1/4"	1/4"	1/8"	95,5	77,4	25	60,2	15,75	17,1
3"	197	89	111	218	243	149	160	25	15,75	1/4"	1/4"	1/8"	95,5	90,9	25	72,9	15,75	17,3

* Valves with nylon adjustment knob weigh 0,3 kg less.

DIMENSIONS – DIN (mm)																		
SIZE	**A**	**B**	**B1**	**C**	**C1**	**C2**	**ØD**	**Ød1**	**Ød2**	**d3**	**d4**	**d5**	**E**	**ØF**	**ØF1**	**ØH**	**ØH1**	**WGT. (kg) ***
DN 65	196	89	111	218	243	149	160	25	15,75	1/4"	1/4"	1/8"	95,5	91	34	66	16	17,3
DN 80	196	89	111	218	243	149	165	25	15,75	1/4"	1/4"	1/8"	95,5	106	34	81	16	17,8

* Valves with nylon adjustment knob weigh 0,3 kg less.
Remark: Clamp ferrules according to DIN 32676-A.

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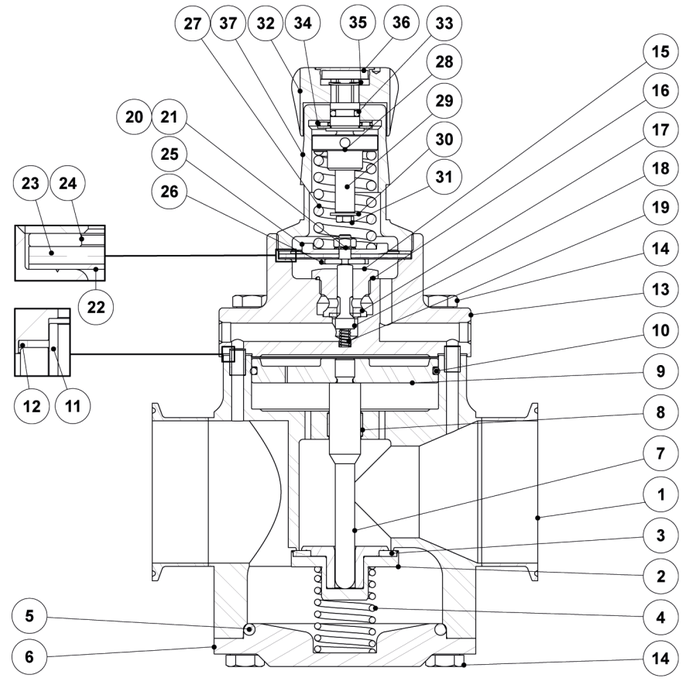
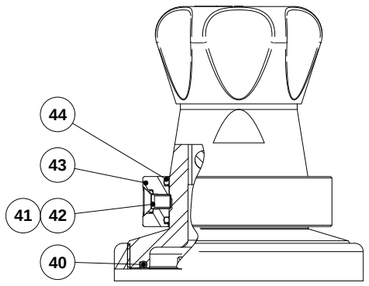
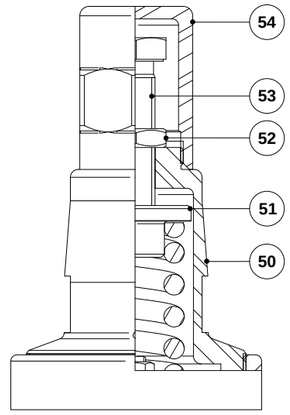
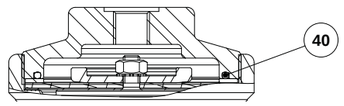




Optional leakage line connection



Optional top cap



Optional dome-loading

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IS P147.065 E 07.18

MATERIALS

POS. Nº	DESIGNATION	MATERIAL
1	Valve body	AISI 316L / 1.4404
2	* Main valve plug	AISI 316L / 1.4404
3	* Main valve seal	** EPDM; PTFE
4	* Main valve spring	AISI 316 / 1.4401
5	* O-ring	** EPDM
6	Bottom cover	AISI 316L / 1.4404
7	* Main valve stem	AISI 316L / 1.4404
8	* Plain bearing	** PTFE
9	Piston	AISI 316L / 1.4404
10	* O-ring	** EPDM
11	Positioning tube	AISI 316L / 1.4404
12	Gasket	** PTFE
13	Pilot valve body	AISI 316L / 1.4404
14	Bolts	Stainless steel A2-70
15	* Pilot valve seat	AISI 316L / 1.4404
16	* O-ring	** EPDM
17	* Pilot valve seal	** EPDM; PTFE
18	* Pilot valve plug	AISI 316L / 1.4404
19	* Valve spring	AISI 316 / 1.4401 electropolished
20	* Washer	Stainless steel A2
21	* Nut	Stainless steel A2-70
22	* Lower diaphragm	PTFE (Gylon)
23	* Upper diaphragm	EPDM
24	* Washer	AISI 304 / 1.4301
25	* Plate	AISI 316 / 1.4401
26	Nut	Stainless steel A2-70
27	* Adjustment spring	AISI 302 / 1.4300
28	* Spring guide	AISI 316 / 1.4401
29	Adjustment screw	Brass
30	Washer	Stainless steel A2
31	Bolt	Stainless steel A2-70
32	Adjustment knob	AISI 316L / 1.4404; Nylon
33	O-ring	NBR
34	Bearing	Corrosion resistant steel
35	Shaft ring	Stainless steel
36	Cover nut	Plastic
37	Cover	AISI 316L / 1.4404
40	* O-ring	EPDM
41	Bolt	AISI 304 / 1.4301
42	O-ring	FPM
43	Leakage line ring	AISI 316 / 1.4401
44	O-ring	NBR
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.

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ORDERING CODES P147

Valve model	P47	1	6	E	M	I	X	X	X	DI	65	E
P147 – AISI 316L / 1.4404 pilot operated pressure reducing valve	P47											
Regulating range												
0,2 to 1,5 bar		1										
0,3 to 3 bar		2										
2 to 8 bar		3										
0,2 to 8 bar (dome loading) **a)**		A										
Flow rate coefficient												
Kvs 41			6									
Kvs 46			7									
Diaphragm												
PTFE (Gylon)				T								
EPDM (non-standard)				E								
Valve sealing												
Metal to metal (non-standard)					M							
EPDM					E							
PTFE					T							
Adjustment knob, top cap and leakage line connection												
Stainless steel adjustment knob						I						
Stainless steel adjustment knob with leakage line connection – ISO 228 G 1/8"						L						
Stainless steel adjustment knob with leakage line connection – ISO 228 G 1/8" NPT						Q						
Nylon adjustment knob						P						
Nylon adjustment knob with leakage line connection – ISO 228 G 1/8"						N						
Nylon adjustment knob with leakage line connection – ISO 228 G 1/8" NPT						M						
Top cap (adjustment screw with cover)						T						
Top cap (adjustment screw with cover) with leakage line connection – ISO 228 G 1/8"						U						
Top cap (adjustment screw with cover) with leakage line connection – ISO 228 G 1/8" NPT						V						
Dome-loading – ISO 228 G 1/4" **b)**						X						
Dome-loading – 1/4" NPT **b)**						C						
Gauge connections												
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 (rel. to flow direction) – upstream & downstream press. – 2 conn. – ISO 228 G 1/4"							1					
Threaded gauge conn. right side (rel. 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					
Surface finish c)												
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			
Bottom cover with drain connection									D			
Pipe connection												
Clamp ferrule ASME BPE										D		
Clamp ferrule DIN (DIN 32676-A)										F		
Tube weld (ETO) according to ASME BPE										DI		
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)										FI		
Size												
21/2" or DN 65											65	
3" or DN 80											80	
Special construction / Additional options												
Full description or additional codes have to be added in case of non-standard combination												E

a) The loading control pressure can be up to a maximum of 1,2 bar above the required downstream pressure. **b)** Mandatory in case of dome-loading. **c)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

VALSTEAM ADCA
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IS P147.065 E 07.18

SANITARY PRESSURE REDUCING VALVES
P160G

DESCRIPTION

The ADCAPure P160G is a series of angle design direct acting diaphragm sensing pressure reducing valves.
These 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

High capacities.
Top cap (adjustment screw with cover).
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 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Leakage line connection.
Gauge connection on body.
Lock system, allows inline clean-in-place (CIP) and sterilization-in-place (SIP) operations.
Lifting lugs to ease installation.
Different soft sealings for liquids and gases.

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

AVAILABLE MODELS: P160G.

SIZES: 21/2" and 3".

REGULATING RANGES: 1 to 1,7 bar; 1,5 to 4 bar.

CONNECTIONS: ASME BPE clamp ferrules.
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. Vertical inlet and horizontal outlet. See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 10	**Category**
21/2" and 3"	1 (CE Marked)

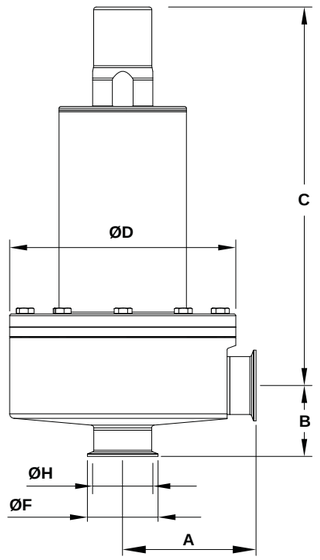
LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum upstream pressure	8 bar
Maximum downstream pressure	4 bar
Minimum downstream pressure **	1 bar
Maximum operating temperature ***	180 ºC

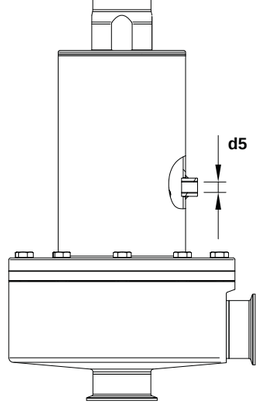
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** For tight shut off, with adjustment spring relaxed, ensure a minimum downstream pressure of 0,2 bar.
*** See "Ordering Codes" table for restrictions.

FLOW RATE COEFFICIENTS (m³/h)		
SIZE	**21/2"**	**3"**
Kvs	19,8	

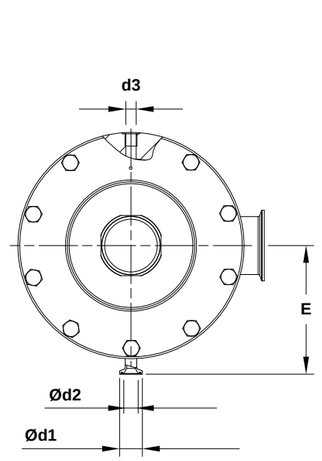
OPTIONS

LEAKAGE LINE CONNECTION	GAUGE CONNECTION	LOCK SYSTEM	LIFTING LUGS
			





Optional leakage line connection



Optional gauge connection

DIMENSIONS (mm)												
SIZE	**A**	**B**	**C**	**ØD**	**Ød1**	**Ød2**	**d3**	**d5**	**E**	**ØF**	**ØH**	**WEIGHT (kg)**
21/2"	144	78	410	245	25	15,75	1/4"	1/4"	141	77,4	60,2	34,6
3"	144	84	417	245	25	15,75	1/4"	1/4"	141	90.9	72,9	36,2

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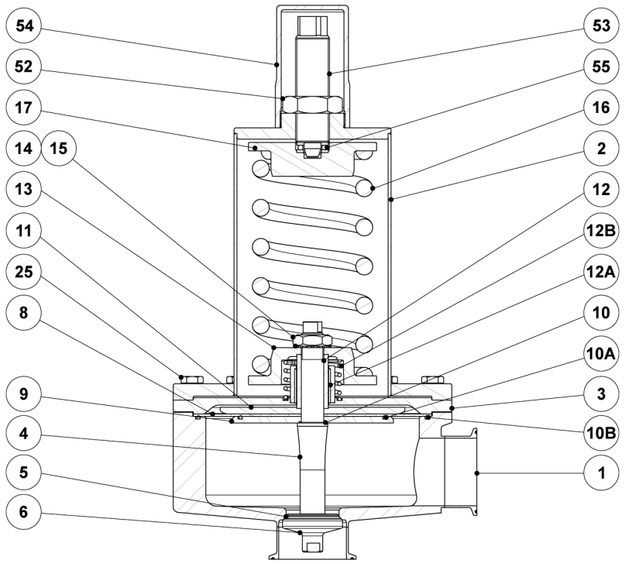
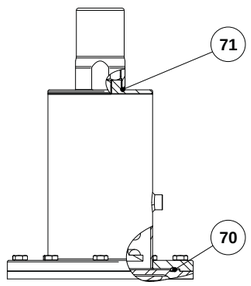
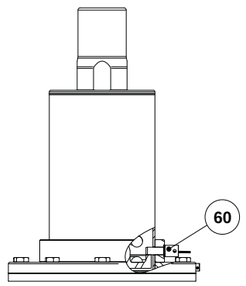
IS P160G.065 E 17.16





Optional leakage line connection



Optional top cap

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
4	* Valve stem	AISI 316L / 1.4404
5	* Valve seal	** EPDM; PTFE; FPM
6	* Valve plug	AISI 316L / 1.4404
8	* Diaphragm	PTFE (Gylon)
9	Lower diaphragm plate	AISI 316L / 1.4404
10	* O-ring	** EPDM
10A	* O-ring	** EPDM
10B	* O-ring	** EPDM
11	Upper diaphragm plate	AISI 316L / 1.4404
12	Stem guide	AISI 316 / 1.4401
12A	Plain bearing	Bronze

POS. Nº	DESIGNATION	MATERIAL
12B	Spring	AISI 302 / 1.4300
13	Spring plate	AISI 316 / 1.4401
14	Nut	Stainless steel A2-70
15	Washer	Stainless steel A2
16	* Adjustment spring	Zinc plated spring steel
17	Top spring plate	AISI 316 / 1.4401
52	Lock nut	Stainless steel A2-70
53	Adjustment screw	Stainless steel A2-70
54	Top cap	AISI 316L / 1.4404
55	Bearing	Corrosion resistant steel
60	Locking pin	AISI 316L / 1.4404
70	O-ring	EPDM
71	O-ring	EPDM

* 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.

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ORDERING CODES P160G

Valve model	P16G	8	9	T	M	T	X	X	X	DI	65	E
P160G – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve	**P16G**											
Regulating range												
1 to 1,7 bar		**8**										
1,5 to 4 bar		**9**										
Flow rate coefficient												
Kvs 19,8			**9**									
Diaphragm												
PTFE (Gylon)				**T**								
Valve sealing												
Metal to metal (non-standard)					**M**							
EPDM – Tmax 150 ºC (180 ºC with steam and hot water)					**E**							
PTFE					**T**							
FPM / Viton (FDA approval only)					**V**							
Top cap and leakage line connection												
Top cap (adjustment screw with cover)						**T**						
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**						
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 a)												
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**			
Lifting lugs									**L**			
Degreased for oxygen and lifting lugs									**M**			
CIP / SIP lock system and lifting lugs									**N**			
Pipe connections												
Clamp ferrule ASME BPE										**D**		
Tube weld (ETO) according to ASME BPE										**DI**		
Size												
21/2"											**65**	
3"											**80**	
Special construction / Additional options												
Full description or additional codes have to be added in case of a non-standard combination												**E**

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

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SANITARY PRESSURE REDUCING VALVES
P161

DESCRIPTION

The ADCAPure P161 is a series of angle design 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 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 µm Ra – SF1.
External: ≤ 0,76 µm 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.
Lock system, allows inline clean-in-place (CIP) and sterilization-in-place (SIP) operations.
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: P161.

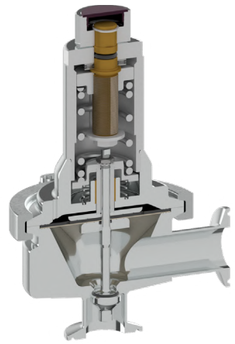
SIZES: 1/2" to 2"; DN 15 to DN 50.

REGULATING RANGES: 0,3 to 1,1 bar; 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. Vertical inlet and horizontal 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

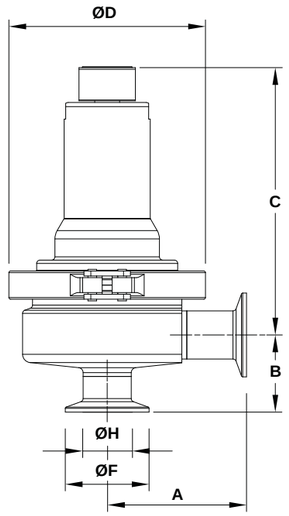
LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum upstream pressure	8 bar
Maximum downstream pressure	5 bar
Minimum downstream pressure **	0,3 bar
Maximum operating temperature ***	180 ºC

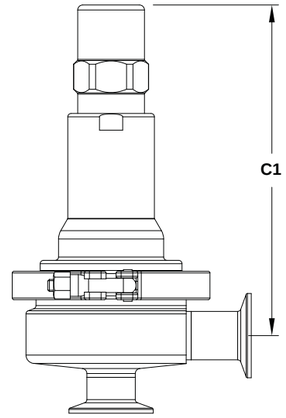
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** For tight shut off, with adjustment spring relaxed, ensure a minimum downstream pressure of 0,2 bar.
*** See "Ordering Codes" table for restrictions.

FLOW RATE COEFFICIENTS (m³/h)																		
SIZE	**ASME BPE**						**DIN**							**ISO**				
	1/2"	**3/4"**	**1"**	**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	7	13	2,1	3	4,2	4,2	7	7	13	2,1	4,2	4,2	7	7

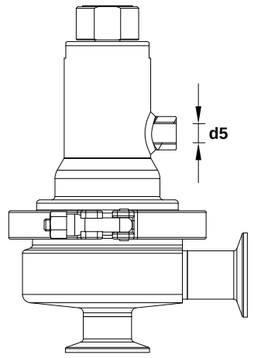
OPTIONS				
LEAKAGE LINE CONNECTION	**DOME-LOADING**	**TOP CAP**	**GAUGE CONNECTION**	**LOCK SYSTEM**
				

DIMENSIONS





Optional top cap



Optional leakage line connection

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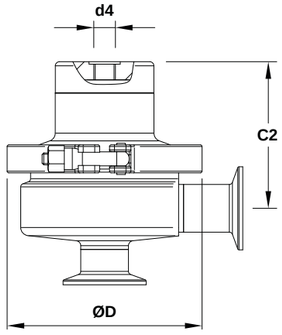
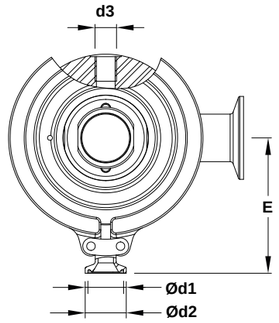


Optional dome-loading



Optional gauge connection

DIMENSIONS – ASME BPE (mm)

SIZE	REGULATING RANGES 0,8 to 1,5 bar, 1 to 3 bar and 1,5 to 5 bar															REGULATING RANGE 0,3 to 1,1 bar			
	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	WGT. (kg)	A	ØD	E	WGT. (kg)
1/2"	77	53	156	203	84	119	15,75	25	1/4"	1/4"	1/4"	83	25	9,4	4,1	85	134	91	4,9
3/4"	77	56	160	207	88	119	15,75	25	1/4"	1/4"	1/4"	83	25	15,8	4,4	85	134	91	5,1
1"	77	52	163	210	91	119	15,75	25	1/4"	1/4"	1/4"	83	50,4	22,1	4,6	85	134	91	5,4
11/2"	85	61	204	257	124	134	15,75	25	1/4"	1/4"	1/4"	96	50,4	34,8	8	101	170	109	11,1
2"	85	67	207	254	127	134	15,75	25	1/4"	1/4"	1/4"	96	63,9	47,5	8,6	101	170	109	12

DIMENSIONS – DIN (mm)

SIZE	REGULATING RANGES 0,8 to 1,5 bar, 1 to 3 bar and 1,5 to 5 bar															REGULATING RANGE 0,3 to 1,1 bar			
	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	WGT. (kg)	A	ØD	E	WGT. (kg)
DN 15	77	45	160	207	88	119	15,75	25	1/4"	1/4"	1/4"	83	34	16	4,4	85	134	91	5,1
DN 20	77	40	158	205	86	119	15,75	25	1/4"	1/4"	1/4"	83	34	20	4,3	85	134	91	4,9
DN 25	84	47	161	208	89	119	15,75	25	1/4"	1/4"	1/4"	83	50,5	26	4,6	92	134	91	5,3
DN 32	84	50	163	210	91	119	15,75	25	1/4"	1/4"	1/4"	83	50,5	32	4,8	84	134	83	5,5
DN 40	93	69	202	249	122	134	15,75	25	1/4"	1/4"	1/4"	96	50,5	38	8	109	170	109	11
DN 50	93	75	206	253	126	134	15,75	25	1/4"	1/4"	1/4"	96	64	50	8,6	109	170	109	12

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

DIMENSIONS – ISO (mm)

SIZE	REGULATING RANGES 0,8 to 1,5 bar, 1 to 3 bar and 1,5 to 5 bar															REGULATING RANGE 0,3 to 1,1 bar			
	A	B	C	C1	C2	ØD	Ød1	Ø d2	d3	d4	d5	E	ØF	ØH	WGT. (kg)	A	ØD	E	WGT. (kg)
DN 15	84	43	159	206	87	119	15,75	25	1/4"	1/4"	1/4"	83	50,5	18,1	4,4	92	134	91	5,1
DN 20	84	46	162	209	90	119	15,75	25	1/4"	1/4"	1/4"	83	50,5	23,7	4,6	92	134	91	5,4
DN 25	84	49	164	211	92	119	15,75	25	1/4"	1/4"	1/4"	83	50,5	29,7	4,8	92	134	91	5,6
DN 32	93	70	202	249	122	134	15,75	25	1/4"	1/4"	1/4"	96	64	38,4	8,2	109	170	109	11,3
DN 40	93	75	206	253	126	134	15,75	25	1/4"	1/4"	1/4"	96	64	44,3	8,8	109	170	109	12,1

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

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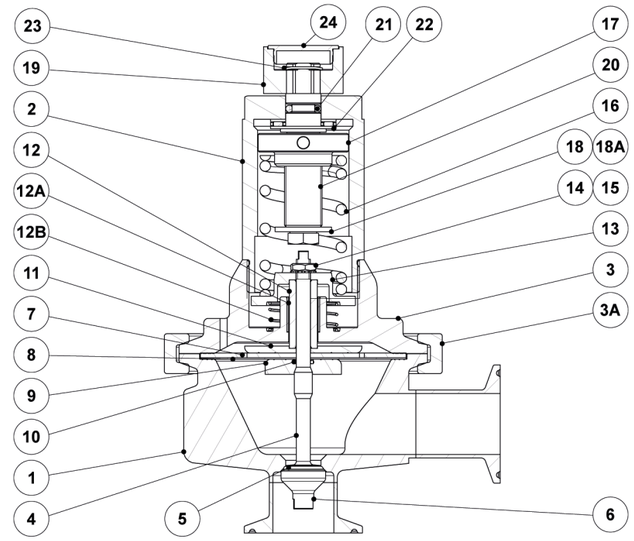
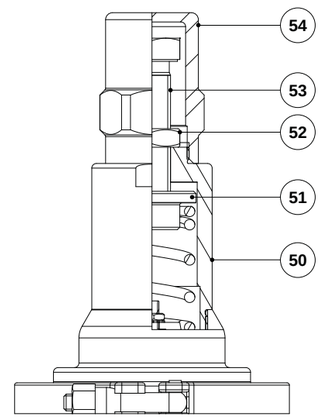
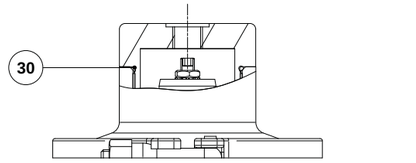
MATERIALS

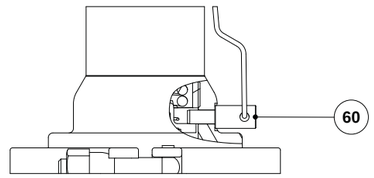




Optional top cap



Optional dome-loading



Optional lock system

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IS P161.015 E 08.21

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
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.

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ORDERING CODES P161													
VALVE MODEL	**P16**	**1**	**3**	**1**	**T**	**M**	**I**	**X**	**X**	**X**	**DI**	**15**	
P161 – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve	**P16**												
VALVE SERIES													
Series 1		**1**											
REGULATING RANGE													
0,3 to 1,1 bar			**3**										
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**										
0,3 to 1,1 bar (dome-loading) **(a)**			**B**										
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" to 2", DIN DN 40 to DN 50 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 ºC					**E**								
VALVE SEALING (b)													
Metal to metal (non-standard, except in ASME BPE 1/2" size)						**M**							
EPDM – Tmax 150 ºC (180 ºC 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**	
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 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.

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS P161.015 E 08.21

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: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm 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.
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.

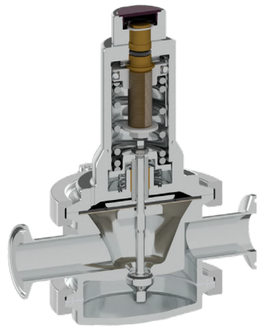
SIZES: 1/2" to 2"; DN 15 to DN 50.

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.

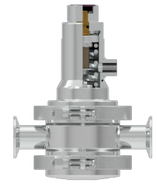
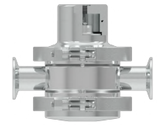
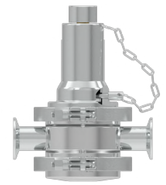


CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" to 2" – DN 15 to 50	SEP

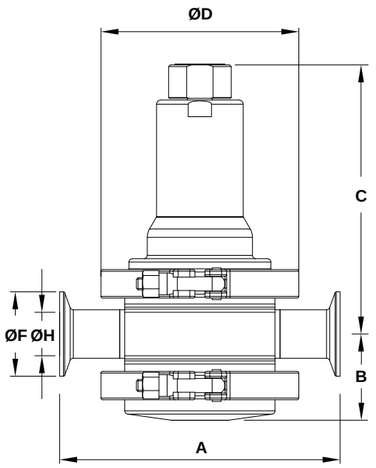
LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum upstream pressure	8 bar
Maximum downstream pressure	5 bar
Minimum downstream pressure **	0,8 bar
Maximum operating temperature ***	180 ºC

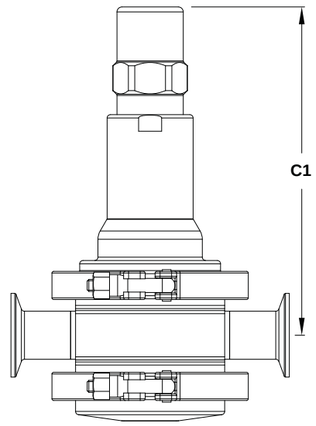
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** For tight shut off, with adjustment spring relaxed, ensure a minimum downstream pressure of 0,2 bar.
*** See "Ordering Codes" table for restrictions.

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

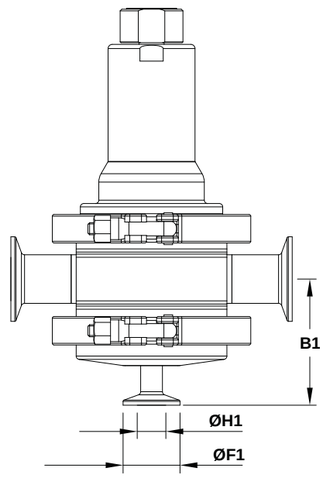
OPTIONS		
LEAKAGE LINE CONNECTION	**DOME-LOADING**	**TOP CAP**
		
GAUGE CONNECTION	**LOCK SYSTEM**	**BOTTOM COVER WITH DRAIN CONNECTION**
		

DIMENSIONS





Optional top cap



Optional bottom cover with drain connection

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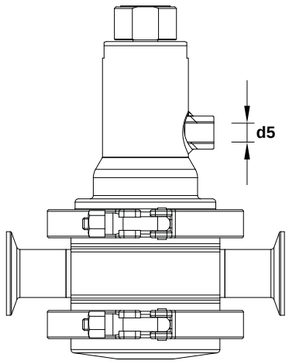
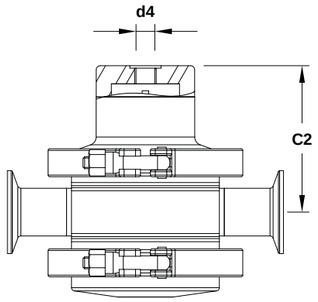
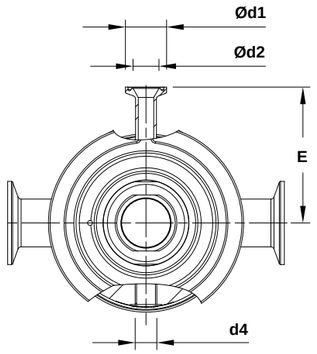


Optional leakage line connection



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
11/2"	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).

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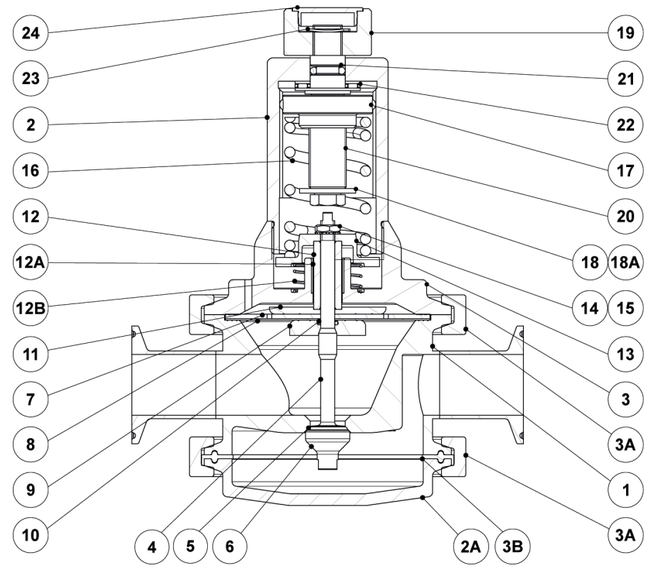
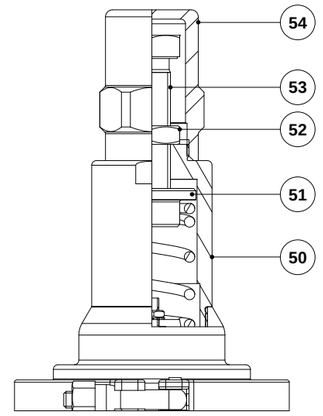
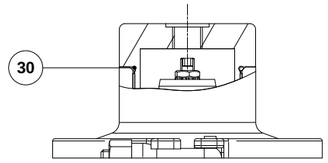
Valsteam ADCA is an EHEDG Member
ADCAPure

MATERIALS

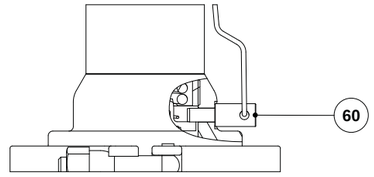




Optional top cap



Optional dome-loading



Optional lock system

VALSTEAM ADCA
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IS P163.015 E 06.21

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.

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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 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) – Tmax 150 ºC					**E**								
VALVE SEALING (b)													
Metal to metal (non-standard, except in ASME BPE 1/2" size)						**M**							
EPDM – Tmax 150 ºC (180 ºC 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**	
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**

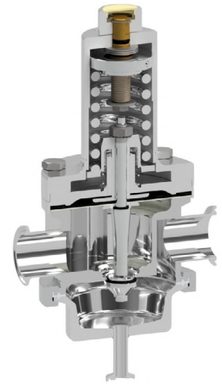
(a) The loading control pressure can be up to a maximum of 0,2 bar above the required downstream pressure. **(b)** ASME BPE 1/2" size is only available with metal to metal sealing. **(c)** Mandatory in case of dome-loading. **(d)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS P163.015 E 06.21

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: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – 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: 11/2" 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**
11/2" 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 ºC

* 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.

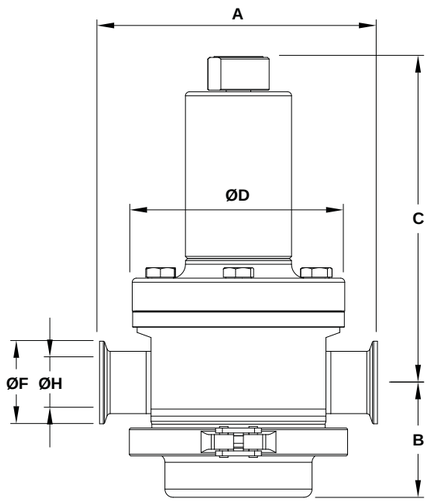
FLOW RATES COEFFICIENTS (m³/h)									
SIZE	**BPE**			**DIN**			**ISO**		
	11/2"	**2"**	**2" ***	**DN 40**	**DN 50**	**DN 50 ***	**DN 32**	**DN 40**	**DN 50**
Kvs	5,5	5,5	8,5 *	5,5	5,5	8,5	5,5	5,5	NA

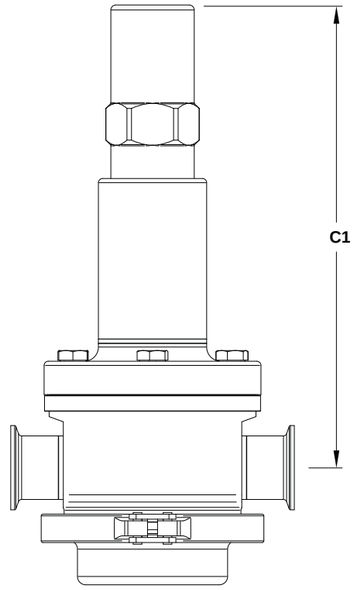
* Limited to a maximum inlet pressure of 4 bar

OPTIONS

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

DIMENSIONS





Optional top cap

VALSTEAM ADCA
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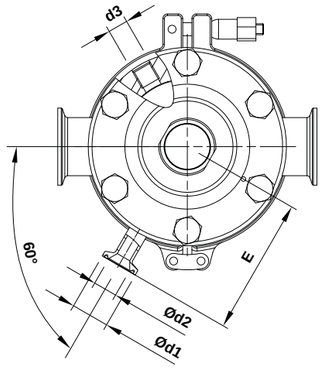
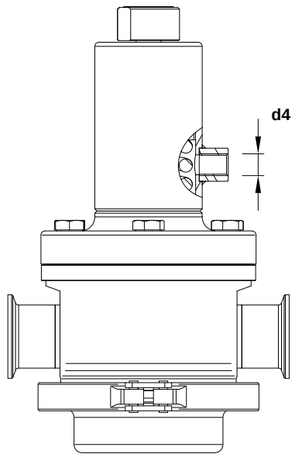
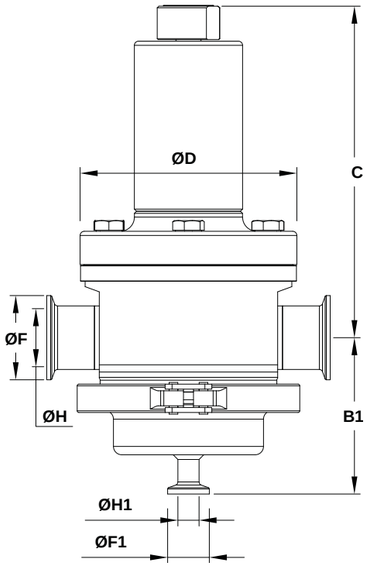
IS P173.032 E 14.16



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).

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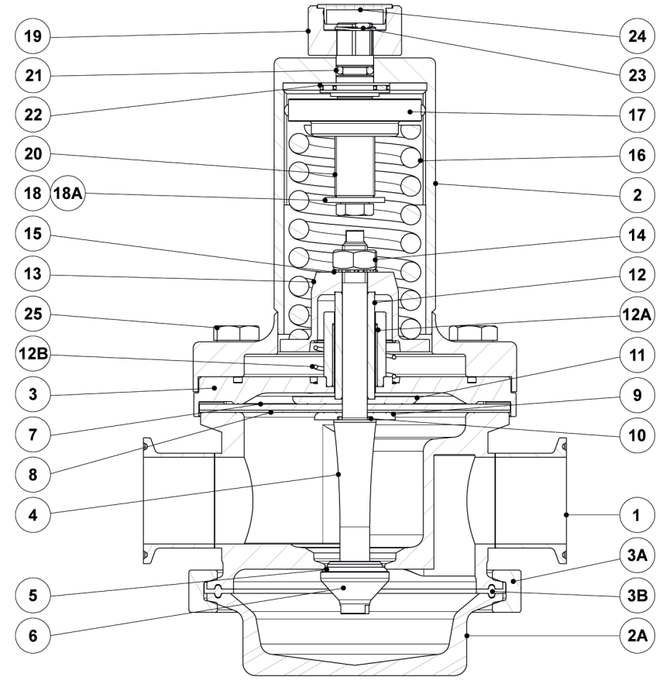
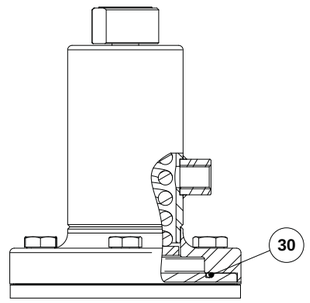
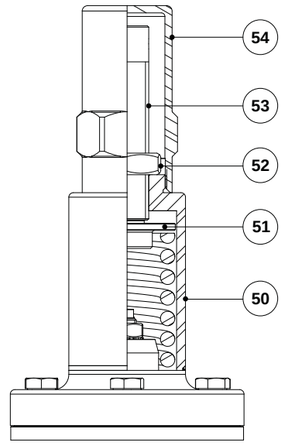
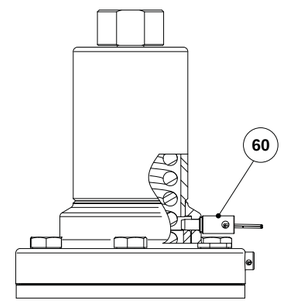




Optional leakage line connection



Optional top cap



Optional lock system

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS P173.032 E 14.16

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; 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	Bolts	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.

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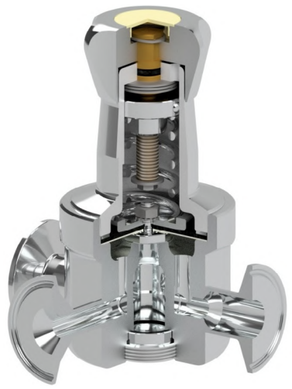
ORDERING CODES P173												
Valve model	**P17D**	**4**	**4**	**T**	**M**	**I**	**X**	**X**	**X**	**DI**	**32**	**E**
P173 – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve with drain	**P17D**											
P173 – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve without drain	**P17**											
Regulating range												
0,8 to 1,5 bar		**4**										
1 to 3 bar		**5**										
1,5 to 5 bar		**6**										
Flow rate coefficient												
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**									
Diaphragm												
PTFE (Gylon)				**T**								
EPDM (non-standard) – Tmax 150 ºC				**E**								
Valve sealing												
Metal to metal (non-standard)					**M**							
EPDM – Tmax 150 ºC (180 ºC with steam and hot water)					**E**							
PTFE					**T**							
FPM / Viton (FDA approval only)					**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**						
Gauge connections												
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**					
Surface finish a)												
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 connection												
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												
DN 32 (available with ISO connections only)											**32**	
11/2" or DN 40											**40**	
2" or DN 50 (not available with ISO connections)											**50**	
Special construction / Additional options												
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.

SANITARY PRESSURE SUSTAINING VALVES
PS130

DESCRIPTION

The ADCAPure PS130 is a series of direct acting, diaphragm sensing pressure sustaining valves.
These regulators, available with spring or dome-loading, are designed for use with clean air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction materials and valve design.
Specifically designed for the high purity gas systems found in the pharmaceutical, cosmetic, fine chemical and food & beverage processes.



MAIN FEATURES

Compact design.
Non-rising adjustment knob.
FDA / USP Class VI compliant seals.
Completely machined from 316L stainless steel bar stock, no castings or forgings are used.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS:	Leakage line connection. Panel mounting. Dome-loading. Top cap (adjustment screw with cover). Gauge connection on body. Wall mounting. Different soft sealings for liquids and gases. Degreased for oxygen application.
USE:	Clean air, nitrogen, carbon dioxide, oxygen, argon and other gases or liquids compatible with the construction.
AVAILABLE MODELS:	PS130.
SIZES:	1/2" to 1"; DN 08 to DN 25.
REGULATING RANGES:	0,2 – 1,5 bar; 0,3 – 3 bar; 2 – 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 is recommended. See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
1/2" to 1" – DN 08 to 25	SEP

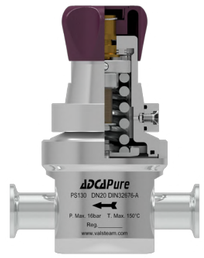
LIMITING CONDITIONS *	
Maximum allowable pressure	12 bar
Maximum upstream pressure	8 bar
Minimum upstream pressure	0,2 bar
Maximum operating temperature	150 ºC

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

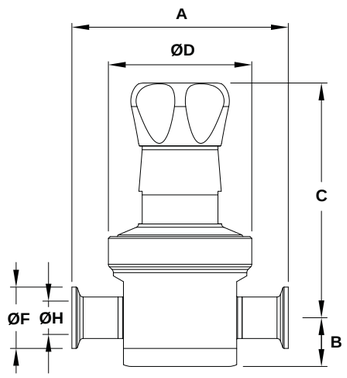
FLOW RATE COEFFICIENTS (m³/h) *						
SIZE	**ASME BPE**		**DIN**		**ISO**	
	1/2"	**3/4" to 1"**	**DN 10**	**DN 15 to 25**	**DN 08**	**DN 10 to 20**
Kvs	1,7	3	1,7	3	1,7	3

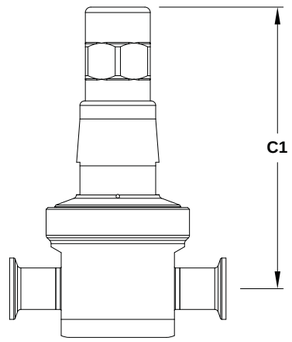
***** Reduced Kvs on request.

OPTIONS

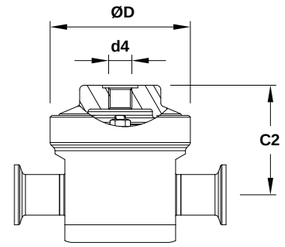
LEAKAGE LINE CONNECTION	PANEL MOUNTING	DOME-LOADING
		
TOP CAP	**GAUGE CONNECTION**	**WALL MOUNTING**
		

DIMENSIONS





Optional top cap



Optional dome-loading

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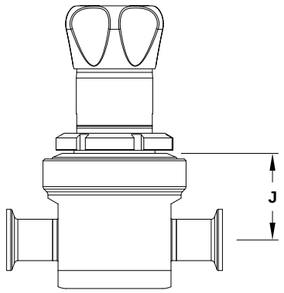
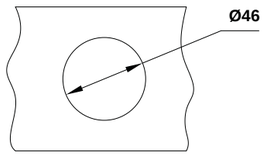
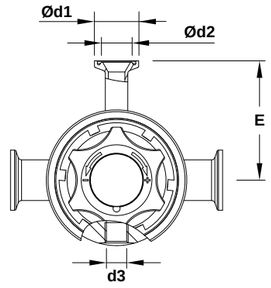
IS PS130.008 E 14.18

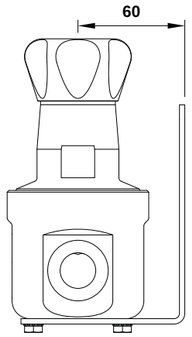


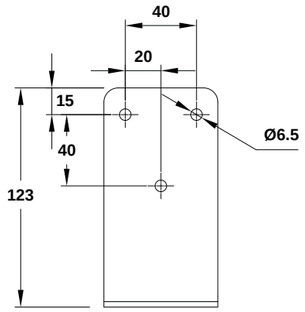


Optional panel mounting

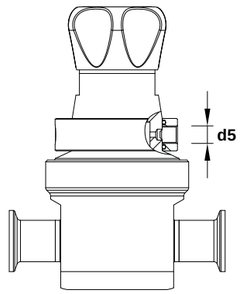


Optional gauge connection





Optional wall mounting



Optional leakage line connection

DIMENSIONS – ASME BPE (mm)

SIZE	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	J	WGT. (kg)
1/2"	130	30	127	156	62	80	25	15,75	1/4"	1/4"	1/8"	65	25	9,4	48	2,9
3/4"	130	30	127	156	62	80	25	15,75	1/4"	1/4"	1/8"	67,5	25	15,8	48	2,9
1"	130	30	127	156	62	80	25	15,75	1/4"	1/4"	1/8"	72,5	50,4	22,1	48	3,4

* Valves with nylon adjustment knob weigh 0,3 kg less.

DIMENSIONS – DIN (mm)

SIZE	A	B	C	C1	C2	ØD	Ød1	Ød2	d3	d4	d5	E	ØF	ØH	J	WGT. (kg)
DN 10	120	30	127	156	62	80	25	15,75	1/4"	1/4"	1/8"	65	34	10	48	2,9
DN 15	120	30	127	156	62	80	25	15,75	1/4"	1/4"	1/8"	67,5	34	16	48	3
DN 20	120	30	127	156	62	80	25	15,75	1/4"	1/4"	1/8"	67,5	34	20	48	3,1
DN 25	120	32	125	156	62	80	25	15,75	1/4"	1/4"	1/8"	72,5	50,5	26	48	3,4

* Valves with nylon adjustment knob weigh 0,3 kg less.
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	J	WGT. (kg)
DN 08	120	30	127	156	62	80	25	15,75	1/4"	1/4"	1/8"	65	25	10,3	48	2,9
DN 10	120	30	127	156	62	80	25	15,75	1/4"	1/4"	1/8"	67,5	25	14	48	3
DN 15	120	30	127	156	62	80	25	15,75	1/4"	1/4"	1/8"	67,5	50,5	18,1	48	3,2
DN 20	120	32	125	156	62	80	25	15,75	1/4"	1/4"	1/8"	72,5	50,5	23,7	48	3,4

* Valves with nylon adjustment knob weigh 0,3 kg less.
Remarks: Clamp ferrules according to DIN 32676-B. Tube weld (ETO) according to DIN 11866-B (ISO 1127).

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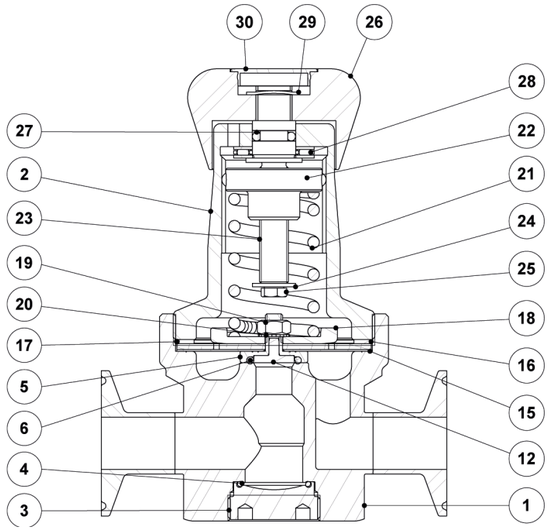
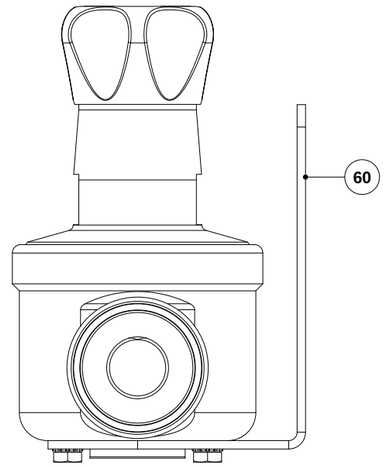
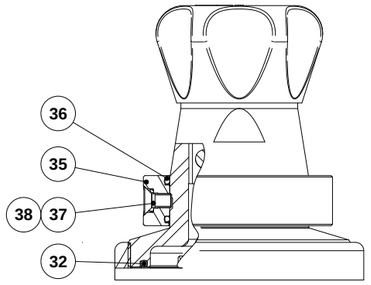
MATERIALS

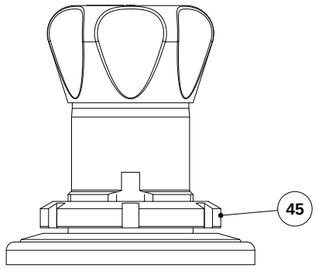




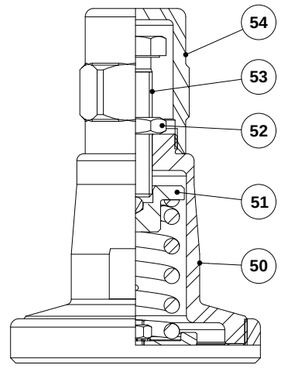
Optional wall mounting



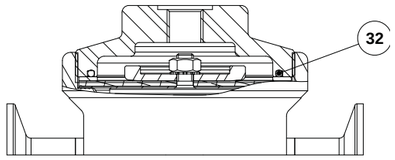
Optional leakage line connection



Optional panel mounting



Optional top cap



Optional dome-loading

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS PS130.008 E 14.18

MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	Bottom cover	AISI 316L / 1.4404
4	* O-ring	** EPDM
5	* Plug	AISI 316L / 1.4404
6	* Valve seal	** EPDM; PTFE; FPM
12	* Retainer	AISI 316L / 1.4404
15	* Lower diaphragm	PTFE (Gylon)
16	* Upper diaphragm	EPDM
17	Washer	AISI 304 / 1.4301
18	* Plate	AISI 304 / 1.4301
19	* Nut	Stainless steel A2-70
20	* Washer	Stainless steel A2
21	* Adjustment spring	AISI 302 / 1.4300
22	Spring plate	AISI 316 / 1.4401
23	Adjustment screw	Brass
24	Washer	Stainless steel A2
25	Bolt	Stainless steel A2-70
26	Adjustment knob	AISI 316L / 1.4404; Nylon
27	O-ring	NBR
28	Bearing	Corrosion resistant steel
29	Shaft ring	Stainless steel
32	* O-ring	EPDM
35	Leakage line ring	AISI 316 / 1.4401
36	O-ring	NBR
37	Bolt	AISI 304 / 1.4301
38	O-ring	FPM
45	Lock nut	CF8M / 1.4408
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	Support plate	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.

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ADCAPure

ORDERING CODES PS130													
Valve model	**PS13**	**1**	**3**	**T**	**M**	**X**	**I**	**X**	**X**	**X**	**DI**	**15**	**E**
PS130 – AISI 316L / 1.4404 diaphragm sensing pressure sustaining valve	**PS13**												
Regulating range													
0,2 to 1,5 bar		**1**											
0,3 to 3 bar		**2**											
2 to 8 bar		**3**											
0,2 to 8 bar (dome-loading) **a)**		**A**											
Flow rate coefficient													
Kvs 1,7			**3**										
Kvs 3 (not applicable to sizes 1/2" ASME BPE, DIN DN 10 and ISO DN 08)			**6**										
Diaphragm													
PTFE (Gylon)				**T**									
EPDM (non-standard)				**E**									
Valve sealing													
Metal to metal (non-standard)					**M**								
EPDM					**E**								
PTFE					**T**								
FPM / Viton (USP Class VI on request)					**V**								
Leakage line connection													
Without leakage line connection **b)**						**X**							
Leakage line connection – ISO 228 G 1/8"						**N**							
Leakage line connection – 1/8" NPT						**C**							
Adjustment knob and top cap													
Stainless steel adjustment knob							**I**						
Nylon adjustment knob							**P**						
Top cap (adjustment screw with cover)							**T**						
Dome-loading – ISO 228 G 1/4" **b)**							**X**						
Dome-loading – 1/4" NPT **b)**							**C**						
Gauge connections													
Without gauge connections								**X**					
Tri-clamp gauge connection on the left side (relative to flow direction) – upstream pressure								**7**					
Tri-clamp gauge connection on the right side (relative to flow direction) – upstream pressure								**6**					
Tri-clamp gauge connections on both sides – upstream pressure								**5**					
Threaded gauge connection on the left side (relative to flow direction) – upstream pressure – ISO 228 G 1/4"								**4**					
Threaded gauge connection on the right side (relative to flow direction) – upstream pressure – ISO 228 G 1/4"								**3**					
Threaded gauge connections on both sides – upstream pressure – ISO 228 G 1/4"								**2**					
Threaded gauge connection on the left side (relative to flow direction) – upstream pressure – 1/4" NPT								**W**					
Threaded gauge connection on the right side (relative to flow direction) – upstream pressure – 1/4" NPT								**Y**					
Threaded gauge connections on both sides – upstream pressure – 1/4" NPT								**Z**					
Surface finish c)													
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 connection													
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													
DN 08												**08**	
DN 10												**10**	
1/2" or DN 15												**15**	
3/4" or DN 20												**20**	
1" or DN 25												**25**	
Special construction / Additional options													
Full description or additional codes have to be added in case of non-standard combination													**E**

a) The loading control pressure can be up to a maximum of 1,2 bar above the required downstream pressure. **b)** Mandatory in case of dome-loading.
c) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS PS130.008 E 14.18

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: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm 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.

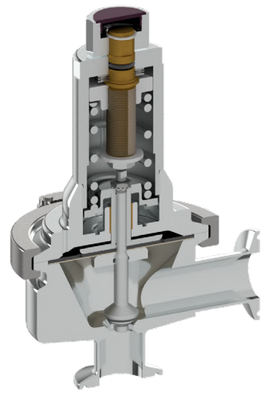
SIZES: 1/2" to 2"; DN 15 to DN 50.

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.

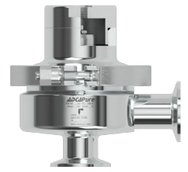


CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" to 2" – DN 15 to 50	SEP

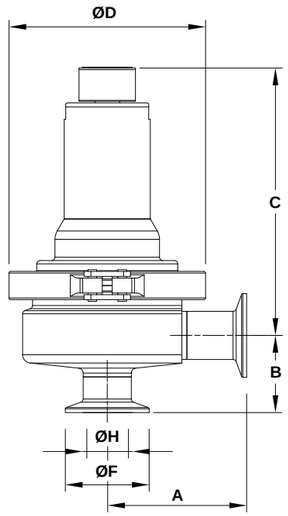
LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum upstream pressure	8 bar
Minimum upstream pressure	0,8 bar
Maximum operating temperature **	180 ºC

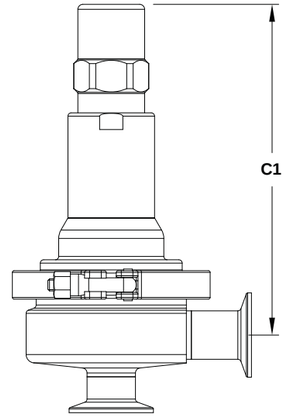
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** See "Ordering Codes" table for restrictions.

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

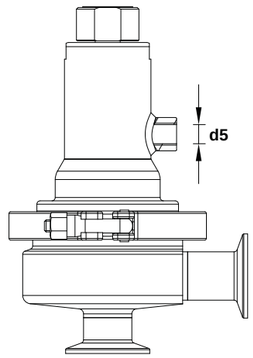
OPTIONS			
LEAKAGE LINE CONNECTION	**DOME-LOADING**	**TOP CAP**	**GAUGE CONNECTION**
			

DIMENSIONS





Optional top cap



Optional leakage line connection

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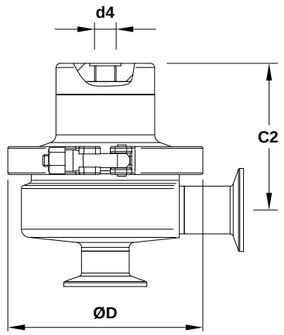
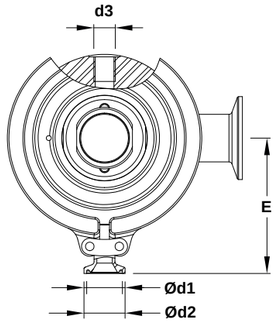
IS PS161.015 E 08.21



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
11/2"	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).

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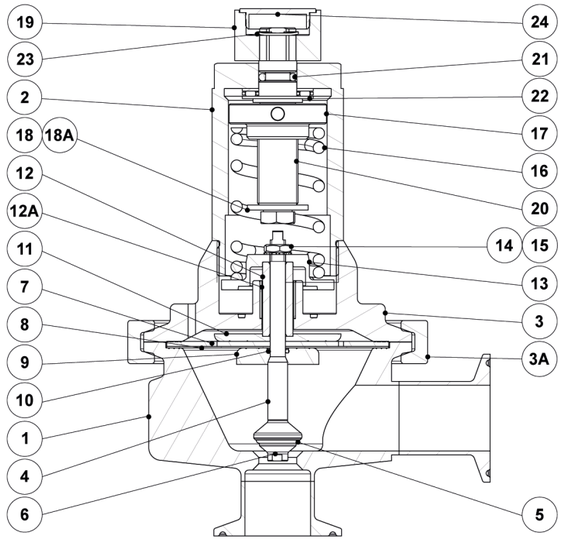
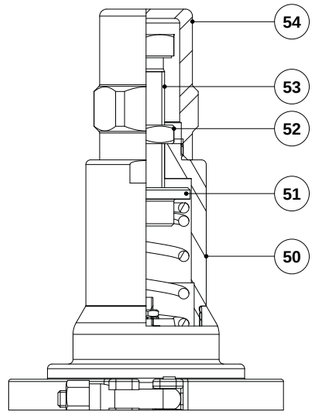
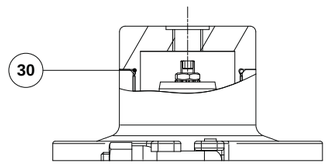
MATERIALS





Optional top cap



Optional dome-loading

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IS PS161.015 E 08.21

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
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.

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ORDERING CODES P161													
VALVE MODEL	**P16**	**1**	**3**	**1**	**T**	**M**	**I**	**X**	**X**	**X**	**DI**	**15**	
P161 – AISI 316L / 1.4404 diaphragm sensing pressure reducing valve	**P16**												
VALVE SERIES													
Series 1		**1**											
REGULATING RANGE													
0,3 to 1,1 bar			**3**										
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**										
0,3 to 1,1 bar (dome-loading) **(a)**			**B**										
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" to 2", DIN DN 40 to DN 50 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 ºC					**E**								
VALVE SEALING (b)													
Metal to metal (non-standard, except in ASME BPE 1/2" size)						**M**							
EPDM – Tmax 150 ºC (180 ºC 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**	
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 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.

VALSTEAM ADCA
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IS P161.015 E 08.21

SANITARY PRESSURE SUSTAINING VALVES
PS163

DESCRIPTION

The ADCAPure PS163 is a series of inline 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 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: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm 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.
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: PS163.

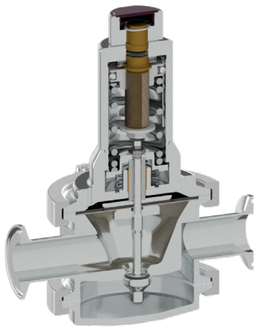
SIZES: 1/2" to 2"; DN 15 to DN 50.

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.
See IMI – Installation and maintenance instructions.



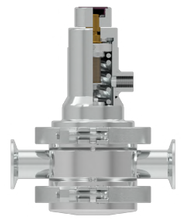
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" to 2" – DN 15 to 50	SEP

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

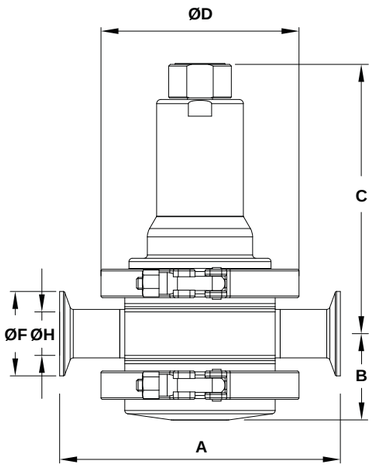
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** See "Ordering Codes" table for restrictions.

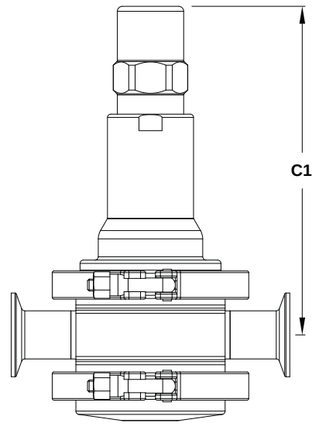
FLOW RATE COEFFICIENTS (m³/h)																
SIZE	**ASME BPE**					**DIN**						**ISO**				
	1/2"	**3/4"**	**1"**	**11/2"**	**2"**	**DN 15**	**DN 20**	**DN 25**	**DN 32**	**DN 40**	**DN 50**	**DN 15**	**DN 20**	**DN 25**	**DN 32**	**DN 40**
Kvs	1,3	3	4,2	7	13	2,1	3	4,2	4,2	7	13	2,1	4,2	4,2	7	7

OPTIONS

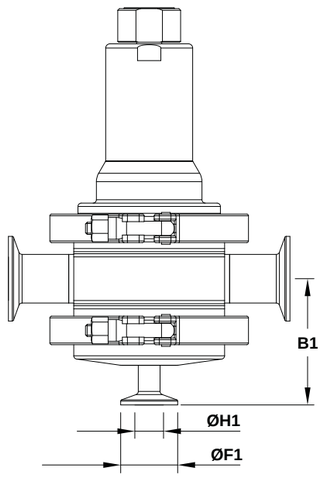
LEAKAGE LINE CONNECTION	DOME-LOADING	TOP CAP	GAUGE CONNECTION	BOTTOM COVER WITH DRAIN CONNECTION
				

DIMENSIONS





Optional top cap



Optional bottom cover with drain connection

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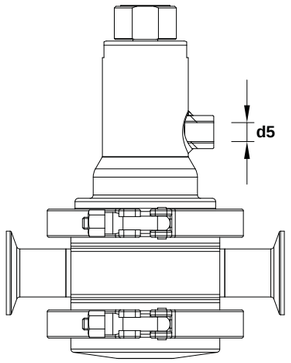
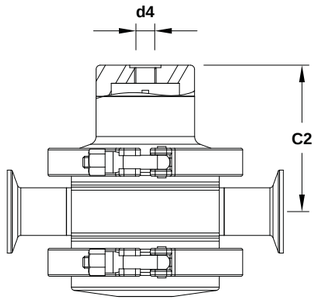
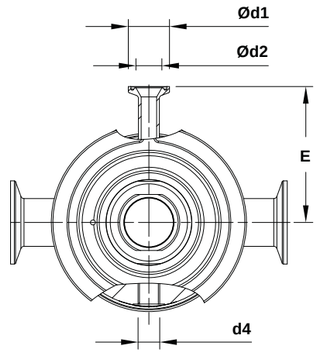


Optional leakage line connection



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
11/2"	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).

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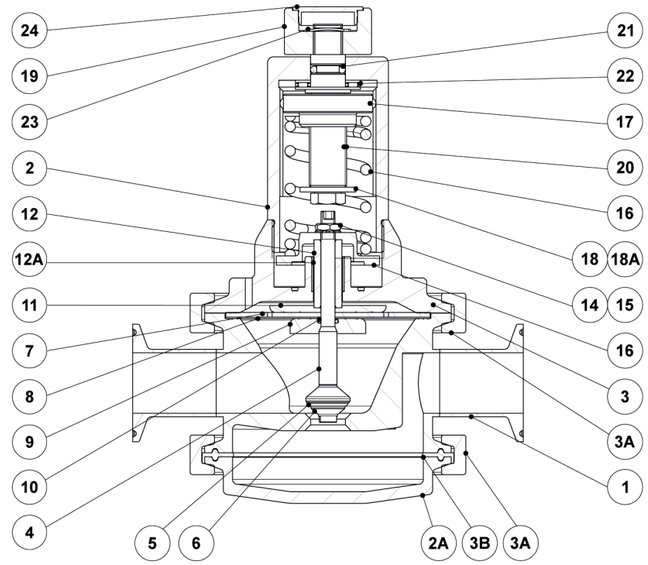
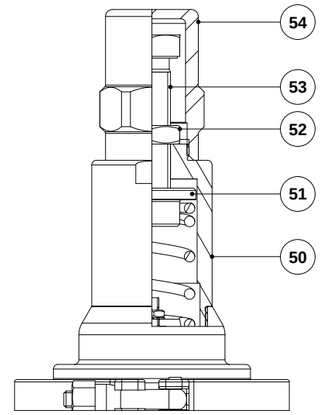
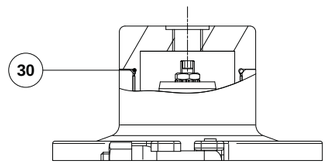
MATERIALS





Optional top cap



Optional dome-loading

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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; 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.

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ORDERING CODES PS163												
VALVE MODEL	**PS63**	**1**	**4**	**1**	**T**	**M**	**I**	**X**	**X**	**X**	**DI**	**15**
PS163 – AISI 316L / 1.4404 diaphragm sensing press. sustaining valve without drain	**PS63**											
PS163 – AISI 316L / 1.4404 diaphragm sensing press. sustaining valve with drain	**PS6D**											
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 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) – Tmax 150 ºC					**E**							
VALVE SEALING (b)												
Metal to metal (non-standard, except in ASME BPE 1/2" size)						**M**						
EPDM – Tmax 150 ºC (180 ºC 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.

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SANITARY PRESSURE SUSTAINING VALVES
PS173

DESCRIPTION

The ADCAPure PS173 is a series of inline direct acting, diaphragm sensing pressure sustaining 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 on the standard version.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – 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.
Bottom cover with drain connection.
Different soft sealings for liquids and gases.

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

AVAILABLE MODELS: PS173.

SIZES: 11/2" and 2"; DN 32 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.
See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 10	**Category**
11/2" and 2" – DN 32 to 50	SEP

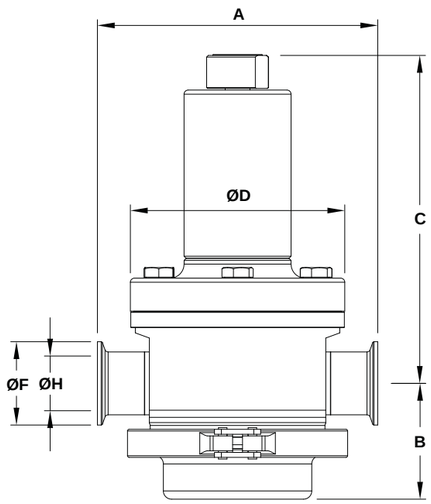
LIMITING CONDITIONS *	
Maximum allowable pressure	10 bar
Maximum upstream pressure	8 bar
Minimum upstream pressure	0,8 bar
Maximum operating temperature **	180 ºC

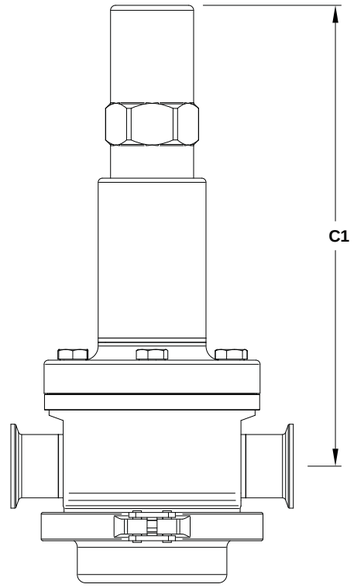
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** See "Ordering Codes" table for restrictions.

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

OPTIONS			
LEAKAGE LINE CONNECTION	**TOP CAP**	**GAUGE CONNECTION**	**BOTTOM COVER WITH DRAIN CONNECTION**
			

DIMENSIONS





Optional top cap

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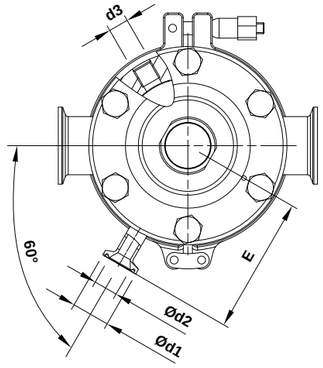
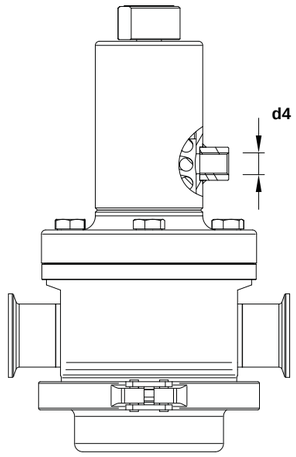
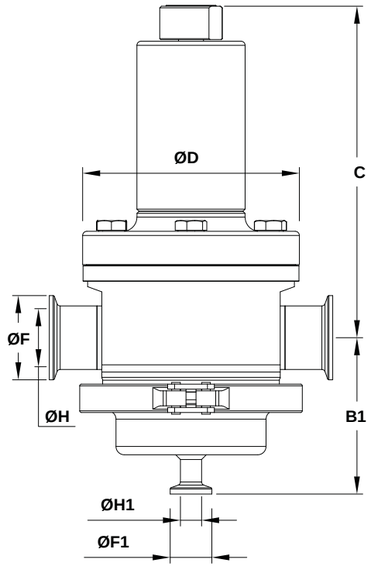


Optional leakage line connection



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	50,4	34,8	25	9,4	8,6
2"	170	76	99	205	283	130	25	15,75	1/4"	1/4"	90	63,9	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).

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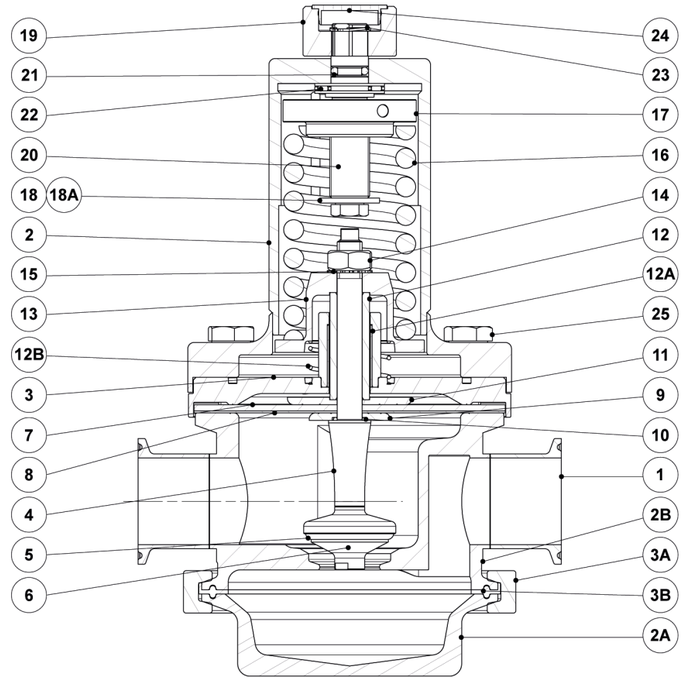
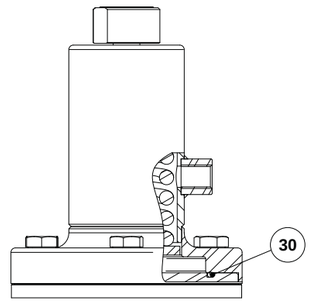
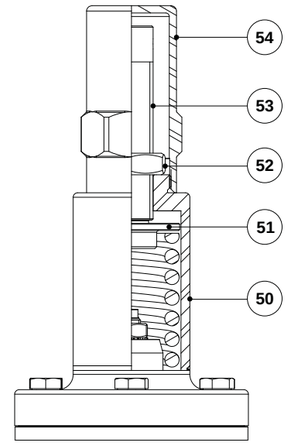




Optional leakage line connection



Optional top cap

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IS PS173.032 E 13.16

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	Safety 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	Bolts	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

* 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.

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ORDERING CODES PS173												
Valve model	**PS17D**	**4**	**4**	**T**	**M**	**I**	**X**	**X**	**X**	**DI**	**32**	
PS173 – AISI 316L / 1.4404 diaphragm sensing pressure sustaining valve with drain	**PS17D**											
PS173 – AISI 316L / 1.4404 diaphragm sensing pressure sustaining valve without drain	**PS17**											
Regulating range												
0,8 to 1,5 bar		**4**										
1 to 3 bar		**5**										
1,5 to 8 bar		**7**										
Flow rate coefficient												
Kvs 5,5			**4**									
Kvs 8,5			**6**									
Diaphragm												
PTFE (Gylon)				**T**								
EPDM (non-standard) – Tmax 150 ºC				**E**								
Valve sealing												
Metal to metal (non-standard)					**M**							
EPDM – Tmax 150 ºC (180 ºC with steam and hot water)					**E**							
PTFE					**T**							
FPM / Viton (FDA approval only)					**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**						
Gauge connections												
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**					
Surface finish a)												
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 connection												
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												
DN 32 (available with ISO connections only)											**32**	
11/2" or DN 40											**40**	
2" or DN 50 (not available with ISO connections)											**50**	
Special construction / Additional options												
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.

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IS PS173.032 E 13.16

SANITARY TANK BLANKETING REGULATORS
BKR2
(Low pressure reducing valve)

DESCRIPTION

Tank blanketing valves are commonly used in tank storage systems to prevent and protect against explosions (avoiding flammable liquids being vented from the vessel), to control product contamination against external air that may fill the vapour space, to reduce evaporation losses (consequently, production losses), to reduce internal corrosion (caused by air and moisture) and to prevent vacuum condition.
The blanketing process consists in covering the stored medium, usually a liquid, with a gas (normally N2).

MAIN FEATURES

Compact design.
Non-rising adjustment knob.
FDA / USP Class VI compliant seals.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
Body external: ≤ 0,76 µm Ra – SF3.
Cover: internal machined and external as casted.
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.
External sensing line connection (recommended for low set pressures < 10 mbar or high flow).
Blanketing with vacuum.
Hastelloy wetted parts.
ATEX Ⓔx version.

USE: Air, nitrogen, argon and other gases compatible with the construction.

AVAILABLE MODELS: BKR2 – low pressure reducing valve.

SIZES: 1/2" to 1"; DN 10 to DN 25.

REGULATING RANGES: 5 to 10 mbar; 10 to 50 mbar; 20 to 200 mbar; 50 to 500 mbar; 5 to 4000 mbar (dome-loading).

CONNECTIONS: ASME BPE, DIN and ISO clamp ferrules. 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: Vertical installation recommended, to allow drainage, or horizontal as close to the process as possible in order to prevent long pipe sections and flow restrictions.
See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 16	**CATEGORY**
1/2" to 1" – DN 10 to DN 25	SEP

CE MARKING – ATEX VERSION (ATEX – EUROPEAN DIRECTIVE)	
PN 16	**CATEGORY**
1/2" to 1" – DN 10 to DN 25	Ex h IIB T6...T3 Gb

LIMITING CONDITIONS *		
Maximum allowable pressure		16 bar
Maximum upstream pressure	Seat Ø5 mm	12 bar
	Seat Ø8 mm	6 bar
Maximum downstream pressure **		500 mbar
Minimum downstream pressure		5 mbar
Maximum operating temperature		130 °C

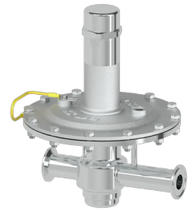
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** 4000 mbar with dome-loading.

AIR CAPACITIES (Nm³/h) MAXIMUM INLET PRESSURE 6 bar – SEAT Ø8 mm									
SIZE	**OUTLET PRESSURE (mbar) ***	**INLET PRESSURE (barg)**							
		0,1	**0,5**	**0,8**	**1**	**2**	**3**	**4**	**5**	**6**
1/2" to 1" DN 10 to DN 25	**5 to 10**	4	20	32	40	63	85	102	125	140
	10 to 50	4	20	32	40	63	85	102	125	140
	20 to 200	–	20	32	40	63	85	102	125	140
	50 to 500	–	–	–	40	63	85	102	125	140

* Outlet pressure should not be more than 50% of the inlet, in order to reach the mentioned flow rates.

AIR CAPACITIES (Nm³/h) MAXIMUM INLET PRESSURE 12 bar – SEAT Ø5 mm						
SIZE	**OUTLET PRESSURE (mbar) ***	**INLET PRESSURE (barg)**				
		2	**4**	**6**	**8**	**12**
1/2" to 1" DN 10 to DN 25	**5 to 10**	21	35	49	62	90
	10 to 50	21	35	49	62	90
	20 to 200	21	35	49	62	90
	50 to 500	21	35	49	62	90

* Outlet pressure should not be more than 50% of the inlet, in order to reach the mentioned flow rates.

OPTIONS		
LEAKAGE LINE CONNECTION	**DOME-LOADING**	**TOP CAP**
		
GAUGE CONNECTION	**EXTERNAL SENSING LINE CONNECTION**	**ATEX COMPLIANT**
		

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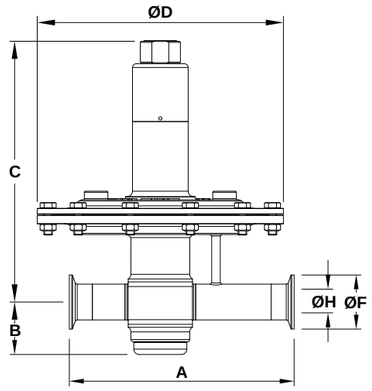
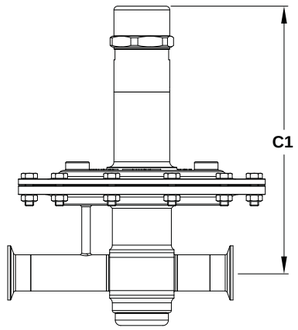
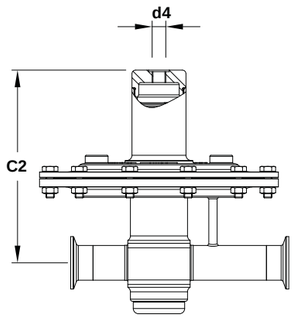
IS BKR2.025 E 13.17

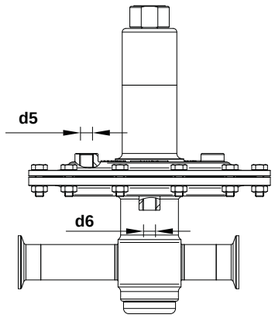




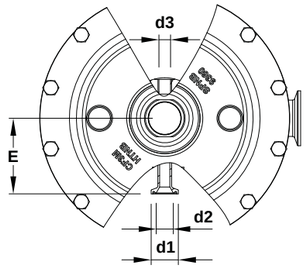
Optional top cap



Optional dome-loading



Optional external sensing and leakage line connections



Optional gauge connection

DIMENSIONS – ASME BPE (mm)

SIZE	A	B	C	C1	C2	ØD	d1	d2	d3	d4	d5	d6	E	ØF	ØH	WGT. (kg)
1/2"	160	57,5	235,3	239,8	176,8	230	25	15,8	1/4"	1/4"	1/4"	1/4"	66	25	9,4	7,8
3/4"	160	49,5	243,5	248	185	230	25	15,8	1/4"	1/4"	1/4"	1/4"	66	25	15,75	8
1"	210	49	244	249	186	230	25	15,8	1/4"	1/4"	1/4"	1/4"	70	50,4	22,1	8,5

DIMENSIONS – DIN (mm)

SIZE	A	B	C	C1	C2	ØD	d1	d2	d3	d4	d5	d6	E	ØF	ØH	WGT. (kg)
DN 10	160	57,7	235,3	239,8	176,8	230	25	15,8	1/4"	1/4"	1/4"	1/4"	66	34	10	7,9
DN 15	160	49,5	243,5	248	185	230	25	15,8	1/4"	1/4"	1/4"	1/4"	66	34	16	8
DN 20	170	49,5	243,5	248	185	230	25	15,8	1/4"	1/4"	1/4"	1/4"	66	34	20	8
DN 25	210	49	244	249	186	230	25	15,8	1/4"	1/4"	1/4"	1/4"	70	50,5	26	8,5

Remark: Clamp ferrules according to DIN 32676-A.

DIMENSIONS – ISO (mm)

SIZE	A	B	C	C1	C2	ØD	d1	d2	d3	d4	d5	d6	E	ØF	ØH	WGT. (kg)
DN 10	160	49,5	243,5	248	185	230	25	15,8	1/4"	1/4"	1/4"	1/4"	66	25	14	8
DN 15	160	49,5	243,5	248	185	230	25	15,8	1/4"	1/4"	1/4"	1/4"	66	50,5	18,1	8,1
DN 20	210	49	244	248,5	185,5	230	25	15,8	1/4"	1/4"	1/4"	1/4"	69,5	50,5	23,7	8,2
DN 25	210	49	244	249	186	230	25	15,8	1/4"	1/4"	1/4"	1/4"	70	50,5	29,7	8,5

Remark: Clamp ferrules according to DIN 32676-B.

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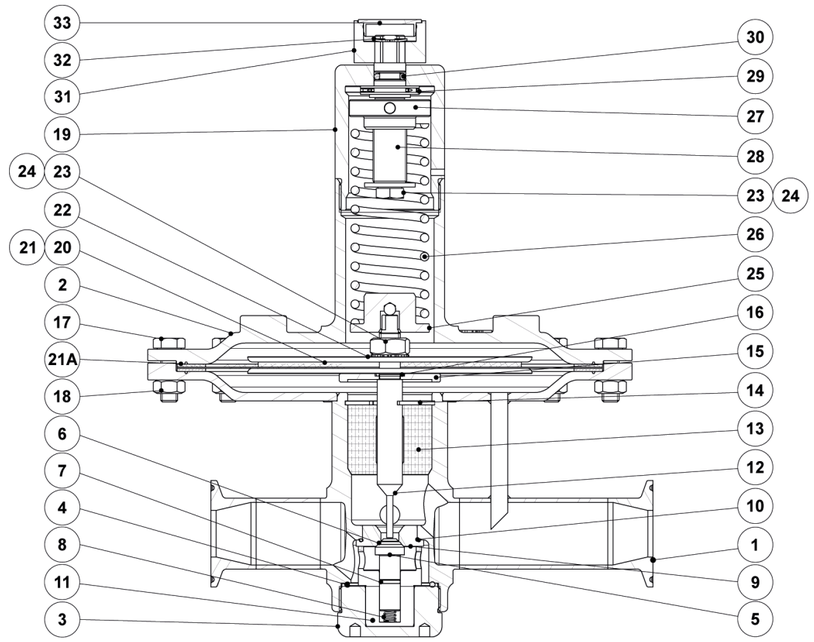
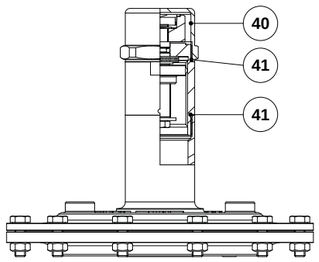
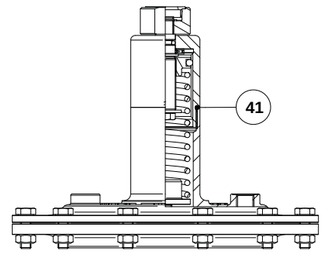
MATERIALS

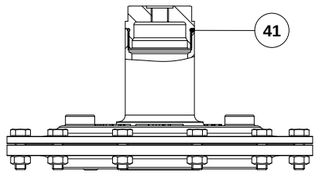




Optional top cap



Optional leakage line connection



Optional dome-loading

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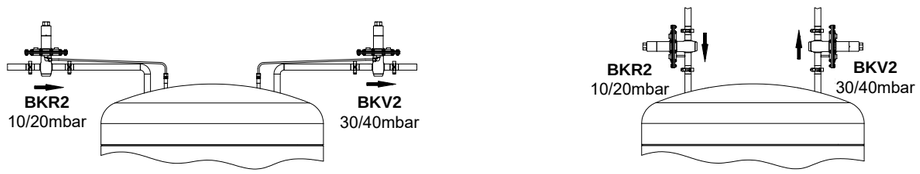
IS BKR2.025 E 13.17

MATERIALS

POS. No.	DESIGNATION	MATERIAL
1	Valve body	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
2	Cover	A351 CF3M / 1.4409
3	Bottom cover	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
4	* O-ring	** EPDM
5	* Piston	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
6	* Valve seal	** EPDM; FPM
7	* O-ring	** EPDM; FPM
8	* Valve spring	AISI 316 / 1.4401 electropolished
		Hastelloy C22 / 2.4602
9	* Seat	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
10	* O-ring	** EPDM
11	* Guide	** PTFE
12	Stem	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
13	Stem guide	** PTFE
14	Retaining ring	Stainless steel A2
		Hastelloy C22 / 2.4602
15	Diaphragm support plate	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
16	* O-ring	** EPDM
17	Bolt	Stainless steel A2-70
18	Nut	Stainless steel A2-70
19	Spring cover	AISI 316L / 1.4404
20	* Lower diaphragm	PTFE (Gylon)
21	* Upper diaphragm	EPDM
21A	* Gasket	** EPDM
22	Diaphragm plate	AISI 316L / 1.4404
23	Nut	Stainless steel A2-70
24	* Washer	Stainless steel A2
25	Lower spring guide	AISI 316L / 1.4404
26	* Adjustment spring	AISI 302 / 1.4300
27	Upper spring guide	AISI 316L / 1.4404
28	Adjustment screw	Brass
29	Bearing	Corrosion resistant steel
30	* O-ring	NBR
31	Adjustment knob	AISI 316L / 1.4404
32	Shaft ring	Stainless steel
33	Cover nut	Plastic
40	Top cap	AISI 316L / 1.4404
41	* O-ring	NBR

* Available spare parts. ** Others on request.
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.

TYPICAL INSTALLATION



Blanketing with overpressure

LRQA CERTIFIED ISO 9001
EHEDG EUROPEAN HYGIENIC ENGINEERING & DESIGN GROUP
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ORDERING CODES BKR2

VALVE MODEL	BR	0	5	T	E	I	X	X	X	0	D	25	
BKR2 – AISI 316L / 1.4404 blanketing low pressure regulator	BR												
BKR2 – Hastelloy C22 / 2.4602 blanketing low pressure regulator	BRH												
REGULATING RANGE													
5 to 10 mbar		0											
10 to 50 mbar		1											
20 to 200 mbar		2											
50 to 500 mbar		3											
5 to 4000 mbar (dome-loading)		A											
VALVE SEAT ORIFICE													
Seat diameter 5 mm			5										
Seat diameter 8 mm			8										
DIAPHRAGM													
PTFE (Gylon)				T									
VALVE SEALING													
EPDM					E								
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 **(a)**						U							
Top cap (adjustment screw with cover) w/ 1/4" NPT leakage line connection **(a)**						V							
Dome-loading – ISO 228 G 1/4" **(b)**						X							
Dome-loading – 1/4" NPT **(b)**						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 connection 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 connection 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 connection on both sides – downstream pressure – 1/4" NPT							Z						
SURFACE FINISH (c)													
Standard surface finish								X					
Mirror mechanical polished external surfaces (SF1)								P					
Electropolished internal wetted parts (SF5)								E					
SPECIAL FEATURES													
None									X				
EXTERNAL SENSING LINE CONNECTION													
Internal sensing line (standard)										0			
External sensing line connection – ISO 228 G 1/4"										1			
External sensing line connection – 1/4" NPT										2			
PIPE CONNECTIONS													
Clamp ferrule ASME BPE											D		
Clamp ferrule DIN (DIN 32676-A)											F		
Clamp ferrule ISO (DIN 32676-B)											E		
SIZE													
DN 10												10	
1/2" or DN 15												15	
3/4" or DN 20												20	
1" or DN 25												25	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS													
ATEX compliant version													EX
Full description or additional codes have to be added in case of non-standard combination													E

(a) Mandatory in case of ATEX compliant version. **(b)** Mandatory in case of dome-loading. **(c)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

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IS BKR2.025 E 13.17

TANK BLANKETING REGULATORS
BKRi2
(Low pressure reducing valve)

DESCRIPTION

Tank blanketing valves are commonly used in tank storage systems to prevent and protect against explosions (avoiding flammable liquids being vented from the vessel), to control product contamination against external air that may fill the vapour space, to reduce evaporation losses (consequently, production losses), to reduce internal corrosion (caused by air and moisture) and to prevent vacuum condition.
The blanketing process consists in covering the stored medium, usually a liquid, with a gas (normally N2).

MAIN FEATURES

Compact design.
Non-rising adjustment knob.
FDA / USP Class VI compliant seals.

STANDARD SURFACE FINISH

Internal movable parts and machined surfaces: ≤ 0,76 µm Ra – SF3.
Other surfaces: as casted.
Ultrasonic cleaning.

OPTIONS: Leakage line connection.
Dome-loading.
Top cap (adjustment screw with cover).
Gauge connection on body.
External sensing line connection (recommended for low set pressures < 10 mbar or high flow).
Blanketing with vacuum.
ATEX ⟨Ex⟩ version.

USE: Air, nitrogen, argon and other gases compatible with the construction.

AVAILABLE MODELS: BKRi2 – low pressure reducing valve.

SIZES: 1/2" and 1"; DN 15 and DN 25.

REGULATING RANGES: 5 to 10 mbar; 10 to 50 mbar; 20 to 200 mbar; 50 to 500 mbar; 5 to 4000 mbar (dome-loading).

CONNECTIONS: Flanged EN 1092-1 PN 16.
Flanged ASME B16.5 Class 150.

INSTALLATION: Vertical installation recommended, to allow drainage, or horizontal as close to the process as possible in order to prevent long pipe sections and flow restrictions.
See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
1/2" and 1" – DN 15 and 25	SEP

CE MARKING – ATEX VERSION (ATEX – European Directive)	
PN 16	**Category**
1/2" and 1" – DN 15 and 25	Ex h IIB T6...T3 Gb

LIMITING CONDITIONS *		
Maximum allowable pressure		16 bar
Maximum upstream pressure	Seat Ø5 mm	12 bar
	Seat Ø8 mm	6 bar
Maximum downstream pressure **		500 mbar
Minimum downstream pressure		5 mbar
Maximum operating temperature		130 °C

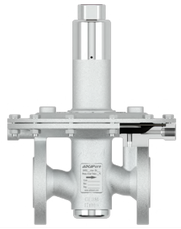
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** 4000 mbar with dome-loading.

AIR CAPACITIES (Nm³/h) Maximum inlet pressure 6 bar – Seat Ø8 mm										
SIZE	**OUTLET PRESSURE (mbar) ***	**INLET PRESSURE (barg)**								
		0,1	**0,5**	**0,8**	**1**	**2**	**3**	**4**	**5**	**6**
1/2" – DN 15	**5 to 10**	3,5	18	28	37	56	77	92	111	128
	10 to 50	3,5	18	28	37	56	77	92	111	128
	20 to 200	–	18	28	37	56	77	92	111	128
	50 to 500	–	–	–	37	56	77	92	111	128
1" – DN 25	**5 to 10**	4	20	32	40	63	85	102	125	140
	10 to 50	4	20	32	40	63	85	102	125	140
	20 to 200	–	20	32	40	63	85	102	125	140
	50 to 500	–	–	–	40	63	85	102	125	140

* Outlet pressure should not be more than 50% of the inlet, in order to reach the mentioned flow rates.

AIR CAPACITIES (Nm³/h) Maximum inlet pressure 12 bar – Seat Ø5 mm						
SIZE	**OUTLET PRESSURE (mbar) ***	**INLET PRESSURE (barg)**				
		2	**4**	**6**	**8**	**12**
1/2" – DN 15	**5 to 10**	18	32	43	54	81
	10 to 50	18	32	43	54	81
	20 to 200	18	32	43	54	81
	50 to 500	18	32	43	54	81
1" – DN 25	**5 to 10**	21	35	49	62	90
	10 to 50	21	35	49	62	90
	20 to 200	21	35	49	62	90
	50 to 500	21	35	49	62	90

* Outlet pressure should not be more than 50% of the inlet, in order to reach the mentioned flow rates.

OPTIONS		
LEAKAGE LINE CONNECTION	**DOME-LOADING**	**TOP CAP**
		
GAUGE CONNECTION	**EXTERNAL SENSING LINE CONNECTION**	**ATEX COMPLIANT**
		

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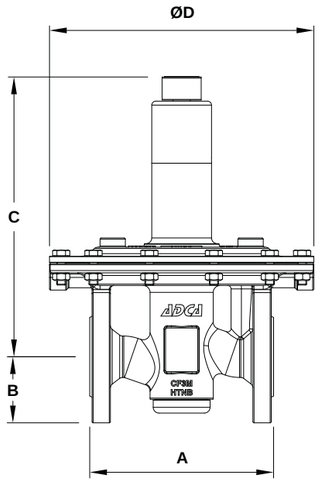
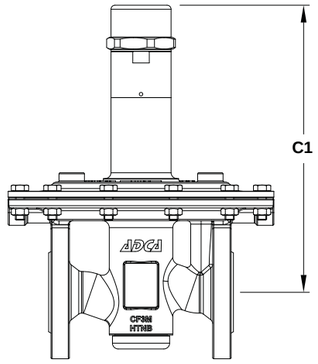
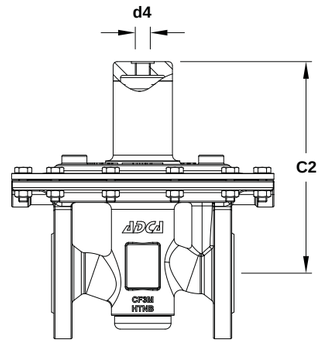
IS BKRI2.015 E 12.17

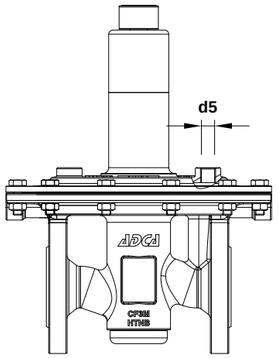




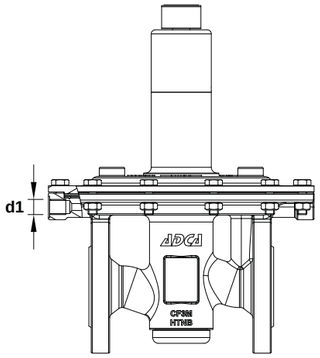
Optional top cap



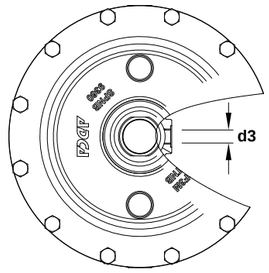
Optional dome-loading



Optional leakage line connection



Optional external sensing line connection



Optional gauge connection

DIMENSIONS (mm)											
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**d1**	**d3**	**d4**	**d5**	**WEIGHT (kg)**
1/2" – DN 15	130	47,5	243,5	249	186	230	1/4"	1/4"	1/4"	1/4"	9,7
1" – DN 25	160	57,5	243,5	249	186	230	1/4"	1/4"	1/4"	1/4"	10,8

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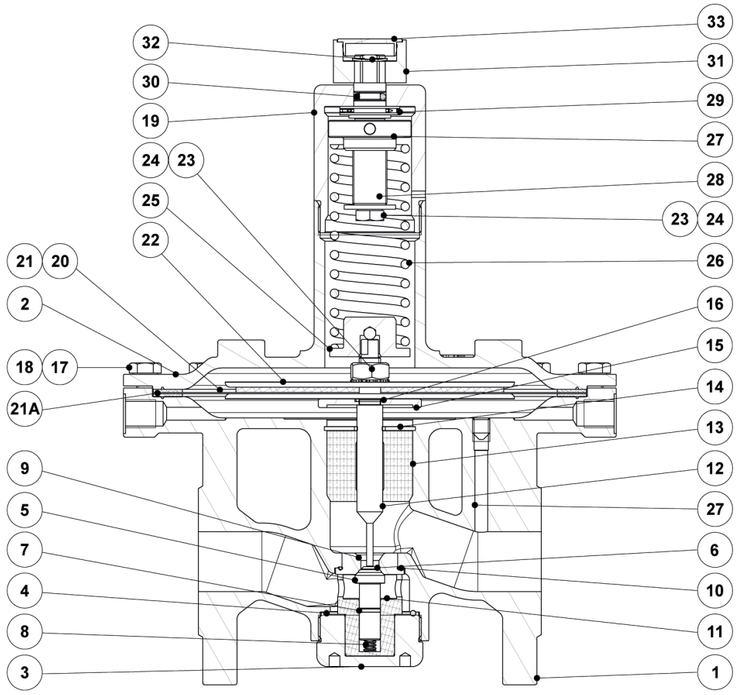
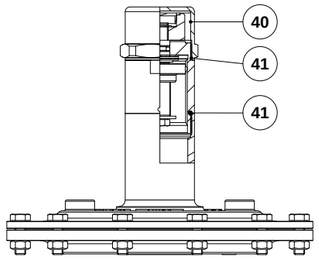
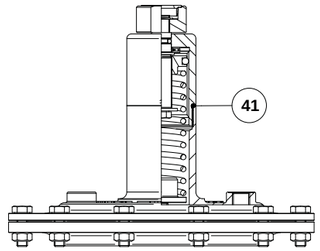
MATERIALS

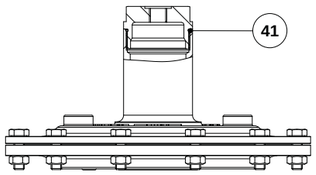




Optional top cap



Optional leakage line connection



Optional dome-loading

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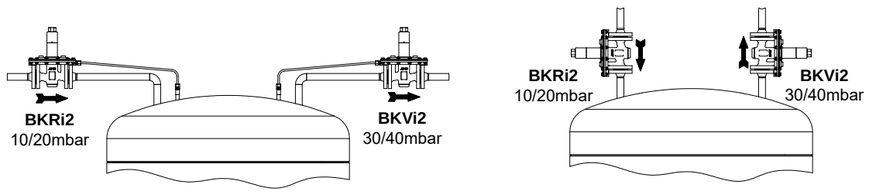
MATERIALS

POS. N°	DESIGNATION	MATERIAL
1	Valve body	A351 CF3M / 1.4409
2	Cover	A351 CF3M / 1.4409
3	Bottom cover	AISI 316L / 1.4404
4	* O-ring	** EPDM
5	* Piston	AISI 316L / 1.4404
6	* Valve seal	** EPDM; FPM
7	* O-ring	** EPDM; FPM
8	* Valve Spring	AISI 316 / 1.4401 electropolished
9	* Seat	AISI 316L / 1.4404
10	* O-ring	** EPDM
11	* Guide	** PTFE
12	Stem	AISI 316L / 1.4404
13	Stem guide	** PTFE
14	Retaining ring	Stainless steel A2
15	Diaphragm support plate	AISI 316L / 1.4404
16	* O-ring	** EPDM
17	Bolt	Stainless steel A2-70
18	Nut	Stainless steel A2-70
19	Spring cover	AISI 316L / 1.4404
20	* Lower diaphragm	PTFE (Gylon)
21	* Upper diaphragm	EPDM
21A	* Gasket	** EPDM
22	Diaphragm plate	AISI 316L / 1.4404
23	Nut	Stainless steel A2-70
24	Washer	Stainless steel A2
25	Lower spring guide	AISI 316L / 1.4404
26	* Adjustment spring	AISI 302 / 1.4300
27	Upper spring guide	AISI 316L / 1.4404
28	Adjustment screw	Brass
29	Bearing	Corrosion resistant steel
30	* O-ring	NBR
31	Adjustment knob	AISI 316L / 1.4404
32	Shaft ring	Stainless steel
33	Cover nut	Plastic
40	Top cap	AISI 316L / 1.4404
41	* O-ring	NBR

* Available spare parts; ** Others on request.
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.

TYPICAL INSTALLATION



Blanketing with overpressure

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ORDERING CODES BKRi2

Valve model	BRI	A	5	T	E	I	X	X	X	0	L	15	E
BKRi2 – A351 CF3M / 1.4409 blanketing low pressure regulator	**BRI**												
Regulating range													
5 to 10 mbar		**0**											
10 to 50 mbar		**1**											
20 to 200 mbar		**2**											
50 to 500 mbar		**3**											
5 to 4000 mbar (dome-loading)		**A**											
Valve seat orifice													
Seat diameter 5 mm			**5**										
Seat diameter 8 mm			**8**										
Diaphragm													
PTFE (Gylon)				**T**									
Valve sealing													
EPDM					**E**								
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 **a)**						**U**							
Top cap (adjustment screw with cover) w/ 1/4" NPT leakage line connection **a)**						**V**							
Dome-loading – ISO 228 G 1/4" **b)**						**X**							
Dome-loading – 1/4" NPT **b)**						**C**							
Gauge connections													
Without gauge connections							**X**						
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 connection 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 connection on both sides – downstream pressure – 1/4" NPT							**Z**						
Surface finish c)													
Standard surface finish								**X**					
Mirror mechanical polished external surfaces (SF1)								**P**					
Electropolished internal wetted parts (SF5)								**E**					
Special features													
None									**X**				
External sensing line connection													
Internal sensing line (standard)										**0**			
External sensing line connection – ISO 228 G 1/4"										**1**			
External sensing line connection – 1/4" NPT										**2**			
Pipe connection													
Flanged EN 1092-1 PN 16											**L**		
Flanged ASME B16.5 Class 150											**U**		
Size													
1/2" or DN 15												**15**	
1" or DN 25												**25**	
Special construction / Additional options													
ATEX compliant version													**EX**
Full description or additional codes have to be added in case of non-standard combination													**E**

a) Mandatory in case of ATEX compliant version. **b)** Mandatory in case of dome-loading. **c)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

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SANITARY TANK BLANKETING REGULATORS
BKV2
(Low pressure vent valve)

DESCRIPTION

Tank blanketing valves are commonly used in tank storage systems to prevent and protect against explosions (avoiding flammable liquids being vented from the vessel), to control product contamination against external air that may fill the vapour space, to reduce evaporation losses (consequently, production losses), to reduce internal corrosion (caused by air and moisture) and to prevent vacuum condition.
The blanketing process consists in covering the stored medium, usually a liquid, with a gas (normally N2).

MAIN FEATURES

Compact design.
Non-rising adjustment knob.
FDA / USP Class VI compliant seals.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
Body external: ≤ 0,76 µm Ra – SF3.
Cover: internal machined and external as casted.
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.
External sensing line connection.
Blanketing with vacuum.
Hastelloy wetted parts.
ATEX ⟨Ex⟩ version.

USE: Air, nitrogen, argon and other gases compatible with the construction.

AVAILABLE MODELS: BKV2 – low pressure venting valve.

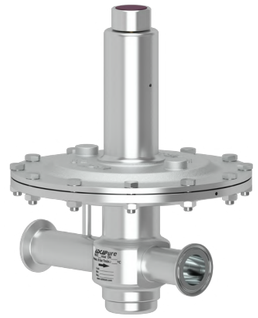
SIZES: 1"; DN 20 and DN 25.

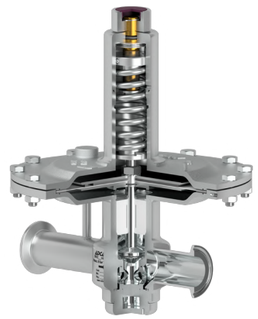
REGULATING RANGES: 5 to 10 mbar; 10 to 50 mbar; 20 to 200 mbar; 50 to 500 mbar; 5 to 4000 mbar (dome-loading).

CONNECTIONS: ASME BPE, DIN and ISO clamp ferrules. 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: Vertical installation recommended, to allow drainage, or horizontal as close to the process as possible in order to prevent long pipe sections and flow restrictions.
See IMI – Installation and maintenance instructions.





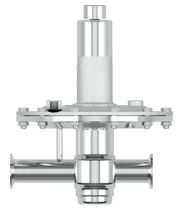
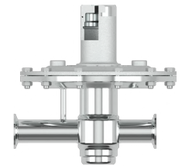
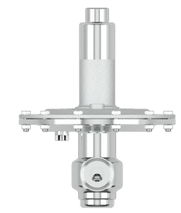
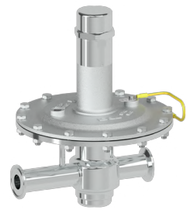
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 16	**CATEGORY**
1" – DN 20 and DN 25	SEP

CE MARKING – ATEX VERSION (ATEX – EUROPEAN DIRECTIVE)	
PN 16	**CATEGORY**
1" – DN 20 and DN 25	Ex h IIB T6...T3 Gb

LIMITING CONDITIONS *	
Maximum allowable pressure	6 bar
Maximum upstream pressure **	500 mbar
Minimum upstream pressure	5 mbar
Maximum operating temperature	130 ºC

* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** 4000 mbar with dome-loading.
Warning: Blanketing valves are no substitute for safety valves or vacuum relief valves.

AIR CAPACITIES (Nm3/h) SEAT Ø21 mm							
SIZE	**SET PRESSURE**	**INLET PRESSURE (mbar)**					
		10	**20**	**40**	**100**	**200**	**500**
1" – DN 20 and DN 25	**25% Overpressure**	5,3	11,8	18	31	52	105
	50% Overpressure	7,2	14,5	26	40	66	125
	75% Overpressure	8,3	17	30	47	82	136
	100% Overpressure	9,8	18	36	52	91	148

OPTIONS		
LEAKAGE LINE CONNECTION	**DOME-LOADING**	**TOP CAP**
		
GAUGE CONNECTION	**EXTERNAL SENSING LINE CONNECTION**	**ATEX COMPLIANT**
		

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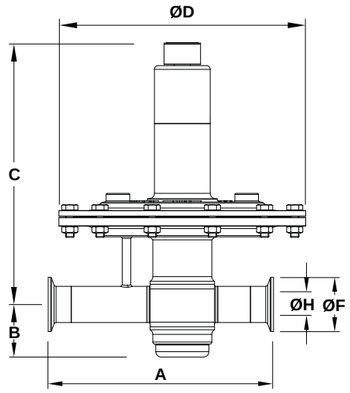
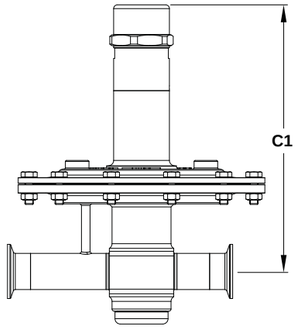
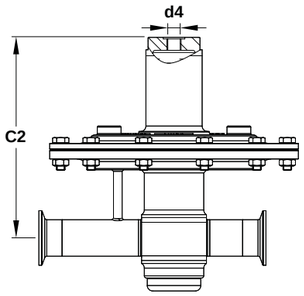
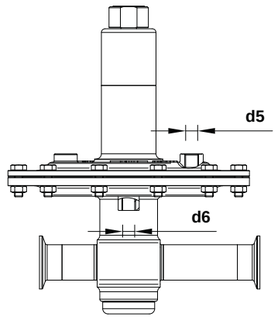




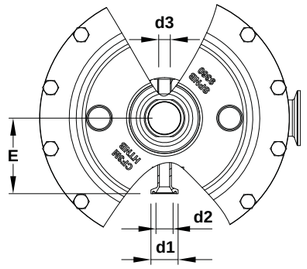
Optional top cap



Optional dome-loading



Optional external sensing and leakage line connections



Optional gauge connection

DIMENSIONS ASME BPE (mm)																
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**d1**	**d2**	**d3**	**d4**	**d5**	**d6**	**E**	**ØF**	**ØH**	**WEIGHT (kg)**
1"	210	49	244	249	186	230	25	15,8	1/4"	1/4"	1/4"	1/4"	70	50,4	22,1	8,5

DIMENSIONS DIN (mm)																
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**d1**	**d2**	**d3**	**d4**	**d5**	**d6**	**E**	**ØF**	**ØH**	**WEIGHT (kg)**
DN 25	210	49	244	249	186	230	25	15,8	1/4"	1/4"	1/4"	1/4"	70	50,5	26	8,5

Remark: Clamp ferrules according to DIN 32676-A.

DIMENSIONS ISO (mm)																
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**d1**	**d2**	**d3**	**d4**	**d5**	**d6**	**E**	**ØF**	**ØH**	**WEIGHT (kg)**
DN 20	210	49	244	248,5	185,5	230	25	15,8	1/4"	1/4"	1/4"	1/4"	69,5	50,5	23,7	8,2
DN 25	210	49	244	249	186	230	25	15,8	1/4"	1/4"	1/4"	1/4"	70	50,5	29,7	8,5

Remark: Clamp ferrules according to DIN 32676-B.

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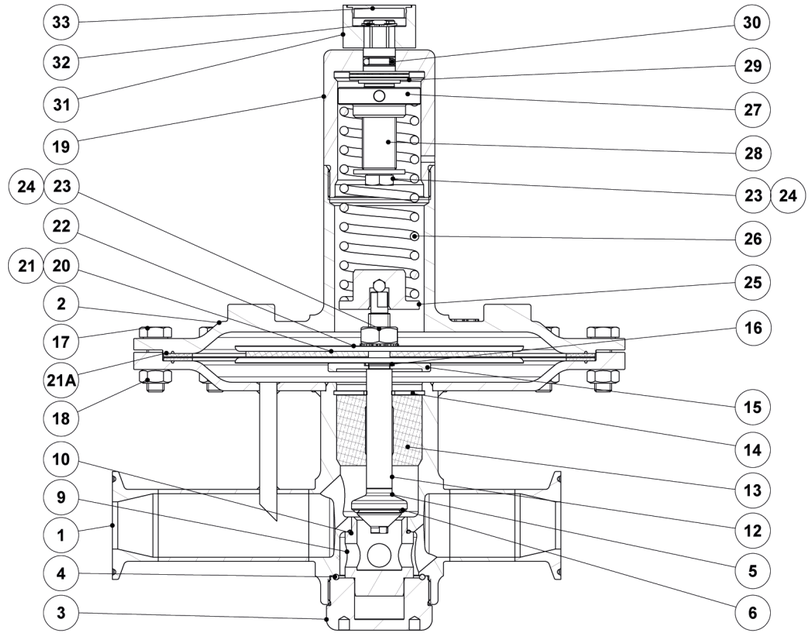
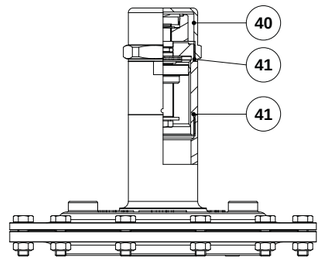
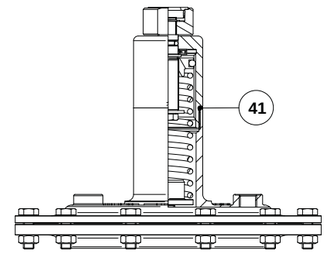
MATERIALS

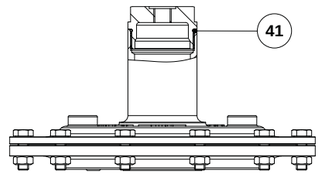




Optional top cap



Optional leakage line connection



Optional dome-loading

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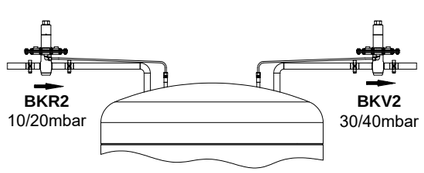
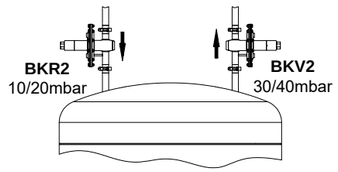
MATERIALS		
POS. No.	**DESIGNATION**	**MATERIAL**
1	Valve body	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
2	Cover	A351 CF3M / 1.4409
3	Bottom cover	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
4	* O-ring	** EPDM
5	* Plug disc	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
6	* Valve seal	** EPDM; FPM
9	* Seat	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
10	* O-ring	** EPDM
12	Stem	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
13	Stem guide	** PTFE
14	Retaining ring	Stainless steel A2-70
		Hastelloy C22 / 2.4602
15	Diaphragm support plate	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
16	* O-ring	** EPDM
17	Bolt	Stainless steel A2-70
18	Nut	Stainless steel A2-70
19	Spring cover	AISI 316L / 1.4404
20	* Lower diaphragm	PTFE (Gylon)
21	* Upper diaphragm	EPDM
21A	* Gasket	** EPDM
22	Diaphragm plate	AISI 316L / 1.4404
23	Nut	Stainless steel A2-70
24	* Washer	Stainless steel A2
25	Lower spring guide	AISI 316L / 1.4404
26	* Adjustment spring	AISI 302 / 1.4300
27	Upper spring guide	AISI 316L / 1.4404
28	Adjustment screw	Brass
29	Bearing	Corrosion resistant steel
30	* O-ring	NBR
31	Adjustment knob	AISI 316L / 1.4404
32	Shaft ring	Stainless steel
33	Cover nut	Plastic
40	Top cap	AISI 316L / 1.4404
41	* O-ring	NBR

* Available spare parts. ** Others on request.
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.

TYPICAL INSTALLATION





Blanketing with overpressure

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ORDERING CODES BKV2													
VALVE MODEL	**BV**	**0**	**2**	**T**	**E**	**I**	**X**	**X**	**X**	**0**	**D**	**25**	
BKV2 – AISI 316L / 1.4404 blanketing low pressure vent valve	**BV**												
BKV2 – Hastelloy C22 / 2.4602 blanketing low pressure vent valve	**BVH**												
REGULATING RANGE													
5 to 10 mbar		**0**											
10 to 50 mbar		**1**											
20 to 200 mbar		**2**											
50 to 500 mbar		**3**											
5 to 4000 mbar (dome-loading)		**A**											
VALVE SEAT ORIFICE													
Seat diameter 21 mm			**2**										
DIAPHRAGM													
PTFE (Gylon)				**T**									
VALVE SEALING													
EPDM					**E**								
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 **(a)**						**U**							
Top cap (adjustment screw with cover) w/ 1/4" NPT leakage line connection **(a)**						**V**							
Dome-loading – ISO 228 G 1/4" **(b)**						**X**							
Dome-loading – 1/4" NPT **(b)**						**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 connection 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 connection 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 connection on both sides – downstream pressure – 1/4" NPT							**Z**						
SURFACE FINISH (c)													
Standard surface finish								**X**					
Mirror mechanical polished external surfaces (SF1)								**P**					
Electropolished internal wetted parts (SF5)								**E**					
SPECIAL FEATURES													
None									**X**				
EXTERNAL SENSING LINE CONNECTION													
Internal sensing line (standard)										**0**			
External sensing line connection – ISO 228 G 1/4"										**1**			
External sensing line connection – 1/4" NPT										**2**			
PIPE CONNECTIONS													
Clamp ferrule ASME BPE											**D**		
Clamp ferrule DIN (DIN 32676-A)											**F**		
Clamp ferrule ISO (DIN 32676-B)											**E**		
SIZE													
DN 20												**20**	
1" or DN 25												**25**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS													
ATEX compliant version													**EX**
Full description or additional codes have to be added in case of non-standard combination													**E**

(a) Mandatory in case of ATEX compliant version. **(b)** Mandatory in case of dome-loading**. (c)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

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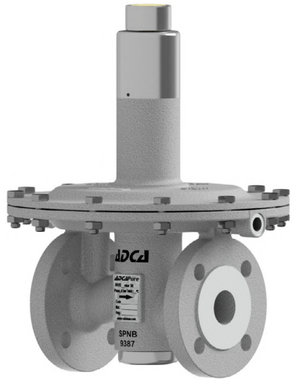
IS BKV2.025 E 13.17

TANK BLANKETING REGULATORS
BKVi2
(Low pressure vent valve)

DESCRIPTION

Tank blanketing valves are commonly used in tank storage systems to prevent and protect against explosions (avoiding flammable liquids being vented from the vessel), to control product contamination against external air that may fill the vapour space, to reduce evaporation losses (consequently, production losses), to reduce internal corrosion (caused by air and moisture) and to prevent vacuum condition.
The blanketing process consists in covering the stored medium, usually a liquid, with a gas (normally N2).



MAIN FEATURES

Compact design.
Non-rising adjustment knob.
FDA / USP Class VI compliant seals.

STANDARD SURFACE FINISH

Internal movable parts and machined surfaces: ≤ 0,76 µm Ra – SF3.
Other surfaces: as casted.
Ultrasonic cleaning.

OPTIONS: Leakage line connection.
Dome-loading.
Top cap (adjustment screw with cover).
Gauge connection on body.
External sensing line connection.
Blanketing with vacuum.
ATEX ⟨Ex⟩ version.

USE: Air, nitrogen, argon and other gases compatible with the construction.

AVAILABLE MODELS: BKVi2 – low pressure venting valve.

SIZES: 1/2" and 1"; DN 15 and DN 25.

REGULATING RANGES: 5 to 10 mbar; 10 to 50 mbar; 20 to 200 mbar; 50 to 500 mbar; 5 to 4000 mbar (dome-loading).

CONNECTIONS: Flanged EN 1092-1 PN 16.
Flanged ASME B16.5 Class 150.

INSTALLATION: Vertical installation recommended, to allow drainage, or horizontal as close to the process as possible in order to prevent long pipe sections and flow restrictions.
See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
1/2" and 1" – DN 15 and 25	SEP

CE MARKING – ATEX VERSION (ATEX – European Directive)	
PN 16	**Category**
1/2" and 1" – DN 15 and 25	Ex h IIB T6...T3 Gb

LIMITING CONDITIONS *	
Maximum allowable pressure	6 bar
Maximum upstream pressure **	500 mbar
Minimum upstream pressure	5 mbar
Maximum operating temperature	130 ºC

* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** 4000 mbar with dome-loading.
Warning: Blanketing valves are no substitute for safety valves or vacuum relief valves.

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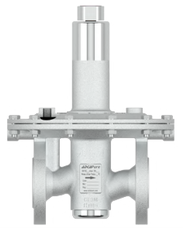
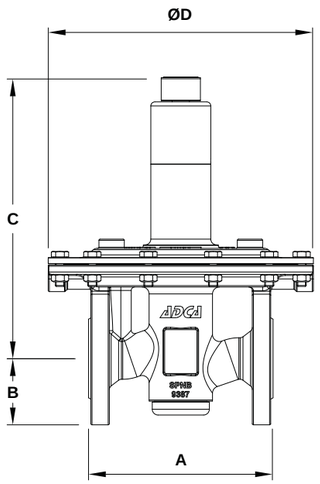
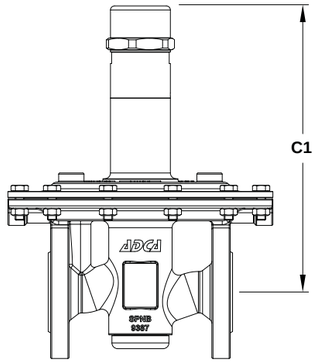
AIR CAPACITIES (Nm³/h) Seat Ø21 mm							
SIZE	**SET PRESSURE**	**INLET PRESSURE (mbar)**					
		10	**20**	**40**	**100**	**200**	**500**
1/2" – DN 15	**25% Overpressure**	4,5	10,5	16	27	45	95
	50% Overpressure	4,5	10,5	16	27	45	95
	75% Overpressure	4,5	10,5	16	27	45	95
	100% Overpressure	4,5	10,5	16	27	45	95
1" – DN 25	**25% Overpressure**	5,3	11,8	18	31	52	105
	50% Overpressure	7,2	14,5	26	40	66	125
	75% Overpressure	8,3	17	30	47	82	136
	100% Overpressure	9,8	18	36	52	91	148

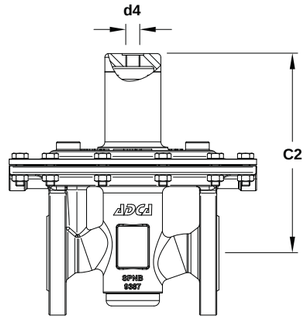
OPTIONS

LEAKAGE LINE CONNECTION	DOME-LOADING	TOP CAP
		
GAUGE CONNECTION	**EXTERNAL SENSING LINE CONNECTION**	**ATEX COMPLIANT**
		

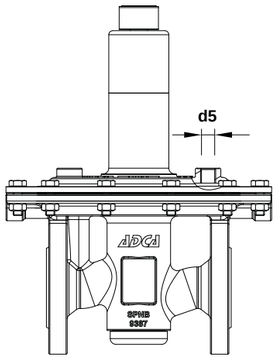




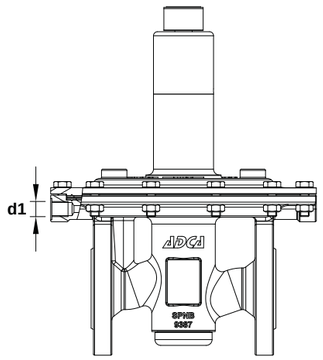
Optional top cap



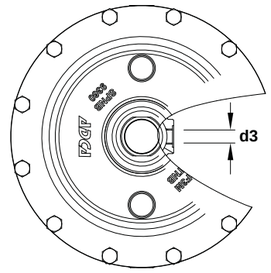
Optional dome-loading



Optional leakage line connection



Optional external sensing line connection



Optional gauge connection

DIMENSIONS (mm)											
SIZE	**A**	**B**	**C**	**C1**	**C2**	**ØD**	**d1**	**d3**	**d4**	**d5**	**WEIGHT (kg)**
1/2" – DN 15	130	47,5	243,5	249	186	230	1/4"	1/4"	1/4"	1/4"	9,7
1" – DN 25	160	57,5	243,5	249	186	230	1/4"	1/4"	1/4"	1/4"	10,8

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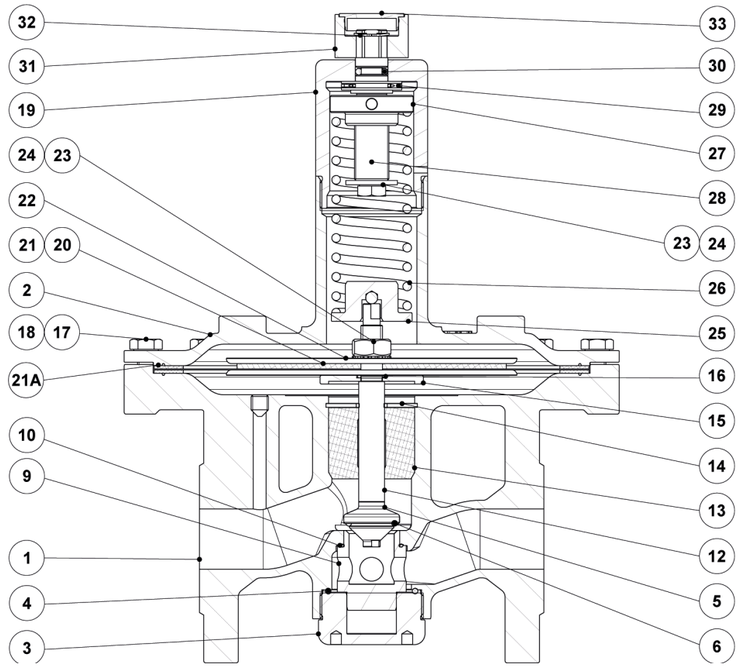
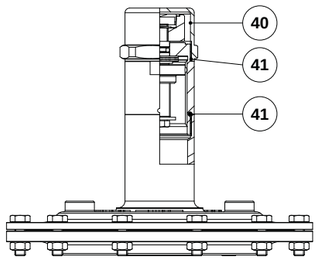
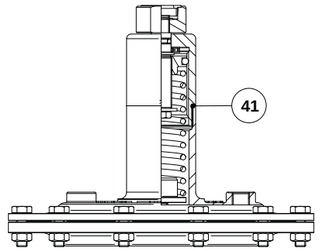
MATERIALS

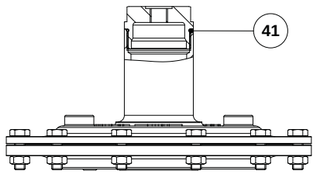




Optional top cap



Optional leakage line connection



Optional dome-loading

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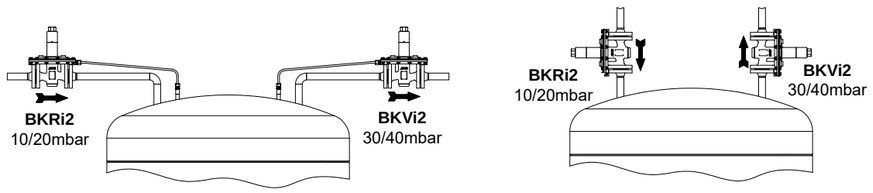
MATERIALS

POS. N°	DESIGNATION	MATERIAL
1	Valve body	A351 CF3M / 1.4409
2	Cover	A351 CF3M / 1.4409
3	Bottom cover	AISI 316L / 1.4404
4	* O-ring	** EPDM
5	* Plug disc	AISI 316L / 1.4404
6	* Valve seal	** EPDM; FPM
9	* Seat	AISI 316L / 1.4404
10	* O-ring	** EPDM
12	Stem	AISI 316L / 1.4404
13	Stem guide	** PTFE
14	Retaining ring	Stainless steel A2-70
15	Diaphragm support plate	AISI 316L / 1.4404
16	* O-ring	** EPDM
17	Bolt	Stainless steel A2-70
18	Nut	Stainless steel A2-70
19	Spring cover	AISI 316L / 1.4404
20	* Lower diaphragm	PTFE (Gylon)
21	* Upper diaphragm	EPDM
21A	* Gasket	** EPDM
22	Diaphragm plate	AISI 316L / 1.4404
23	Nut	Stainless steel A2-70
24	* Washer	Stainless steel A2
25	Lower spring guide	AISI 316L / 1.4404
26	* Adjustment spring	AISI 302 / 1.4300
27	Upper spring guide	AISI 316L / 1.4404
28	Adjustment screw	Brass
29	Bearing	Corrosion resistant steel
20	* O-ring	NBR
31	Adjustment knob	AISI 316L / 1.4404
32	Ext. bowed shaft ring	Stainless steel
33	Cover nut	Plastic
40	Top cap	AISI 316L / 1.4404
41	* O-ring	NBR

* Available spare parts; ** Others on request.
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.

TYPICAL INSTALLATION



Blanketing with overpressure

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ORDERING CODES BKVi2

Valve model	BVI	A	2	T	E	I	X	X	X	0	L	15	E
BKVi2 – A351 CF3M / 1.4409 blanketing low pressure vent valve	**BVI**												
Regulating range													
5 to 10 mbar		**0**											
10 to 50 mbar		**1**											
20 to 200 mbar		**2**											
50 to 500 mbar		**3**											
5 to 4000 mbar (dome-loading)		**A**											
Valve seat orifice													
Seat diameter 21 mm			**2**										
Diaphragm													
PTFE (Gylon)				**T**									
Valve sealing													
EPDM					**E**								
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 **a)**						**U**							
Top cap (adjustment screw with cover) w/ 1/4" NPT leakage line connection **a)**						**V**							
Dome-loading – ISO 228 G 1/4" **b)**						**X**							
Dome-loading – 1/4" NPT **b)**						**C**							
Gauge connections													
Without gauge connections							**X**						
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 connection 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 connection on both sides – downstream pressure – 1/4" NPT							**Z**						
Surface finish c)													
Standard surface finish								**X**					
Mirror mechanical polished external surfaces (SF1)								**P**					
Electropolished internal wetted parts (SF5)								**E**					
Special features													
None									**X**				
External sensing line connection													
Internal sensing line (standard)										**0**			
External sensing line connection – ISO 228 G 1/4"										**1**			
External sensing line connection – 1/4" NPT										**2**			
Pipe connection													
Flanged EN 1092-1 PN 16											**L**		
Flanged ASME B16.5 Class 150											**U**		
Size													
1/2" or DN 15												**15**	
1" or DN 25												**25**	
Special construction / Additional options													
ATEX compliant version													**EX**
Full description or additional codes have to be added in case of non-standard combination													**E**

a) Mandatory in case of ATEX compliant version. **b)** Mandatory in case of dome-loading. **c)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

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TWO-WAY HYGIENIC CONTROL VALVES
V926H

DESCRIPTION

The ADCAPure V926H is a series of single seated two-way hygienic control valves with angle connections.
These valves are designed to regulate and accurately control flow of liquids and gases and are suitable for hygienic applications found in the pharmaceutical, cosmetic, fine chemical and food & beverage industries.
The V926H can be assembled with pneumatic, hydraulic or electric actuators, for modulating and shut-off control tasks.

MAIN FEATURES

Completely manufactured from bar stock material.
Body and bonnet are connected by a clamp connection, allowing fast and easy maintenance procedures.
Cavity-free with no air trap locations.
Metal to metal or soft sealing.
Self-drainable design.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Soft valve sealing.
Reduced bore trims.
Steam barrier.
Inline connections.

USE: Saturated steam, hot and superheated water.
Process fluids, liquids, air and gases compatible with the construction.

AVAILABLE MODELS: V926H.

SIZES: 1/2" to 4".

CONNECTIONS: ASME BPE 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. Vertical inlet and horizontal outlet. See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
1/2" to 2"	SEP
21/2" to 4"	1 (CE marked)

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar @ 20 ºC
Maximum operating pressure	10 bar
Maximum operating pressure (steam)	6 bar
Maximum operating temperature	150 ºC
Maximum operating temperature (steam and water) **	170 ºC
Minimum operating temperature	-10 ºC

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

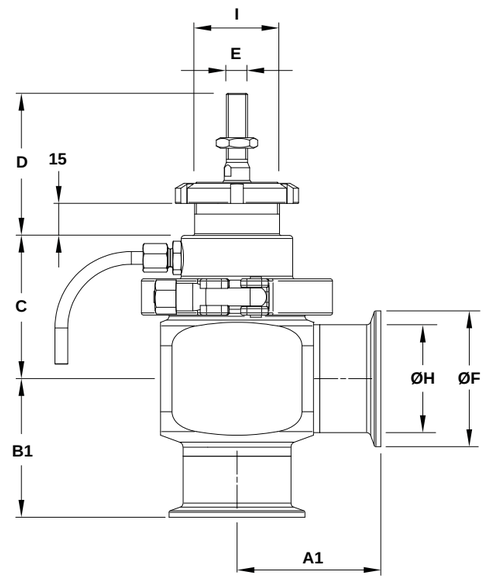
PLUG DESIGN	
PARABOLIC	**PARABOLIC (SOFT SEALING)**
	
Sealing: Metal to metal **Characteristic:** Equal percentage (EQP) or linear (PL) **Flow direction:** From below **Rangeability:** 50:1 (EQP) or 30:1 (PL) **Leakage:** Class IV, acc. to IEC 60534-4	**Sealing:** EPDM, PTFE or FPM **Characteristic:** Equal percentage (EQP) or linear (PL) **Flow direction:** From below **Rangeability:** 50:1 (EQP) or 30:1 (PL) **Leakage:** Class VI, acc. to IEC 60534-4

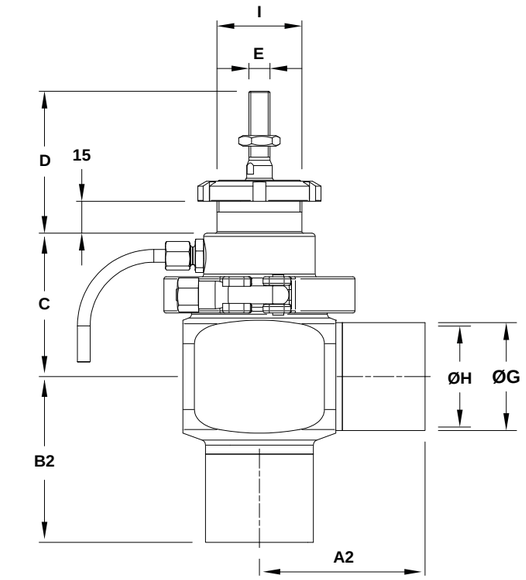
FLOW RATE COEFFICIENTS – PARABOLIC PL AND EQP PLUGS

SIZE	Kvs (m³/h)																
	0,1 *	0,25 *	0,5 *	1	1,5	2	2,3	2,9	4	6,3	10	16	25	40	63	100	160
1/2"	●	●	●	●	●	●											
3/4"							●	●	●								
1"								●	●	●							
11/2"									●	●	●	●					
2"											●	●	●	●			
21/2"												●	●	●			
3"													●	●	●		
4"														●	●	●	●
SEAT Ø (mm)	4			8			12		15	19,2	25	32	38	47/50	65	76	96
STROKE (mm)	15										20				30		

* Microflow is only available with linear characteristic and metal to metal sealing.
For conversion Kvs = Cv (US) x 0,865.

DIMENSIONS





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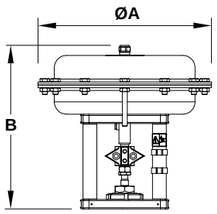
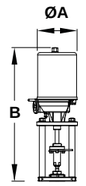
DIMENSIONS (mm)								
DIMENSION	**SIZE**							
	1/2"	**3/4"**	**1"**	**11/2"**	**2"**	**21/2"**	**3"**	**4"**
A1	52	52	54	68	68	72	92	98
A2	52	56	59	76	78	92	115	119
B1	41	45	51	62	65	78	86	**98**
B2	41	51	57	70	78	98	109	125
C	55	54	57	63	68	75	94	106
D	67 / 77 *					70 / 77 *		
E	M10 / M10 x 1 *							
ØF	25	25	50,4	50,4	63,9	77,4	90,9	118,9
ØG	12,7	19,1	25,4	38,1	50,8	63,5	76,2	101,6
ØH	9,4	15,8	22,1	34,8	47,5	60,2	72,9	97,4
I	M40 x 1,5						M45 x 1,5	
WEIGHT (kg)	1,5	1,5	1,7	2,9	3,5	4,2	9,6	14,6

* When ordering without actuator specify the preferred dimension, if any.
Remarks: Face to face dimensions are not standardized. Different dimensions available on request.



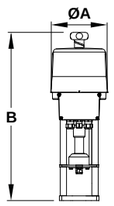
DIMENSIONS – PA SERIES PNEUMATIC ACTUATORS (mm)								
DIMENSION	**PA10**	**PA206**	**PA25**	**PA281**	**PA40**	**PA341**	**PA436**	**PA80**
ØA	170	209	250	275	300	336	430	405
B	251	236	260	243	325	288	316 / 336 *	505
WEIGHT (kg)	6,3	6,2	10,1	9,6	18,7	14,3	24,4 / 28 *	50,4

* For actuators with spring ranges 1 - 2 bar; 1,5 - 3 bar and 2 - 4 bar.
For more information, please consult IS PA.100 and IS PA.140 – PA Linear pneumatic actuators.



DIMENSIONS – EL SERIES ELECTRIC ACTUATORS (mm)					
DIMENSION	**EL12**	**EL20**	**EL45**	**EL80**	**EL120**
ØA	129	148	148	188	188
B	333	485	485	587	587
WEIGHT (kg)	2,1	8	8	13	13

For more information, please consult IS EL.012 – EL Linear electric actuators.



DIMENSIONS – ELS SERIES ELECTRIC ACTUATORS (mm)				
DIMENSION	**ELS20**	**ELS45**	**ELS80**	**ELS100**
ØA	180	180	180	180
B	518	518	555	555
WEIGHT (kg)	4,5	4,5	7,2	7,2

For more information, please consult IS ELS.020 – ELS Intelligent linear electric actuators.

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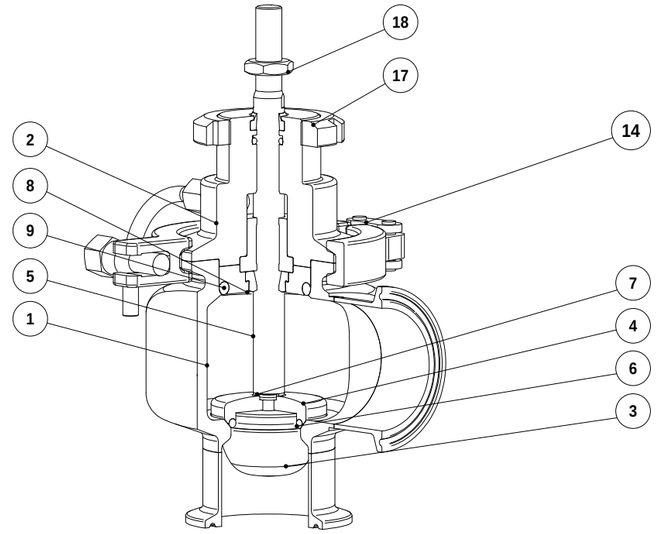

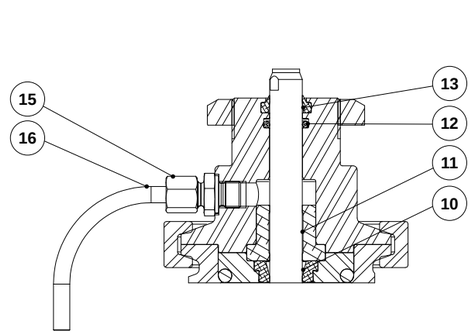

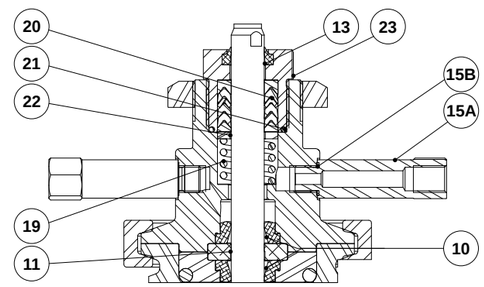

Optional steam barrier

MATERIALS					
POS. Nº	**DESIGNATION**	**MATERIAL**	**POS. Nº**	**DESIGNATION**	**MATERIAL**
1	Valve body	AISI 316L / 1.4404	**14**	Clamp	AISI 316 / 1.4401
2	Bonnet	AISI 316L / 1.4404	**15**	Compression fitting	AISI 304 / 1.4301
3	* Valve plug	AISI 316L / 1.4404	**15A**	Nipple	AISI 316L / 1.4404
4	* Plug disc	AISI 316L / 1.4404	**15B**	* O-ring	FPM
5	* Stem	AISI 316L / 1.4404	**16**	Discharge pipe	AISI 316 / 1.4401
6	* Valve plug seal	** EPDM; PTFE; FPM	**17**	Lock nut	CF8 / 1.4308
7	* O-ring	EPDM	**18**	Lock nut	Stainless steel A2-70
8	Centering ring	AISI 316L / 1.4404	**19**	* Spring	AISI 302 / 1.4310
9	* O-ring	** EPDM; PTFE; FPM	**20**	* Chevron packing set	PTFE
10	* Stem seal	** EPDM; PTFE; FPM	**21**	* O-ring	EPDM
11	* Guide bushing	PTFE	**22**	* Washer	AISI 304 / 1.4301
12	* O-ring	EPDM; FPM	**23**	Packing nut	AISI 316L / 1.4404
13	* Scraper ring	FPM; NBR			

* 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.

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IS V926H.015 E 02.21

ORDERING CODES V926H a)													
Valve model	**V9H**	**1**	**S**	**U**	**E**	**M**	**E**	**FD**	**X**	**XD**	**015**		
V926H - AISI 316L / 1.4404 hygienic control valve, two-way, angle body	**V9H**												
Valve series													
Series 1		**1**											
Bonnet design													
Standard			**S**										
With steam barrier			**B**										
Flow direction													
Flow under the plug				**U**									
Stem and body sealing b)													
EPDM					**E**								
PTFE					**T**								
FPM / Viton					**V**								
Valve sealing													
Metal to metal (class IV)						**M**							
Soft sealed with EPDM (class VI)						**E**							
Soft sealed with PTFE (class VI)						**T**							
Soft sealed with FPM/Viton (class VI)						**V**							
Characteristic													
Equal percentage (EQP)							**E**						
Linear (PL)							**L**						
Flow rate coefficient													
Kvs 4								**FD**					
See table below for other Kvs value codes													
Surface finish c)													
Standard surface finish									**X**				
Mirror mechanical polished external surfaces (SF1)									**P**				
Electropolished internal wetted parts (SF5)									**E**				
Pipe connection													
Clamp ferrule ASME BPE										**DX**			
Tube weld (ETO) according to ASME BPE										**DI**			
Size													
1/2"											**015**		
3/4"											**020**		
...													
Special construction / Additional options													
Full description or additional codes have to be added in case of a non-standard combination													**E**

a) Codification for valve only. For actuator codes, refer to the appropriate information sheet.**b)** When the bonnet with heating chamber is selected the stem sealing is achieved through a PTFE V-Rings/chevron packing set. In which case this field only specifies the body sealing material. **c)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

FLOW RATE COEFFICIENT CODES																	
Kvs	**0,1**	**0,25**	**0,5**	**1**	**1,5**	**2**	**2,3**	**2,9**	**4**	**6,3**	**10**	**16**	**25**	**40**	**63**	**100**	**160**
Code	M4	M2	M1	R4	R3	R2	R1	R0	FD	FE	FF	FG	FH	FI	FJ	FL	FM

TWO-WAY ASEPTIC CONTROL VALVES V926A

DESCRIPTION

The ADCAPure V926A is a series of single seated two-way aseptic control valves with angle connections.
These valves are designed to regulate and accurately control flow of liquids and gases and are suitable for high purity applications found in the pharmaceutical, cosmetic, fine chemical and food & beverage industries.
The V926A can be assembled with pneumatic, hydraulic or electric actuators, for modulating and shut-off control tasks.

MAIN FEATURES

Completely manufactured from bar stock material.
Body and bonnet are connected by a clamp connection, allowing fast and easy maintenance procedures.
High-performance EPDM diaphragm stem sealing.
Cavity-free with no air trap locations.
Metal to metal or soft sealing.
Self-drainable design.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Soft valve sealing.
Reduced bore trims.
Heating chamber.
Inline connections.

USE: Saturated steam, hot and superheated water.
Process fluids, liquids, air and gases compatible with the construction.

AVAILABLE MODELS: V926A.

SIZES: 1/2" to 2".

CONNECTIONS: ASME BPE 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. Vertical inlet and horizontal outlet. See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
1/2" to 2"	SEP

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar @ 20 ºC
Maximum operating pressure	10 bar
Maximum operating pressure (steam)	6 bar
Maximum operating temperature	150 ºC
Maximum operating temperature (steam and water) **	170 ºC
Minimum operating temperature	-10 ºC

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

PLUG DESIGN

PARABOLIC

Sealing: Metal to metal
Characteristic: Equal percentage (EQP), linear (PL) or quick-opening (On/Off)
Flow direction: From below
Rangeability: 50:1 (EQP), 30:1 (PL) or 10:1 (On/Off)
Leakage: Class IV, acc. to IEC 60534-4

PARABOLIC (SOFT SEALING)

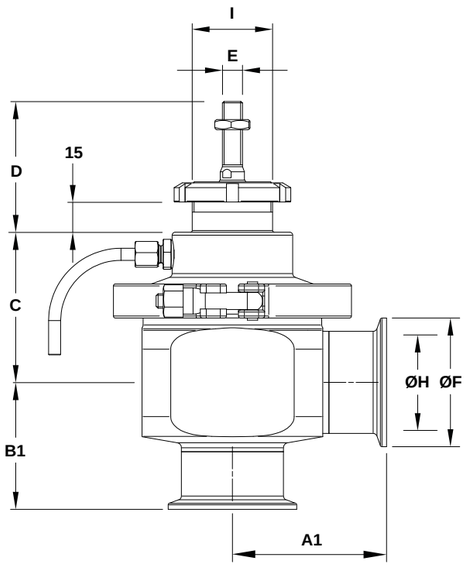
Sealing: EPDM
Characteristic: Equal percentage (EQP) or linear (PL)
Flow direction: From below
Rangeability: 50:1 (EQP) or 30:1 (PL)
Leakage: Class VI, acc. to IEC 60534-4

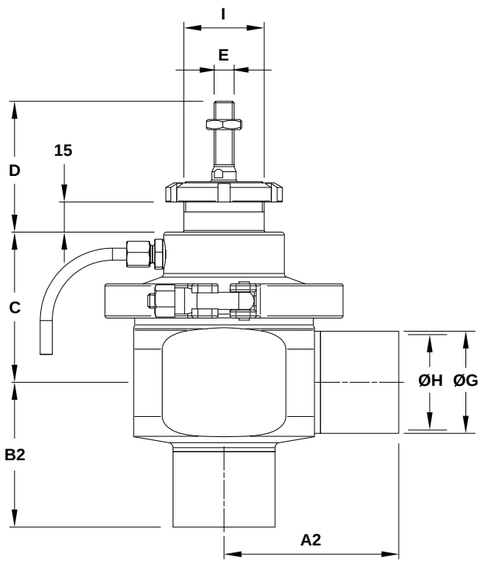
FLOW RATE COEFFICIENTS – PARABOLIC PL, EQP AND ON/OFF PLUGS

SIZE	Kvs (m³/h)													
	0,1 *	0,25 *	0,5 *	1	1,5	2	2,3	2,9	4	6,3	10	16	25	40
1/2"	●	●	●	●	●	●								
3/4"							●	●	●					
1"							●	●	●	●				
11/2"									●	●	●	●		
2"											●	●	●	●
SEAT Ø (mm)	4			8			12		15	19.2	25	32	38	47
STROKE (mm)	7,5										15			

* Microflow is only available with linear characteristic and metal to metal sealing.
For conversion Kvs = Cv (US) x 0,865.

DIMENSIONS





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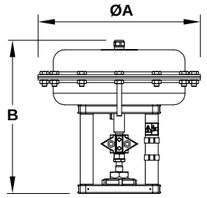
DIMENSIONS (mm)

DIMENSION	SIZE				
	1/2"	3/4"	1"	11/2"	2"
A1	61	61	61	77	77
A2	66	66	66	85	87
B1	41	46	49	62	63
B2	41	46	49	70	72
C	54	56	58	68	75
D	65 / 77 *				
E	M10 / M10 x 1 *				
ØF	25	25	50,4	50,4	63,9
ØG	12,7	19,1	25,4	38,1	50,8
ØH	9,4	15,8	22,1	34,8	47,5
I	M40 x 1,5				
WEIGHT (kg)	2	2,1	2,3	3,8	4,3

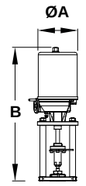
* When ordering without actuator specify the preferred dimension, if any.
Remarks: Face to face dimensions are not standardized. Different dimensions available on request.



DIMENSIONS – PA SERIES PNEUMATIC ACTUATORS (mm)

DIMENSION	PA10	PA206	PA25	PA281
ØA	170	209	250	275
B	251	236	260	243
WEIGHT (kg)	6,3	6,2	10,1	9,6

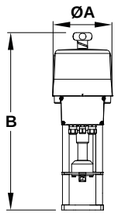
* For actuators with spring ranges 1 - 2 bar; 1,5 - 3 bar and 2 - 4 bar.
For more information, please consult IS PA.100 and IS PA.140 – PA Linear pneumatic actuators.



DIMENSIONS – EL SERIES ELECTRIC ACTUATORS (mm)

DIMENSION	EL20	EL45
ØA	148	148
B	485	485
WEIGHT (kg)	8	8

For more information, please consult IS EL.012 – EL Linear electric actuators.



DIMENSIONS – ELS SERIES ELECTRIC ACTUATORS (mm)

DIMENSION	ELS20	ELS45
ØA	180	180
B	518	518
WEIGHT (kg)	4,5	4,5

For more information, please consult IS ELS.020 – ELS Intelligent linear electric actuators.

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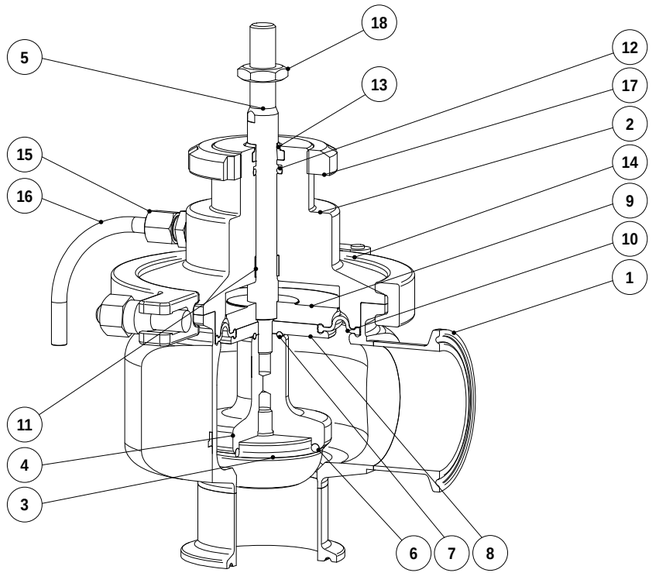
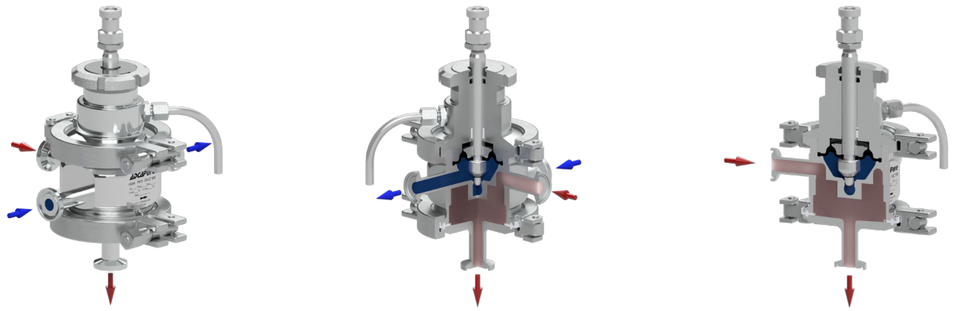
IS V926A.015 E 03.21



MATERIALS					
POS. Nº	**DESIGNATION**	**MATERIAL**	**POS. Nº**	**DESIGNATION**	**MATERIAL**
1	Valve body	AISI 316L / 1.4404	**10**	* Diaphragm	EPDM
2	Bonnet	AISI 316L / 1.4404	**11**	* Guide bushing	PTFE
3	* Valve plug	AISI 316L / 1.4404	**12**	* O-ring	EPDM
4	* Plug disc	AISI 316L / 1.4404	**13**	* Scraper ring	FPM; NBR
5	* Stem	AISI 316L / 1.4404	**14**	Clamp	AISI 316 / 1.4401
6	* Valve plug seal	** EPDM	**15**	Compression fitting	AISI 304 / 1.4301
7	* O-ring	** EPDM	**16**	Discharge pipe	AISI 316 / 1.4401
8	Lower diaphragm plate	*** AISI 316L / 1.4404	**17**	Lock nut	CF8 / 1.4308
9	Upper diaphragm plate	AISI 316L / 1.4404	**18**	Lock nut	Stainless steel A2-70

* 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.



Optional heating chamber
(to maintain the required temperature of the fluid flowing through the valve)

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ORDERING CODES V926A a)													
Valve model	**V9A**	**1**	**S**	**U**	**E**	**M**	**E**	**FD**	**X**	**XD**	**015**		
V926A - AISI 316L / 1.4404 aseptic control valve, two-way, angle body	**V9A**												
Valve series													
Series 1		**1**											
Bonnet design													
Standard			**S**										
With heating chamber			**H**										
Flow direction													
Flow under the plug				**U**									
Stem and body sealing													
EPDM					**E**								
Valve sealing													
Metal to metal (class IV)						**M**							
Soft sealed with EPDM (class VI)						**E**							
Characteristic													
Equal percentage (EQP)							**E**						
Linear (PL)							**L**						
Quick-opening (On/Off) (only available with metal to metal sealing)							**Q**						
Flow rate coefficient													
Kvs 4								**FD**					
See table below for other Kvs value codes													
Surface finish b)													
Standard surface finish									**X**				
Mirror mechanical polished external surfaces (SF1)									**P**				
Electropolished internal wetted parts (SF5)									**E**				
Pipe connection													
Clamp ferrule ASME BPE										**DX**			
Tube weld (ETO) according to ASME BPE										**DI**			
Size													
1/2"											**015**		
3/4"											**020**		
...													
Special construction / Additional options													
Full description or additional codes have to be added in case of a non-standard combination													**E**

a) Codification for valve only. For actuator codes, refer to the appropriate information sheet.
b) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

FLOW RATE COEFFICIENT CODES														
Kvs	**0,1**	**0,25**	**0,5**	**1**	**1,5**	**2**	**2,3**	**2,9**	**4**	**6,3**	**10**	**16**	**25**	**40**
Code	M4	M2	M1	R4	R3	R2	R1	R0	FD	FE	FF	FG	FH	FI

TWO-WAY HYGIENIC CONTROL VALVES
V928

DESCRIPTION

The ADCAPure V928 is a series of two or three-way hygienic control valves with angle or horizontal connections. These valves are designed to regulate and accurately control flow of liquids and gases and are suitable for hygienic applications found in the pharmaceutical, cosmetic, fine chemical and food & beverage industries.
The V928 can be assembled with pneumatic, hydraulic or electric actuators, for modulating and shut-off control tasks.

MAIN FEATURES

Completely manufactured from bar stock material.
Body and bonnet are connected by a clamp connection, allowing fast and easy maintenance procedures.
Cavity-free with no air trap locations.
Metal to metal or soft sealing.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Soft valve sealing.
Reduced bore trims.
Steam barrier.

USE: Saturated steam, hot and superheated water.
Process fluids, liquids, air and gases compatible with the construction.

AVAILABLE MODELS: V928L – two-way angle design.
V928H – two-way horizontal design.

SIZES: DN 15 to DN 100.

CONNECTIONS: DIN threads, 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 16	**Category**
DN 15 to 50	SEP
DN 65 to 100	1 (CE Marked)

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar @ 20 ºC
Maximum operating pressure	10 bar
Maximum operating pressure (steam)	6 bar
Maximum operating temperature	150 ºC
Maximum operating temperature (steam and water) **	170 ºC
Minimum operating temperature	-10 ºC

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

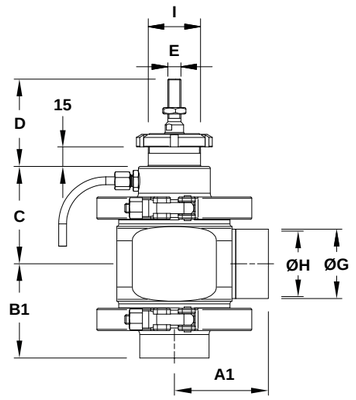
PLUG DESIGN	
PARABOLIC	**PARABOLIC (SOFT SEALING)**
	
Sealing: Metal to metal **Characteristic:** Equal percentage (EQP) or linear (PL) **Flow direction:** From below **Rangeability:** 50:1 (EQP) or 30:1 (PL) **Leakage:** Class IV, acc. to IEC 60534-4	**Sealing:** EPDM, PTFE or FPM **Characteristic:** Equal percentage (EQP) or linear (PL) **Flow direction:** From below **Rangeability:** 50:1 (EQP) or 30:1 (PL) **Leakage:** Class VI, acc. to IEC 60534-4

FLOW RATE COEFFICIENTS – PARABOLIC PL AND EQP PLUGS

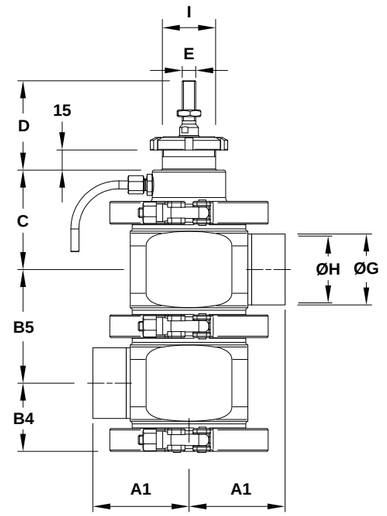
SIZE	Kvs (m³/h)																
	0,1 *	0,25 *	0,5 *	1	1,5	2	2,3	2,9	4	6,3	10	16	25	40	63	100	160
DN 15	●	●	●	●	●	●	●	●	●								
DN 20							●	●	●	●							
DN 25							●	●	●	●	●						
DN 32								●	●	●	●	●					
DN 40									●	●	●	●	●				
DN 50										●	●	●	●	●			
DN 65											●	●	●	●	●		
DN 80												●	●	●	●	●	
DN 100													●	●	●	●	●
SEAT Ø (mm)	4			8			12		15	19,2	25	32	38	50	65	76	96
STROKE (mm)	20														30		

* Microflow is only available with linear characteristic and metal to metal sealing.
For conversion Kvs = Cv (US) x 0,865.

DIMENSIONS



V928L



V928H

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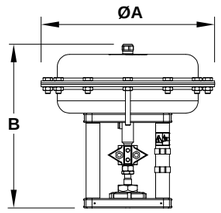
IS V928.015 E 03.21

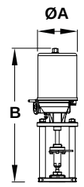
DIMENSIONS (mm)									
DIMENSION	SIZE								
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
A1	49	49	55	64	64	72	84	92	119
B1	45	45	55	62	64	72	86	109	119
B4	34	36	36	43	45	51	64	71	84
B5	51	55	55	68	73	85	110	125	144
C	57	59	59	66	69	75	91	99	108
D	67 / 77 *						70 / 77 *		
E	M10 / M10 x 1 *								
F	34	34	50,5	50,5	50,5	64	91	106	119
ØG	19	23	29	35	41	53	70	85	104
ØH	16	20	26	32	38	50	66	81	100
I	M40 x 1,5						M45 x 1,5		
WGT. (kg) **	2,4	2,5	2,6	4,3	4,4	4,7	10,8	11,8	17,1

Remarks: Face to face dimensions are not standardized. Other dimensions and standards on request.
Configurations with overlapped connections are only possible for tube weld (ETO) versions.
A1 and B1 – Tube weld (ETO) according to DIN 11866-A (DIN 11850-2).
A2, B2 and F – Clamp ferrules according to DIN (DIN 32676-A). Dimension “F” refers to the ferrule flange diameter.
A3 and B3 – Hygienic male threads according to DIN (DIN 11851) for pipes according to DIN 11866-A (DIN 11850-2).
Alternative: Aseptic male threads according to DIN (DIN 11864 -1 Form A) for pipes according to DIN 11866-A (DIN 11850-2).
* When ordering without actuator specify the preferred dimension, if any.
** Based on the standard valve V928L with tube weld (ETO) connections. For other versions, consult manufacturer.



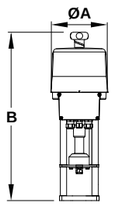
DIMENSIONS – PA SERIES PNEUMATIC ACTUATORS (mm)								
DIMENSION	PA10	PA206	PA25	PA281	PA40	PA341	PA436	PA80
ØA	170	209	250	275	300	336	430	405
B	251	236	260	243	325	288	316 / 336 *	505
WEIGHT (kg)	6,3	6,2	10,1	9,6	18,7	14,3	24,4 / 28 *	50,4

* For actuators with spring ranges 1 - 2 bar; 1,5 - 3 bar and 2 - 4 bar.
For more information, please consult IS PA.100 and IS PA.140 – PA Linear pneumatic actuators.



DIMENSIONS – EL SERIES ELECTRIC ACTUATORS (mm)					
DIMENSION	EL12	EL20	EL45	EL80	EL120
ØA	129	148	148	188	188
B	333	485	485	587	587
WEIGHT (kg)	2,1	8	8	13	13

For more information, please consult IS EL.012 – EL Linear electric actuators.



DIMENSIONS – ELS SERIES ELECTRIC ACTUATORS (mm)				
DIMENSION	ELS20	ELS45	ELS80	ELS100
ØA	180	180	180	180
B	518	518	555	555
WEIGHT (kg)	4,5	4,5	7,2	7,2

For more information, please consult IS ELS.020 – ELS Intelligent linear electric actuators.

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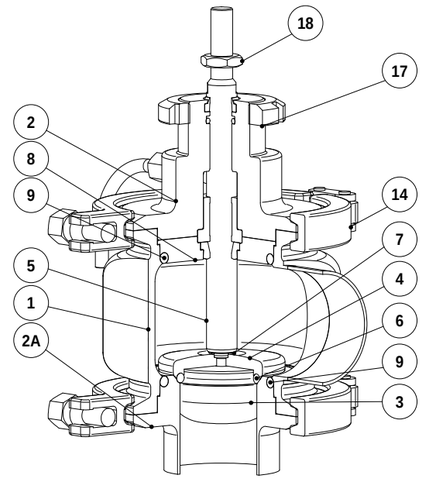
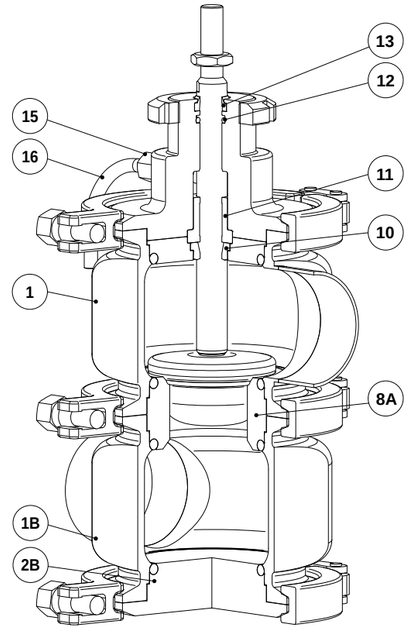
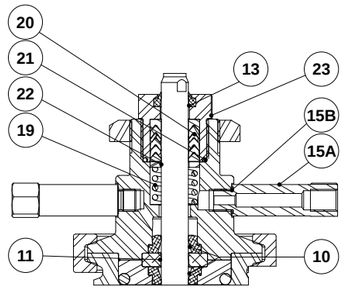
MATERIALS



V928L



V928H



Optional steam barrier

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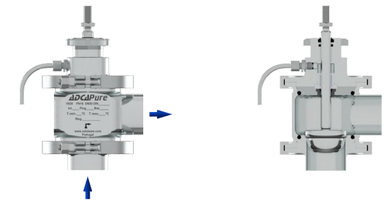
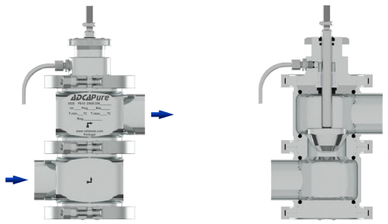
IS V928.015 E 03.21

MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Upper valve body	AISI 316L / 1.4404
1B	Lower valve body	AISI 316L / 1.4404
2	Bonnet	AISI 316L / 1.4404
2A	Bottom connection	AISI 316L / 1.4404
2B	Bottom cover	AISI 316L / 1.4404
3	* Valve plug	AISI 316L / 1.4404
4	* Plug disc	AISI 316L / 1.4404
5	* Stem	AISI 316L / 1.4404
6	* Valve plug seal	** EPDM; PTFE; FPM
7	* O-ring	EPDM
8	Centering ring	AISI 316L / 1.4404
8A	Seat retainer	AISI 316L / 1.4404
9	* O-ring	** EPDM; PTFE; FPM
10	* Shaft seal	** EPDM; PTFE; FPM
11	* Guide bushing	PTFE
12	* O-ring	EPDM; FPM
13	* Scraper ring	FPM; NBR
14	Clamp	AISI 316 / 1.4401
15	Compression fitting	AISI 304 / 1.4301
15A	Nipple	AISI 316L / 1.4404
15B	* O-ring	FPM
16	Discharge pipe	AISI 316 / 1.4401
17	Lock nut	CF8 / 1.4308
18	Lock nut	Stainless steel A2-70
19	* Spring	AISI 302 / 1.4310
20	* Chevron packing set	PTFE
21	* O-ring	EPDM
22	* Washer	AISI 304 / 1.4301
23	Packing nut	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.



V928L
Two-way angle design with one valve body, a vertical inlet and an horizontal outlet connection.
The vertical inlet connection has an integrated valve seat.



V928H
Two-way horizontal design with two valve bodies (upper and lower) and all the connections in the horizontal plain.
The valve seat is placed between the two main valve bodies.
Remark: Configurations with overlapped connections are only possible for tube weld (ETO) versions.

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ORDERING CODES V928 a)												
Valve model	**V8L**	**1**	**S**	**U**	**E**	**M**	**E**	**FD**	**X**	**FX**	**015**	
V928L - AISI 316L hygienic control valve, two-way, angle	**V8L**											
V928H - AISI 316L hygienic control valve, two-way, horizontal	**V8H**											
Valve series												
Series 1		**1**										
Bonnet design												
Standard			**S**									
With steam barrier			**B**									
Flow direction												
Flow under the plug				**U**								
Stem and body sealing b)												
EPDM					**E**							
PTFE					**T**							
FPM / Viton (USP Class VI on request)					**V**							
Valve sealing												
Metal to metal (class IV)						**M**						
Soft sealed with EPDM (class VI)						**E**						
Soft sealed with PTFE (class VI)						**T**						
Soft sealed with FPM/Viton (USP Class VI on request) (class VI)						**V**						
Characteristic												
Equal percentage (EQP)							**E**					
Linear (PL)							**L**					
Flow rate coefficient												
Kvs 4								**FD**				
See table below for other Kvs value codes												
Surface finish c)												
Standard surface finish									**X**			
Mirror mechanical polished external surfaces (SF1)									**P**			
Electropolished internal wetted parts (SF5)									**E**			
Pipe connection												
Clamp ferrule DIN (DIN 32676-A)										**FX**		
Hygienic male threads DIN (DIN 11851)										**G1**		
Aseptic male threads DIN (DIN 11864-1 Form A)										**G2**		
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)										**FI**		
Size												
DN 15											**015**	
DN 20											**020**	
...												
Special construction / Additional options												
Full description or additional codes have to be added in case of a non-standard combination												**E**

a) Codification for valve only. For actuator codes, refer to the appropriate information sheet. **b)** When the bonnet with heating chamber is selected the stem sealing is achieved through a PTFE V-Rings/chevron packing set. In which case this field only specifies the body sealing material.
c) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

FLOW RATE COEFFICIENT CODES																	
Kvs	**0,1**	**0,25**	**0,5**	**1**	**1,5**	**2**	**2,3**	**2,9**	**4**	**6,3**	**10**	**16**	**25**	**40**	**63**	**100**	**160**
Code	M4	M2	M1	R4	R3	R2	R1	R0	FD	FE	FF	FG	FH	FI	FJ	FL	FM

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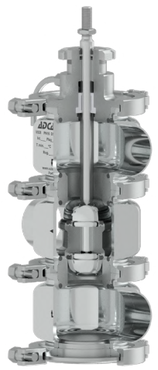
IS V928.015 E 03.21

THREE-WAY HYGIENIC CONTROL VALVES
V928

DESCRIPTION

The ADCAPure V928 is a series of two or three-way hygienic control valves with angle or horizontal connections. These valves are designed to regulate and accurately control flow of liquids and gases and are suitable for hygienic applications found in the pharmaceutical, cosmetic, fine chemical and food & beverage industries.
The V928 can be assembled with pneumatic, hydraulic or electric actuators, for modulating and shut-off control tasks.



MAIN FEATURES

Completely manufactured from bar stock material.
Body and bonnet are connected by a clamp connection, allowing fast and easy maintenance procedures.
Cavity-free with no air trap locations.
Metal to metal or soft sealing.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Soft valve sealing.
Reduced bore trims.
Steam barrier.

USE: Saturated steam, hot and superheated water.
Process fluids, liquids, air and gases compatible with the construction.

AVAILABLE MODELS: V928MV – three-way angle design.
V928MH – three-way horizontal design.
V928D – three-way diverting.

SIZES: DN 15 to DN 100.

CONNECTIONS: DIN threads, 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 16	**Category**
DN 15 to 50	SEP
DN 65 to 100	1 (CE Marked)

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar @ 20 ºC
Maximum operating pressure	10 bar
Maximum operating pressure (steam)	6 bar
Maximum operating temperature	150 ºC
Maximum operating temperature (steam and water) **	170 ºC
Minimum operating temperature	-10 ºC

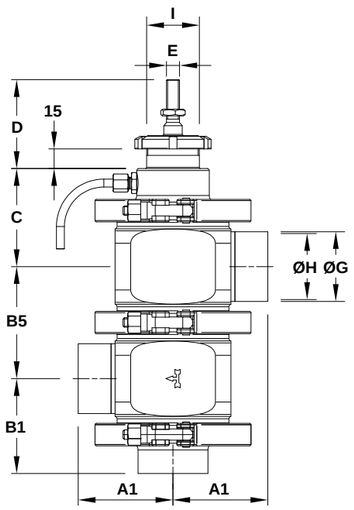
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** With EPDM seals.

PLUG DESIGN	
MIXING	**MIXING (SOFT SEALING)**
	
Sealing: Metal to metal **Characteristic:** Linear (PL) **Rangeability:** 30:1 **Leakage:** Class IV, acc. to IEC 60534-4	**Sealing:** EPDM, PTFE or FPM **Characteristic:** Linear (PL) **Rangeability:** 30:1 **Leakage:** Class VI, acc. to IEC 60534-4
DIVERTING	**DIVERTING (SOFT SEALING)**
	
Sealing: Metal to metal **Characteristic:** Linear (PL) **Rangeability:** 30:1 **Leakage:** Class IV, acc. to IEC 60534-4	**Sealing:** EPDM, PTFE or FPM **Characteristic:** Linear (PL) **Rangeability:** 30:1 **Leakage:** Class VI, acc. to IEC 60534-4

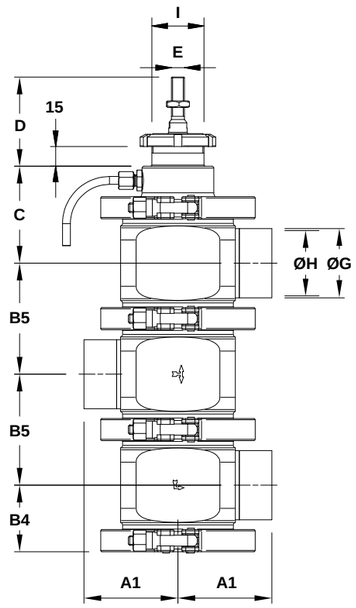
FLOW RATE COEFFICIENTS – MIXING AND DIVERTING PLUGS								
SIZE	**DN 15**	**DN 20**	**DN 25**	**DN 32**	**DN 40**	**DN 50**	**DN 65**	**DN 80**	**DN 100**
Kvs (m³/h)	4	6,3	10	16	25	40	63	100	160
SEAT Ø *	15	19,2	25	32	38	50	65	76	96
STROKE (mm)	20						30		

For conversion, Kvs = Cv (US) x 0,865.

DIMENSIONS



V928MV



V928MH / V928D

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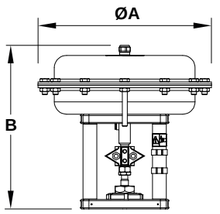
IS V928M.015 E 02.21

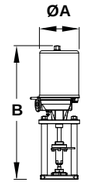
DIMENSIONS (mm)									
DIMENSION	SIZE								
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
A1	49	49	55	64	64	72	84	92	119
A2	61	61	55	77	77	83	89	92	118
A3	54	57	63	73	74	82	101	137	124
B1	45	45	55	62	64	72	86	109	119
B2	63	65	66	72	74	80	92	105	125
B3	66	69	84	94	97	107	126	154	173
B4	34	36	36	43	45	51	64	71	84
B5	51	55	55	68	73	85	110	125	144
C	57	59	59	66	69	75	91	99	108
D	67 / 77 *						70 / 77 *		
E	M10 / M10 x 1 *								
F	34	34	50,5	50,5	50,5	64	91	106	119
ØG	19	23	29	35	41	53	70	85	104
ØH	16	20	26	32	38	50	66	81	100
I	M40 x 1,5						M45 x 1,5		
WGT. (kg) **	2,4	2,5	2,6	4,3	4,4	4,7	10,8	11,8	17,1

Remarks: Face to face dimensions are not standardized. Other dimensions and standards on request.
Configurations with overlapped connections are only possible for tube weld (ETO) versions.
A1 and B1 – Tube weld (ETO) according to DIN 11866-A (DIN 11850-2).
A2, B2 and F – Clamp ferrules according to DIN (DIN 32676-A). Dimension "F" refers to the ferrule flange diameter.
A3 and B3 – Hygienic male threads according to DIN (DIN 11851) for pipes according to DIN 11866-A (DIN 11850-2).
Alternative: Aseptic male threads according to DIN (DIN 11864 -1 Form A) for pipes according to DIN 11866-A (DIN 11850-2).
* When ordering without actuator specify the preferred dimension, if any.
** Based on the standard valve V928L with tube weld (ETO) connections. For other versions, consult manufacturer.



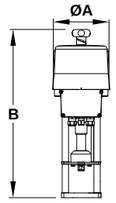
DIMENSIONS – PA SERIES PNEUMATIC ACTUATORS (mm)								
DIMENSION	PA10	PA206	PA25	PA281	PA40	PA341	PA436	PA80
ØA	170	209	250	275	300	336	430	405
B	251	236	260	243	325	288	316 / 336 *	505
WEIGHT (kg)	6,3	6,2	10,1	9,6	18,7	14,3	24,4 / 28 *	50,4

* For actuators with spring ranges 1 - 2 bar; 1,5 - 3 bar and 2 - 4 bar.
For more information, please consult IS PA.100 and IS PA.140 – PA Linear pneumatic actuators.



DIMENSIONS – EL SERIES ELECTRIC ACTUATORS (mm)					
DIMENSION	EL12	EL20	EL45	EL80	EL120
ØA	129	148	148	188	188
B	333	485	485	587	587
WEIGHT (kg)	2,1	8	8	13	13

For more information, please consult IS EL.012 – EL Linear electric actuators.



DIMENSIONS – ELS SERIES ELECTRIC ACTUATORS (mm)				
DIMENSION	ELS20	ELS45	ELS80	ELS100
ØA	180	180	180	180
B	518	518	555	555
WEIGHT (kg)	4,5	4,5	7,2	7,2

For more information, please consult IS ELS.020 – ELS Intelligent linear electric actuators.

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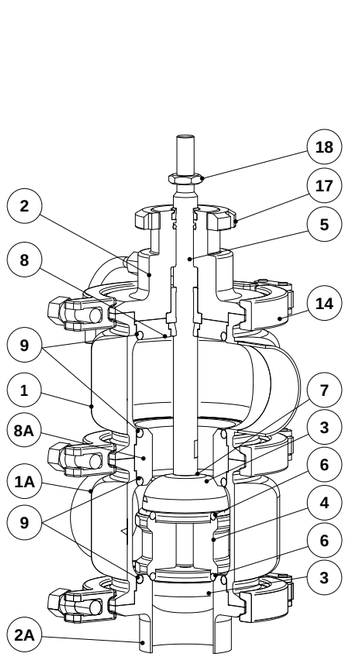
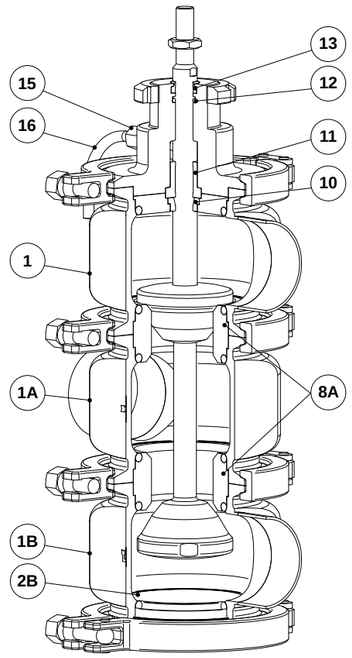
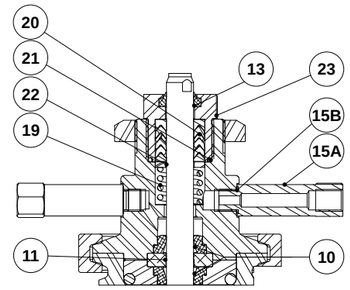


V928MV



V928MH / V928D



Optional steam barrier

MATERIALS					
POS. Nº	DESIGNATION	MATERIAL	POS. Nº	DESIGNATION	MATERIAL
1	Upper valve body	AISI 316L / 1.4404	11	* Guide bushing	PTFE
1A	Intermediate valve body	AISI 316L / 1.4404	12	* O-ring	EPDM; FPM
1B	Lower valve body	AISI 316L / 1.4404	13	* Scraper ring	FPM; NBR
2	Bonnet	AISI 316L / 1.4404	14	Clamp	AISI 316 / 1.4401
2A	Bottom connection	AISI 316L / 1.4404	15	Compression fitting	AISI 304 / 1.4301
2B	Bottom cover	AISI 316L / 1.4404	15A	Nipple	AISI 316L / 1.4404
3	* Valve plug	AISI 316L / 1.4404	15B	* O-ring	FPM
4	* Plug disc	AISI 316L / 1.4404	16	Discharge pipe	AISI 316 / 1.4401
5	* Stem	AISI 316L / 1.4404	17	Lock nut	CF8 / 1.4308
6	* Valve plug seal	** EPDM; PTFE; FPM	18	Lock nut	Stainless steel A2-70
7	* O-ring	EPDM	19	* Spring	AISI 302 / 1.4310
8	Centering ring	AISI 316L / 1.4404	20	* Chevron packing set	PTFE
8A	Seat retainer	AISI 316L / 1.4404	21	* O-ring	EPDM
9	* O-ring	** EPDM; PTFE; FPM	22	* Washer	AISI 304 / 1.4301
10	* Shaft seal	** EPDM; PTFE; FPM	23	Packing nut	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.

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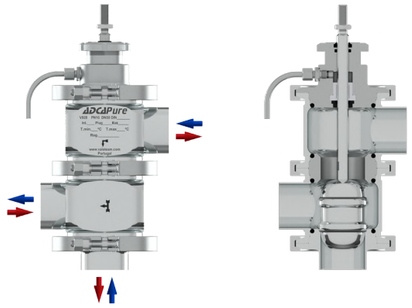
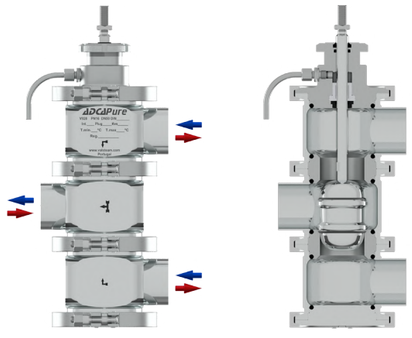
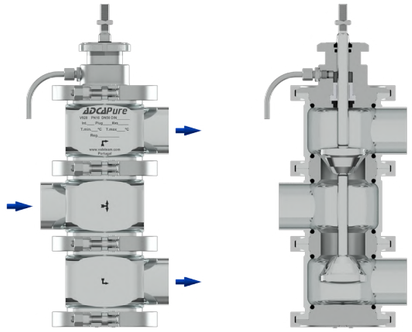


V928MV
Three-way design with two valve bodies (upper and lower) and a bottom vertical connection.
The valve can be used for mixing or diverting duty.
Remark: Configurations with overlapped connections are only possible for tube weld (ETO) versions.



V928MH
Three-way design with three valve bodies (upper, intermediate and lower) and all the connections in the horizontal plain.
The valve can be used for mixing or diverting duty.
Remark: Configurations with overlapped connections are only possible for tube weld (ETO) versions.



V928D
Three-way design with three valve bodies (upper, intermediate and lower) and all the connections in the horizontal plain.
The valve is exclusively meant for diverting duty.
Remark: Configurations with overlapped connections are only possible for tube weld (ETO) versions.

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ORDERING CODES V928 a)													
Valve model	**V8V**	**1**	**S**	**U**	**E**	**M**	**L**	**FD**	**X**	**FX**	**015**		
V928MV - AISI 316L hygienic control valve, three-way, angle	**V8V**												
V928MH - AISI 316L hygienic control valve, three-way, horizontal	**V8M**												
V928D - AISI 316L hygienic control valve, three-way, horizontal, diverting	**V8D**												
Valve series													
Series 1		**1**											
Bonnet design													
Standard			**S**										
With steam barrier			**B**										
Flow direction													
Flow under the plug				**U**									
Stem and body sealing b)													
EPDM					**E**								
PTFE					**T**								
FPM / Viton (USP Class VI on request)					**V**								
Valve sealing													
Metal to metal (class IV)						**M**							
Soft sealed with EPDM (class VI)						**E**							
Soft sealed with PTFE (class VI)						**T**							
Soft sealed with FPM/Viton (USP Class VI on request) (class VI)						**V**							
Characteristic													
Linear (PL)							**L**						
Flow rate coefficient													
Kvs 4								**FD**					
See table below for other Kvs value codes													
Surface finish c)													
Standard surface finish									**X**				
Mirror mechanical polished external surfaces (SF1)									**P**				
Electropolished internal wetted parts (SF5)									**E**				
Pipe connection													
Clamp ferrule DIN (DIN 32676-A)										**FX**			
Hygienic male threads DIN (DIN 11851)										**G1**			
Aseptic male threads DIN (DIN 11864-1 Form A)										**G2**			
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)										**FI**			
Size													
DN 15											**015**		
DN 20											**020**		
...													
Special construction / Additional options													
Full description or additional codes have to be added in case of a non-standard combination													**E**

a) Codification for valve only. For actuator codes, refer to the appropriate information sheet. **b)** When the bonnet with heating chamber is selected the stem sealing is achieved through a PTFE V-Rings/chevron packing set. In which case this field only specifies the body sealing material.
c) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

FLOW RATE COEFFICIENT CODES									
Kvs	**4**	**6,3**	**10**	**16**	**25**	**40**	**63**	**100**	**160**
Code	FD	FE	FF	FG	FH	FI	FJ	FL	FM

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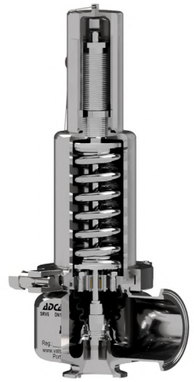
IS V928M.015 E 02.21

ASEPTIC SAFETY RELIEF VALVES
SRV6

DESCRIPTION

The ADCAPure SRV6 series aseptic safety relief valves with angle type connections are designed for use with clean steam, air, water and other gases and liquids compatible with the construction materials.
Main applications are overpressure protection on steam equipment, pressure vessels and pipelines, particularly within the pharmaceutical, cosmetic, fine chemical and food & beverage industries.



MAIN FEATURES

Completely machined from solid bar stock material.
FDA / USP Class VI compliant seals.
Elastomer bellows to isolate the product chamber from the spring housing.
Self drainable design.
Reduced dead leg.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Manual lifting device.
Pneumatic lifting device (for CIP/SIP).
Lift indicator.
Blocking system.
Gas tight assembly.
Different soft sealings for liquids and gases.
Degreased for oxygen application.

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

AVAILABLE MODELS: SRV6.

SIZES: 3/4" x 1", 1" x 11/2" and 11/2" x 2".
DN 20 x 25, DN 25 x 40, DN 32 x 40 and DN 40 x 50.

CONNECTIONS: ASME BPE and DIN clamp ferrules.
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: Vertical installation. See IMI – Installation and maintenance instructions.

DESIGN: DIN EN ISO 4126-1.
PED – Pressure Equipment Directive.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
All sizes	4 (CE marked)

CE Marking: This product has been designed for use on steam, air and other gases which are in Group 2 and 1 (only oxygen, others on request) of the European PED - Pressure Equipment Directive in use and it complies with its requirements. The product carries the CE mark.

LIMITING CONDITIONS *	
Maximum operating pressure	16 bar
Maximum operating temperature **	180 ºC
Minimum operating temperature **	-40 ºC

* 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.

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FLOW CAPACITIES (10% overpressure in accordance with ISO 4126-1)												
SIZE	**DN 20 x 25 3/4" x 1"**			**DN 25 x 40 1" x 11/2"**			**DN 32 x 40**			**DN 40 x 50 11/2" x 2"**		
d_0 (mm)	**10**			**13**			**17**			**23**		
Flow area (mm^2)	**78,5**			**132,7**			**227**			**415,5**		
Set Pressure	**Steam (kg/h)**	**Air (Nm^3/h)**	**Water (m^3/h)**	**Steam (kg/h)**	**Air (Nm^3/h)**	**Water (m^3/h)**	**Steam (kg/h)**	**Air (Nm^3/h)**	**Water (m^3/h)**	**Steam (kg/h)**	**Air (Nm^3/h)**	**Water (m^3/h)**
*** 0,5**	57,01	70,57	2,81	77,95	96,49	2,87	115,25	142,67	4,59	170,76	211,39	7,05
1	77,17	94,40	3,97	109,95	134,50	4,08	168,83	206,52	6,47	256,34	313,57	9,87
2	96,34	119,26	5,06	173,32	214,56	5,73	299,91	371,26	9,09	451,04	558,35	13,80
3	137,36	171,50	5,94	243,69	304,27	7,05	414,65	517,72	11,18	639,96	799,03	16,92
4	172,30	216,50	6,66	312,82	393,08	8,19	533,64	670,55	12,72	822,32	1033,30	19,66
5	210,34	265,70	7,38	380,01	480,04	9,19	631,97	798,31	14,35	1007,39	1272,54	22,17
6	251,79	319,40	7,87	445,63	565,30	10,00	738,53	936,85	15,67	1191,15	1511,01	24,39
7	287,18	365,63	8,46	508,27	647,13	10,96	842,33	1072,45	17,02	1358,56	1729,71	26,51
8	322,48	411,86	8,93	570,74	728,95	11,81	945,86	1208,05	18,13	1525,55	1948,41	28,45
9	357,74	458,09	9,52	633,15	810,77	12,39	1049,30	1343,65	19,20	1692,37	2167,11	30,36
10	–	504,32	9,98	–	892,59	13,21	–	1479,24	20,25	–	2385,81	31,95
11	–	550,55	10,46	–	974,41	13,85	–	1614,84	21,23	–	2604,51	33,51
12	–	596,78	10,93	–	1056,23	14,47	–	1750,44	22,18	–	2823,21	35,00
13	–	643,01	11,38	–	1138,05	15,06	–	1886,04	23,08	–	3041,91	36,43
14	–	689,24	11,81	–	1219,87	15,63	–	2021,63	23,96	–	3260,61	37,80
15	–	735,47	12,22	–	1301,69	16,18	–	2157,23	24,80	–	3479,31	39,13
16	–	781,70	12,62	–	1383,51	16,71	–	2292,83	25,61	–	3698,01	40,41

* Lower set pressures on request.

OPTIONS				
MANUAL LIFTING DEVICE	**PNEUMATIC LIFTING DEVICE ***	**LIFT INDICATOR ****	**BLOCKING SYSTEM**	**GAS TIGHT**
				

* For d_0 = 23 mm and set pressures above 7 bar, the high capacity pneumatic lifting device is required. Consult the manufacturer.
** 3 wire PNP sensor with NO contact (NC on request), M8 x 1 male connector and 10 to 30 V DC supply voltage. Others on request.

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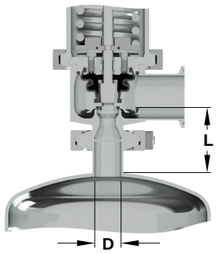
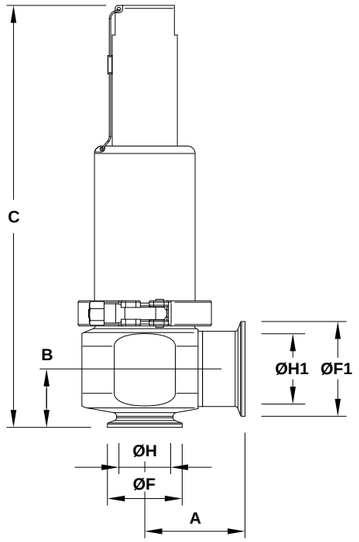
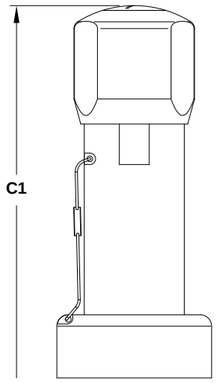
DEAD LEG

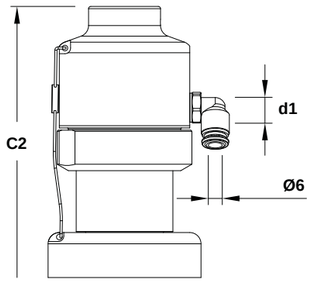
The SRV6 safety valve inlet port design offers improved cleanability, with an achievable dead leg ratio L/D < 2.







Optional manual lifting device



Optional pneumatic lifting device

DIMENSIONS – ASME BPE (mm)												
SIZE	**d_0**	**A**	**B**	**C**	**C1**	**C2**	**d1**	**ØF**	**ØF1**	**ØH**	**ØH1**	**WEIGHT (kg)**
3/4" x 1"	10	62,5	24,5	249	290	255	1/8"	25	50,5	15,8	22,1	3,4
1" x 11/2"	13	62,5	34,5	258	299	264	1/8"	50,4	50,5	22,1	34,8	3,6
11/2" x 2"	23	67,5	39,5	285	326	291 *	1/8"	50,4	64	34,8	47,5	4,5

* High pressure pneumatic lifting device dimensions on request.

DIMENSIONS – DIN (mm)												
SIZE	**d_0**	**A**	**B**	**C**	**C1**	**C2**	**d1**	**ØF**	**ØF1**	**ØH**	**ØH1**	**WEIGHT (kg)**
DN 20 x 25	10	55,5	26,5	249	290	255	1/8"	34	50,5	20	26	3,4
DN 25 x 40	13	55,5	34,5	258	299	264	1/8"	50,5	50,5	26	38	3,6
DN 32 x 40	17	55,5	34	259	300	265	1/8"	50,5	50,5	32	38	3,6
DN 40 x 50	23	59	39,5	285	236	291 *	1/8"	50,5	64	38	50	4,4

* High pressure pneumatic lifting device dimensions on request.
Remarks: Clamp ferrules according to DIN 32676-A; Tube weld (ETO) according to DIN 11866-A (DIN 11850-2).

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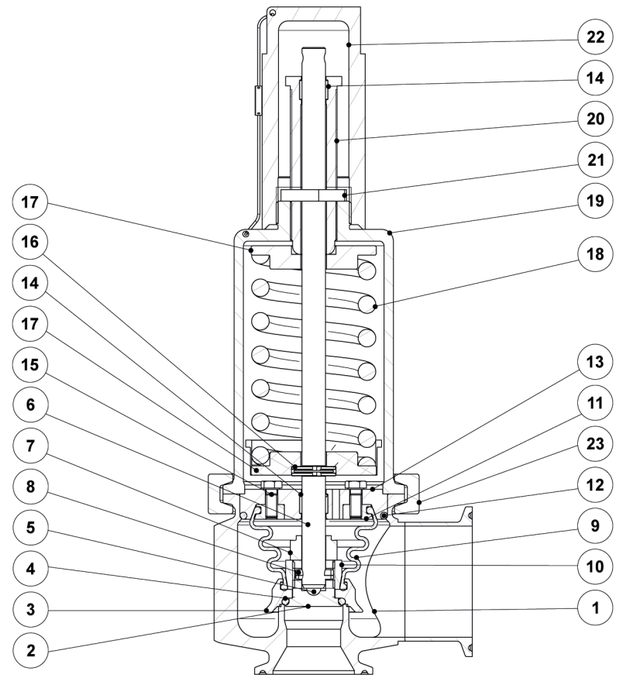
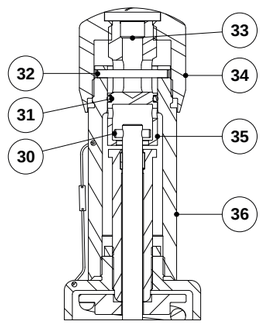
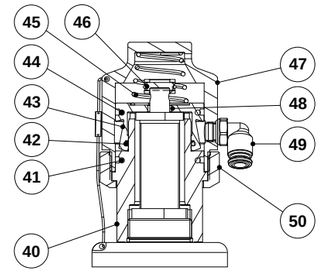
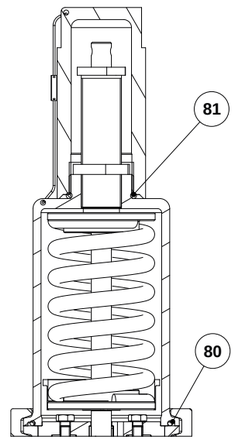




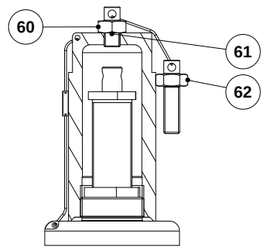
Optional manual lifting device



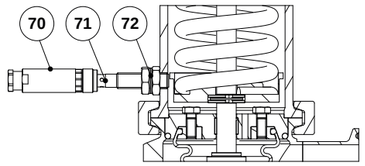
Optional pneumatic lifting device



Gas tight



Optional blocking system



Optional lift indicator

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MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	AISI 316L / 1.4404
2	* Seat disc	AISI 316L / 1.4404
3	Lifting bell	AISI 316L / 1.4404
4	* Valve seal	** EPDM; FPM
5	Ball	AISI 316 / 1.4401
6	Stem	AISI 316L / 1.4404
7	Lift stopper	AISI 316L / 1.4404
8	* Pin	AISI 301 / 1.4310
9	* Bellows	EPDM; FPM
10	Fixing nut	AISI 316L / 1.4404
11	Bellows fixing ring	AISI 316L / 1.4404
12	* Body seal	EPDM; FPM
13	Guide bushing	AISI 316L / 1.4404
14	Bushing	PTFE
15	Bolt	Stainless Steel A2-70
16	Split ring	AISI 316L / 1.4404
17	Spring plate	AISI 316L / 1.4404
18	* Spring	Stainless steel
19	Bonnet	AISI 316L / 1.4404
20	Adjustment screw	AISI 316L / 1.4404
21	Lock nut	AISI 316L / 1.4404
22	Cap	AISI 316L / 1.4404
23	Clamp	AISI 316 / 1.4401
30	Pin	AISI 303 / 1.4305
31	* O-ring	EPDM
32	Pin	AISI 303 / 1.4305
33	Locking screw	AISI 316 / 1.4401
34	Lifting cover	AISI 316 / 1.4401
35	Piston	AISI 316 / 1.4401
36	Lifting device body	AISI 316L / 1.4404
40	Connector	AISI 316L / 1.4404
41	* O-ring	EPDM
42	* O-ring	EPDM
43	Piston	AISI 316L / 1.4404
44	* O-ring	EPDM
45	Spring	AISI 302 / 1.4300
46	Pin	AISI 301 / 4.4310
47	Cover	AISI 316L / 1.4404
48	Retainer	AISI 316L / 1.4404
49	Pneumatic fitting	AISI 316L / 1.4404
50	Lock nut	AISI 316L / 1.4404
60	Gag lock nut	AISI 316 / 1.4401
61	Gasket	FPM
62	Test gag screw	AISI 316 / 1.4401
70	Connector	Plastic
71	Proximity sensor	AISI 303 / 1.4305
72	Lock nut	Stainless Steel A2-70
80	* O-ring	EPDM
81	* O-ring	EPDM

* 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.

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ORDERING CODES SRV6											
Valve model	**SV6**	**L**	**E**	**E**	**1**	**X**	**XX**	**005**	**DI**	**20**	**E**
SRV6 - AISI 316L / 1.4404 safety relief valve	**SV6**										
Application											
Liquids		**L**									
Gases		**G**									
Steam		**S**									
Oxygen (degreased)		**O**									
Bellows and body sealing											
EPDM – Tmin -40 ºC / Tmax 150 ºC			**E**								
FPM / Viton – Tmin -10 ºC / Tmax 180 ºC (USP Class VI on request)			**V**								
Valve sealing											
Metal to metal (non-standard)				**M**							
EPDM – Tmin -40 ºC / Tmax 150 ºC				**E**							
FPM / Viton – Tmin -10 ºC / Tmax 180 ºC (USP Class VI on request)				**V**							
Top cap, gas tight, pneumatic and manual lifting devices											
Top cap					**1**						
Pneumatic lifting device					**2**						
High capacity pneumatic lifting device (for d_0 = 23 mm and set pressures above 7 bar)					**3**						
Top cap and gas tight assembly					**4**						
Pneumatic lifting device and gas tight assembly					**5**						
High capacity pneumatic lifting device and gas tight assembly (for d_0 = 23 mm and set pressures above 7 bar)					**6**						
Manual lifting device					**7**						
Manual lifting device and gas tight assembly					**8**						
Surface finish b)											
Standard surface finish						**X**					
Mirror mechanical polished external surfaces (SF1)						**P**					
Electropolished internal wetted parts (SF5)						**E**					
Lift indicator and blocking system											
None							**XX**				
Lift indicator							**LX**				
Blocking system **a)**							**XB**				
Lift indicator and blocking system **a)**							**LB**				
Set pressure											
0,5 bar								**005**			
...											
1 bar								**010**			
...											
7,6 bar								**076**			
...											
16 bar								**160**			
Pipe connections											
Clamp ferrule ASME BPE									**D**		
Clamp ferrule DIN (DIN 32676-A)									**F**		
Tube weld (ETO) according to ASME BPE									**DI**		
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)									**FI**		
Hygienic male threads DIN (DIN 11851)									**G1**		
Aseptic male threads DIN (DIN 11864-1 Form A)									**G2**		
Size											
3/4" x 1" or DN 20 x 25										**20**	
1" x 11/2" or DN 25 x 40										**25**	
DN 32 x DN 40										**32**	
11/2" x 2" or DN 40 x 50										**40**	
Special valves / Extras											
Full description or additional codes have to be added in case of non-standard combination											**E**

a) Not available in valves with manual or pneumatic lifting device. **b)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

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IS SRV6.020 E 21.18

ASEPTIC SAFETY RELIEF VALVES
SRV8

DESCRIPTION

The ADCAPure SRV8 series aseptic safety relief valves with angle type connections are designed for use with clean steam, air, water and other gases and liquids compatible with the construction materials.
Main applications are overpressure protection on steam equipment, pressure vessels and pipelines, particularly within the pharmaceutical, cosmetic, fine chemical and food & beverage industries.

MAIN FEATURES

Completely machined from solid bar stock material.
FDA / USP Class VI compliant seals.
Elastomer bellows to isolate the product chamber from the spring housing.
Self drainable design.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Manual lifting device.
Pneumatic lifting device (for CIP/SIP).
Lift indicator.
Blocking system.
Gas tight assembly.
Different soft sealings for liquids and gases.
Degreased for oxygen application.

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

AVAILABLE MODELS: SRV8.

SIZES: 3/4" x 1", 1" x 11/2" and 11/2" x 2".
DN 20 x 25, DN 25 x 40, DN 32 x 40 and DN 40 x 50.

CONNECTIONS: ASME BPE and DIN clamp ferrules.
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: Vertical installation.
See IMI – Installation and maintenance instructions.

DESIGN: DIN EN ISO 4126-1.
PED – Pressure Equipment Directive.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
All sizes	4 (CE marked)

CE Marking: This product has been designed for use on steam, air and other gases which are in Group 2 and 1 (only oxygen, others on request) of the European PED - Pressure Equipment Directive in use and it complies with its requirements. The product carries the CE mark.

LIMITING CONDITIONS *	
Maximum operating pressure	16 bar
Maximum operating temperature **	180 ºC
Minimum operating temperature **	-40 ºC

* 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.

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FLOW CAPACITIES
(10% overpressure in accordance with ISO 4126-1)

SIZE	DN 20 x 25 3/4" x 1"			DN 25 x 40 1" x 11/2"			DN 32 x 40			DN 40 x 50 11/2" x 2"		
d_0 (mm)	10			13			17			23		
Flow area (mm^2)	78,5			132,7			227			415,5		
Set Pressure	Steam (kg/h)	Air (Nm^3/h)	Water (m^3/h)	Steam (kg/h)	Air (Nm^3/h)	Water (m^3/h)	Steam (kg/h)	Air (Nm^3/h)	Water (m^3/h)	Steam (kg/h)	Air (Nm^3/h)	Water (m^3/h)
*0,5	57,01	70,57	2,81	77,95	96,49	2,87	115,25	142,67	4,59	170,76	211,39	7,05
1	77,17	94,40	3,97	109,95	134,50	4,08	168,83	206,52	6,47	256,34	313,57	9,87
2	96,34	119,26	5,06	173,32	214,56	5,73	299,91	371,26	9,09	451,04	558,35	13,80
3	137,36	171,50	5,94	243,69	304,27	7,05	414,65	517,72	11,18	639,96	799,03	16,92
4	172,30	216,50	6,66	312,82	393,08	8,19	533,64	670,55	12,72	822,32	1033,30	19,66
5	210,34	265,70	7,38	380,01	480,04	9,19	631,97	798,31	14,35	1007,39	1272,54	22,17
6	251,79	319,40	7,87	445,63	565,30	10,00	738,53	936,85	15,67	1191,15	1511,01	24,39
7	287,18	365,63	8,46	508,27	647,13	10,96	842,33	1072,45	17,02	1358,56	1729,71	26,51
8	322,48	411,86	8,93	570,74	728,95	11,81	945,86	1208,05	18,13	1525,55	1948,41	28,45
9	357,74	458,09	9,52	633,15	810,77	12,39	1049,30	1343,65	19,20	1692,37	2167,11	30,36
10	–	504,32	9,98	–	892,59	13,21	–	1479,24	20,25	–	2385,81	31,95
11	–	550,55	10,46	–	974,41	13,85	–	1614,84	21,23	–	2604,51	33,51
12	–	596,78	10,93	–	1056,23	14,47	–	1750,44	22,18	–	2823,21	35,00
13	–	643,01	11,38	–	1138,05	15,06	–	1886,04	23,08	–	3041,91	36,43
14	–	689,24	11,81	–	1219,87	15,63	–	2021,63	23,96	–	3260,61	37,80
15	–	735,47	12,22	–	1301,69	16,18	–	2157,23	24,80	–	3479,31	39,13
16	–	781,70	12,62	–	1383,51	16,71	–	2292,83	25,61	–	3698,01	40,41

* Lower set pressures on request.

OPTIONS

MANUAL LIFTING DEVICE	PNEUMATIC LIFTING DEVICE *	LIFT INDICATOR **	BLOCKING SYSTEM	GAS TIGHT
				

* For d_0 = 23 mm and set pressures above 7 bar, the high capacity pneumatic lifting device is required. Consult the manufacturer.
** 3 wire PNP sensor with NO contact (NC on request), M8 x 1 male connector and 10 to 30 V DC supply voltage. Others on request.

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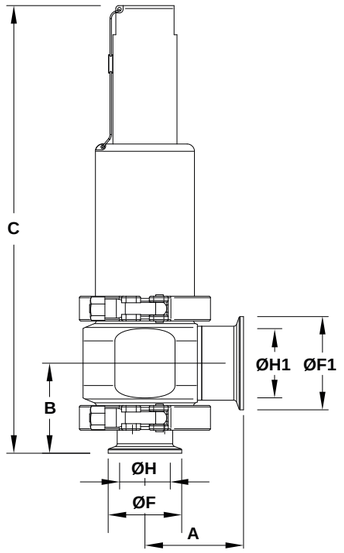
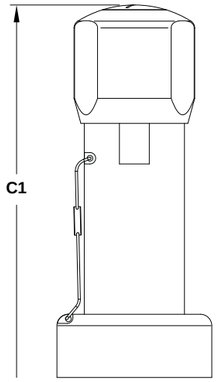
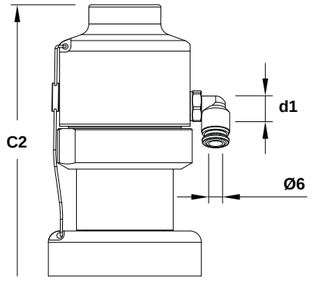
IS SRV8.020 E 12.19





Optional manual lifting device



Optional pneumatic lifting device

DIMENSIONS – ASME BPE (mm)

SIZE	d_0	A	B	C	C1	C2	d1	ØF	ØF1	ØH	ØH1	WEIGHT (kg)
3/4" x 1"	10	62,5	49,5	279	320	285	1/8"	25	50,5	15,8	22,1	4,3
1" x 11/2"	13	62,5	53.5	281	322	287	1/8"	50,4	50,5	22,1	34,8	4,4
11/2" x 2"	23	67,5	61,5	311	352	317 *	1/8"	50,4	64	34,8	47,5	5,3

* High pressure pneumatic lifting device dimensions on request.

DIMENSIONS – DIN (mm)

SIZE	d_0	A	B	C	C1	C2	d1	ØF	ØF1	ØH	ØH1	WEIGHT (kg)
DN 20 x 25	10	55,5	50	279	320	285	1/8"	34	50,5	20	26	4,3
DN 25 x 40	13	55,5	55	282	323	288	1/8"	50,5	50,5	26	38	4,4
DN 32 x 40	17	55,5	53	282	323	288	1/8"	50,5	50,5	32	38	4,3
DN 40 x 50	23	60,5	61,5	311	352	317 *	1/8"	50,5	64	38	50	5,2

* High pressure pneumatic lifting device dimensions on request.
Remarks: Clamp ferrules according to DIN 32676-A; Tube weld (ETO) according to DIN 11866-A (DIN 11850-2).

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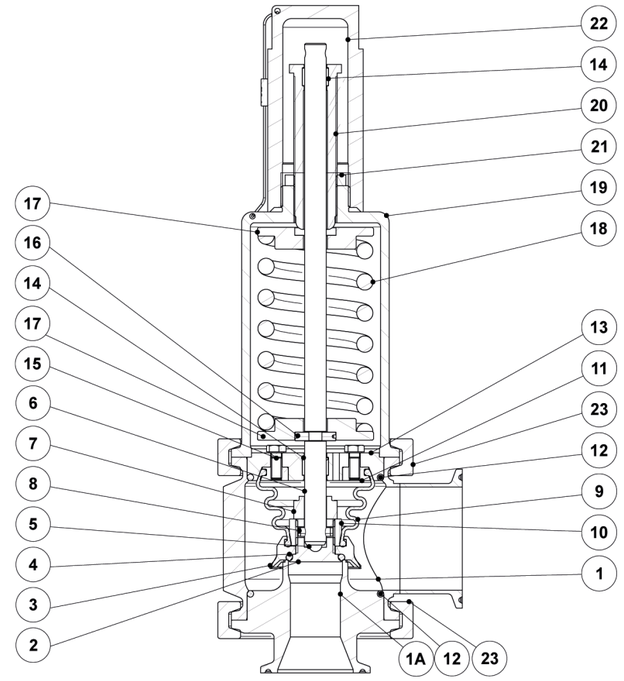
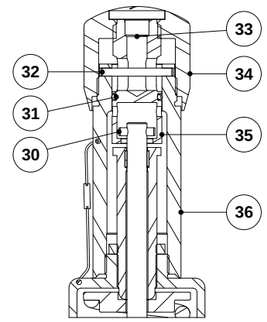
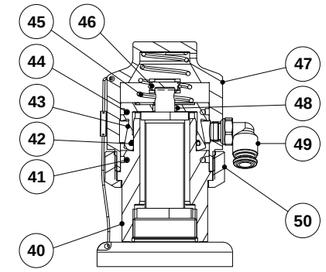
MATERIALS

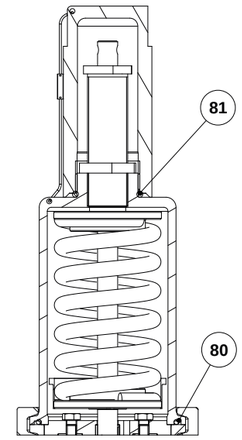




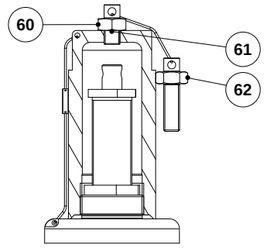
Optional manual lifting device



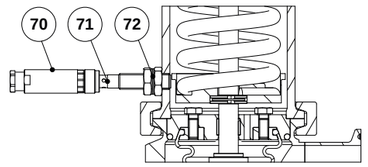
Optional pneumatic lifting device



Gas tight



Optional blocking system



Optional lift indicator

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IS SRV8.020 E 12.19

MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	AISI 316L / 1.4404
1A	Seat	AISI 316L / 1.4404
2	* Seat disc	AISI 316L / 1.4404
3	Lifting bell	AISI 316L / 1.4404
4	* Valve seal	** EPDM; FPM
5	Ball	AISI 316 / 1.4401
6	Stem	AISI 316L / 1.4404
7	Lift stopper	AISI 316L / 1.4404
8	* Pin	AISI 301 / 1.4310
9	* Bellows	EPDM; FPM
10	Fixing nut	AISI 316L / 1.4404
11	Bellows fixing ring	AISI 316L / 1.4404
12	* Body seal	EPDM; FPM
13	Guide bushing	AISI 316L / 1.4404
14	Bushing	PTFE
15	Bolt	Stainless Steel A2-70
16	Split ring	AISI 316L / 1.4404
17	Spring plate	AISI 316L / 1.4404
18	* Spring	Stainless steel
19	Bonnet	AISI 316L / 1.4404
20	Adjustment screw	AISI 316L / 1.4404
21	Lock nut	AISI 316L / 1.4404
22	Cap	AISI 316L / 1.4404
23	Clamp	AISI 316 / 1.4401
30	Pin	AISI 303 / 1.4305
31	* O-ring	EPDM
32	Pin	AISI 303 / 1.4305
33	Locking screw	AISI 316 / 1.4401
34	Lifting cover	AISI 316 / 1.4401
35	Piston	AISI 316 / 1.4401
36	Lifting device body	AISI 316L / 1.4404
40	Connector	AISI 316L / 1.4404
41	* O-ring	EPDM
42	* O-ring	EPDM
43	Piston	AISI 316L / 1.4404
44	* O-ring	EPDM
45	Spring	AISI 302 / 1.4300
46	Pin	AISI 301 / 4.4310
47	Cover	AISI 316L / 1.4404
48	Retainer	AISI 316L / 1.4404
49	Pneumatic fitting	AISI 316L / 1.4404
50	Lock nut	AISI 316L / 1.4404
60	Gag lock nut	AISI 316 / 1.4401
61	Gasket	FPM
62	Test gag screw	AISI 316 / 1.4401
70	Connector	Plastic
71	Proximity sensor	AISI 303 / 1.4305
72	Lock nut	Stainless Steel A2-70
80	* O-ring	EPDM
81	* O-ring	EPDM

* 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.

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ORDERING CODES SRV8											
Valve model	**SV8**	**L**	**E**	**E**	**1**	**X**	**XX**	**005**	**DI**	**20**	**E**
SRV8 - AISI 316L / 1.4404 safety relief valve	**SV8**										
Application											
Liquids		**L**									
Gases		**G**									
Steam		**S**									
Oxygen (degreased)		**O**									
Bellows and body sealing											
EPDM – Tmin -40 ºC / Tmax 150 ºC			**E**								
FPM / Viton – Tmin -10 ºC / Tmax 180 ºC (USP Class VI on request)			**V**								
Valve sealing											
Metal to metal (non-standard)				**M**							
EPDM – Tmin -40 ºC / Tmax 150 ºC				**E**							
FPM / Viton – Tmin -10 ºC / Tmax 180 ºC (USP Class VI on request)				**V**							
Top cap, gas tight, pneumatic and manual lifting devices											
Top cap					**1**						
Pneumatic lifting device					**2**						
High capacity pneumatic lifting device (for d_0 = 23 mm and set pressures above 7 bar)					**3**						
Top cap and gas tight assembly					**4**						
Pneumatic lifting device and gas tight assembly					**5**						
High capacity pneumatic lifting device and gas tight assembly (for d_0 = 23 mm and set pressures above 7 bar)					**6**						
Manual lifting device					**7**						
Manual lifting device and gas tight assembly					**8**						
Surface finish b)											
Standard surface finish						**X**					
Mirror mechanical polished external surfaces (SF1)						**P**					
Electropolished internal wetted parts (SF5)						**E**					
Lift indicator and blocking system											
None							**XX**				
Lift indicator							**LX**				
Blocking system **a)**							**XB**				
Lift indicator and blocking system **a)**							**LB**				
Set pressure											
0,5 bar								**005**			
...											
1 bar								**010**			
...											
7,6 bar								**076**			
...											
16 bar								**160**			
Pipe connections											
Clamp ferrule ASME BPE									**D**		
Clamp ferrule DIN (DIN 32676-A)									**F**		
Tube weld (ETO) according to ASME BPE									**DI**		
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)									**FI**		
Hygienic male threads DIN (DIN 11851)									**G1**		
Aseptic male threads DIN (DIN 11864-1 Form A)									**G2**		
Sizes											
3/4" x 1" or DN 20 x 25										**20**	
1" x 11/2" or DN 25 x 40										**25**	
DN 32 x DN 40										**32**	
11/2" x 2" or DN 40 x 50										**40**	
Special construction / Additional options											
Full description or additional codes have to be added in case of non-standard combination											**E**

a) Not available in valves with manual or pneumatic lifting device.
b) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

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IS SRV8.020 E 12.19

SANITARY AIR VENT VALVES
SAV10

DESCRIPTION

The ADCAPure SAV10 sanitary air vent is a self-acting valve designed for air venting applications with liquids.
The valve closes when filled with liquid product. As the level falls, the valve opens if pressure is also relieved. The valve does not open under operating pressure, thus being mostly used as a start-up bleeding valve. Typical applications include air venting in CIP lines (e.g. installed at suction of SIP return pump to prevent air lock), tanks, high points in pipelines, amongst others.
Specifically designed for hygienic systems found in the pharmaceutical, cosmetic, fine chemical and food & beverage processes.

MAIN FEATURES

Compact and easy to install.
Springless design.
Complete 316L stainless steel construction, including float.
Different models available depending on the intended application.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

USE: Water and other liquids compatible with the construction.

AVAILABLE MODELS:
SAV10 – soft upper seat; metal lower seat.
SAV10D – soft upper and lower seats.
SAV10CK – soft upper seat; grooved lower seat.

SIZES: 1" x 3/4" and 1" x 1".

CONNECTIONS: ASME BPE clamp ferrules.
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: Vertical installation.
See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1" x 3/4" and 1" x 1"	SEP

LIMITING CONDITIONS *	
Maximum operating pressure	10 bar
Minimum closing pressure – silicone seals	0,7 bar
Minimum closing pressure – EPDM, FPM or FFKM seals	1,5 bar
Maximum operating temperature **	150 ºC
Minimum operating temperature	-10 ºC

* 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.
Mininum liquid specific weight: 0,75 kg/dm³

FLOW RATE CAPACITY (NL/min)													
MODEL	**DIFFERENTIAL PRESSURE (bar)**												
	0,5	**0,7**	**1**	**1,5**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
SAV10	470	567	698	897	1086	1451	1812	2174	2536	2897	3259	3620	3982

Values shown refer to capacities of air discharge at 15 ºC, under average atmospheric pressure (1013 mbar).
If the temperature of the air differs from 15 ºC, the discharge capacity can be corrected by multiplying it by: $\frac{288}{273 + T}$, where T is the actual temperature in ºC.
It may be assumed that the temperature of the air is equal to the temperature of the liquid.

OPERATION

The SAV10 air vents are composed of a stainless steel valve body and cover and a free-moving stainless steel ball float.

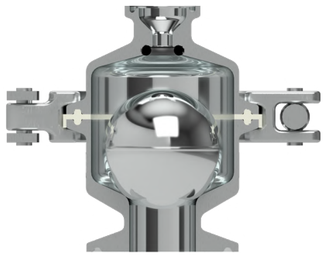
When the system is starting up, the valve vents air to the outlet. As pressure increases and the product level rises, the float becomes buoyant and closes the valve once it reaches the upper soft seat. When the product level falls, the valve will only open and vent excess air once the pressure is also relieved.

Three different models are available, distinguishable by the design of the lower seat in the body.

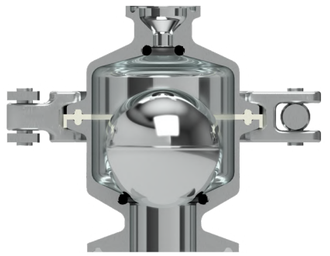
The SAV10 is the standard unit, with a metal-sealed lower seat. As such, when the ball float rests on the lower seat (metal-to-metal contact), some air may be permitted to re-enter the system, either while the system is depressurized or in the case of vacuum.

The SAV10D features a lower seat with soft sealing, which prevents backflow of air into the system, thus preventing possible contamination when the system is depressurized or in case of vacuum.

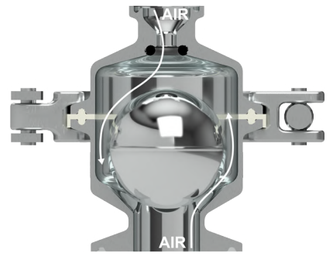
The SAV10CK features a grooved body. As such, when the float rests on the lower seat, air is permitted to flow, in either direction, through the grooves. It was designed for applications where air should be allowed to flow freely in and out of the system, while the product must be kept inside.



SAV10



SAV10D



SAV10CK

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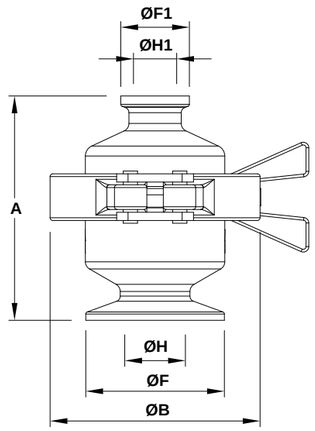
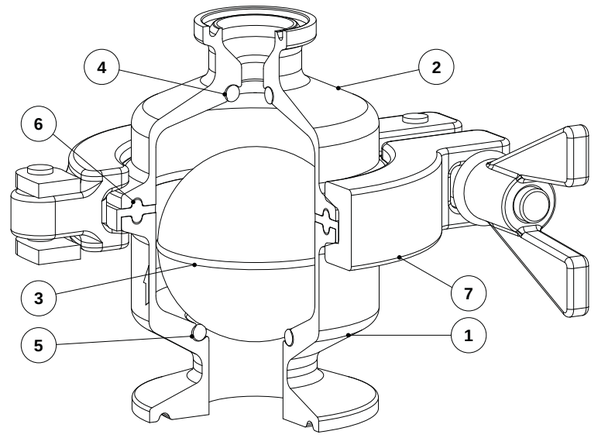
IS SAV10.025 E 02.23



DIMENSIONS (mm)							
SIZE	**A**	**ØB**	**ØF**	**ØF1**	**ØH**	**ØH1**	**WEIGHT (kg)**
1" x 3/4"	81,7	76,5	50,4	25	22,1	15,8	0,8
1" x 1"	81,7	76,5	50,4	50,4	22,1	22,1	0,8



MATERIALS		
POS. No.	**DESIGNATION**	**MATERIAL**
1	Body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	* Float / ball	AISI 316L / 1.4404; Polypropylene
4	* O-ring	** Silicone; EPDM; FPM; FFKM
5	* O-ring (SAV10D)	** Silicone; EPDM; FPM; FFKM
6	* Gasket	** Glass microsphere filled PTFE
7	Safety clamp	AISI 316 / 1.4401

* Available spare parts; ** Others on request.

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ORDERING CODES SAV10													
MODEL	**SAV**	**XX**	**X**	**X**	**T**	**M**	**X**	**X**	**D**	**25**	**D**	**20**	
SAV10 – Sanitary air vent valve	**SAV**												
DESIGN													
Soft upper seat and metal lower seat		**XX**											
Soft upper and lower seat		**DX**											
Soft upper seat and grooved lower seat		**CK**											
BODY MATERIAL													
AISI 316L / 1.4404			**X**										
FLOAT / BALL MATERIAL													
AISI 316L / 1.4404 float				**X**									
Polypropylene ball - Tmax 90 ºC (density of 0,906 kg/dm^3)				**R**									
BODY SEALING													
Glass microsphere filled PTFE					**T**								
VALVE SEALING													
Metal to metal						**M**							
EPDM						**E**							
FPM (USP Class VI on request)						**V**							
FFKM						**K**							
Silicone						**S**							
SURFACE FINISH (a)													
Standard surface finish							**X**						
Mirror mechanical polished external surfaces (SF1)							**P**						
Electropolished internal wetted parts (SF5)							**E**						
Electropolished internal wetted parts (SF4)							**Q**						
SPECIAL FEATURES													
None								**X**					
INLET PIPE CONNECTION													
Clamp ferrule ASME BPE									**D**				
INLET SIZE													
1"										**25**			
OUTLET PIPE CONNECTION													
Clamp ferrule ASME BPE											**D**		
OUTLET SIZE													
3/4"												**20**	
1"												**25**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS													
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.

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IS SAV10.025 E 02.23

SANITARY VACUUM BREAKERS
VBS17

DESCRIPTION

The ADCAPure VBS17 is a series of sanitary vacuum breakers designed to automatically relieve or “break” an unwanted vacuum condition. Applications include venting and vacuum limiting in pipelines, reactors, heat exchangers, autoclaves, amongst others. These valves should not be used as vacuum control valves.
The device is kept close by means of a spring-loaded valve and the pressure which acts on the underside of the plug. When pressure drops below the adjusted set pressure, unbalancing of forces causes the valve to open, allowing atmospheric air to enter the system. With raise in differential pressure results an increase in valve stroke and air flow.
The units are available with an optional lift indicator to signal in case of opening, for monitoring or contamination detection purposes.

MAIN FEATURES

Metallic wetted parts machined from 316L stainless steel bar stock.
Regulating ranges from -0,05 to -0,95 bar.
FDA / USP Class VI compliant seals.
Compact design with easy access for cleaning and inspection.
Reduced dead leg.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Lift indicator.
Compatible with NovAseptic® connectors.
Different soft sealings for vapours and gases.
Degreasing.
Other construction materials on request.

USE: Clean steam and other vapours and gases compatible with the construction.

AVAILABLE MODELS: VBS17.

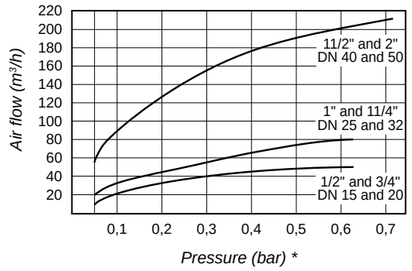
SIZES: 1/2" to 2" – DN 15 to DN 50.

CONNECTIONS: ASME BPE, DIN and ISO clamp ferrules.
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: Vertical installation.
See IMI – Installation and maintenance instructions.

CAPACITY CHART

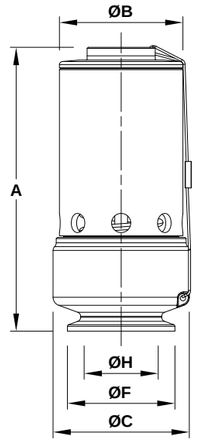


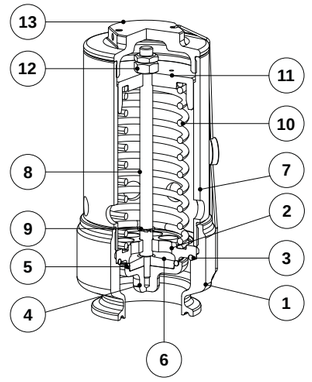
* Values shown refer to the differential pressure between atmospheric pressure and the actual pressure inside the system.

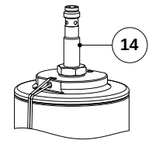
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 16	**CATEGORY**
1/2" to 2" – DN 15 to 50	SEP

LIMITING CONDITIONS *	
Maximum operating pressure	16 bar @ 120 ºC
Maximum operating pressure (steam)	9 bar
Max. operating temperature **	180 ºC @ 12 bar
Minimum operating temperature	-60 ºC

* 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.







Optional lift indicator

DIMENSIONS – BPE (mm)						
SIZE	**A**	**ØB**	**ØC**	**ØF**	**ØH**	**WEIGHT (kg)**
1/2"	99,5	32,5	34	25	9,4	0,4
3/4"	99,5	32,5	34	25	15,75	0,4
1"	94,5	39,5	50,5	50	22,1	0,7
11/2"	133,3	58	64	50,5	34,8	1,3
2"	131,3	58	64	64	47,5	1,3

DIMENSIONS – DIN (mm)						
SIZE	**A**	**ØB**	**ØC**	**ØF**	**ØH**	**WEIGHT (kg)**
DN 15	99,5	32,5	34	34	16	0,4
DN 20	99,5	32,5	34	34	20	0,4
DN 25	94,5	39,5	50,5	50	26	0,7
DN 32	94,5	39,5	50,5	50	32	0,7
DN 40	133,3	58	64	50,5	38	1,3
DN 50	131,3	58	64	64	50	1,3

DIMENSIONS – ISO (mm)						
SIZE	**A**	**ØB**	**ØC**	**ØF**	**ØH**	**WEIGHT (kg)**
DN 15	99,5	32,5	50,5	36	18,1	0,5
DN 20	99,5	32,5	50,5	36	23,7	0,5
DN 25	94,5	39,5	50,5	50	29,7	0,7
DN 32	94,5	39,5	64	52	38,4	0,7
DN 40	131,3	58	64	64	44,3	1,3
DN 50	131,3	58	77,5	72	56,3	1,4

MATERIALS					
POS. No.	**DESIGNATION**	**MATERIAL**	**POS. No.**	**DESIGNATION**	**MATERIAL**
1	Body	AISI 316L / 1.4404	**8**	Stem	AISI 316L / 1.4404
2	* Seat	AISI 316L / 1.4404	**9**	* Circlip	Stainless steel A2
3	* O-ring	** EPDM; FPM	**10**	* Spring	AISI 302 / 1.4300
4	Plug	AISI 316L / 1.4404	**11**	Spring guide	AISI 316L / 1.4404
5	* Plug seal	** EPDM; FPM	**12**	Nut	Stainless steel A2-70
6	Plug disc	AISI 316L / 1.4404	**13**	Top cap	AISI 316L / 1.4404
7	Spring cover	AISI 316L / 1.4404	**14**	* Proximity sensor	AISI 303 / 1.4305

* Available spare parts; ** Others on request.

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IS VBS17.015 E 02.24

ORDERING CODES VBS17										
VALVE MODEL	**VBS17**	**X**	**1**	**E**	**X**	**X**	**XX**	**D**	**15**	**E**
VBS17 – Sanitary vacuum breakers	**VBS17**									
MATERIAL										
AISI 316L / 1.4404		**X**								
REGULATING RANGE										
-0,05 to -0,25 bar (available in sizes 1/2" and 3/4")			**1**							
-0,05 to -0,15 bar (available in sizes 1" to 2")			**2**							
-0,15 to -0,35 bar (available in sizes 1" and 11/4")			**3**							
-0,15 to -0,25 bar (available in sizes 11/2" to 2")			**4**							
-0,25 to -0,6 bar (available in sizes 1/2", 3/4", 11/2" and 2")			**6**							
-0,35 to -0,6 bar (available in sizes 1" and 11/4")			**5**							
-0,6 to -0,95 bar (available in all sizes)			**8**							
VALVE SEALS										
EPDM – Tmin -40 ºC / Tmax 150 ºC (180 ºC with steam)				**E**						
FPM – Tmin -10 ºC / Tmax 180 ºC				**V**						
SURFACE FINISH (a)										
Standard surface finish					**X**					
Mirror mechanical polished external surfaces (SF1)					**P**					
Electropolished internal wetted parts (SF5)					**E**					
SPECIAL FEATURES										
None						**X**				
Degreased						**O**				
NovAseptic® (NA Connect) welding flange compatible						**N**				
OPTIONS										
None							**XX**			
Lift indicator **(b)**							**LX**			
PIPE CONNECTIONS										
Clamp ferrule ASME BPE								**D**		
Clamp ferrule DIN (DIN 32676-A)								**F**		
Clamp ferrule ISO (DIN 32676-B)								**E**		
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 non-standard combination										**E**

(a) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.
(b) 3 wire PNP sensor with NO contact (NC on request), M8 x 1 male connector and 10 to 30 V DC supply voltage. Others on request.

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ADCAPure

SANITARY SIGHT GLASSES
SWS

DESCRIPTION

The ADCAPure SWS sanitary sight glasses are designed to monitor liquid flow in any direction.
Sight glasses, also called flow indicators, are usually employed to detect either the presence or absence of fluid flow, turbulence, colour, etc. They are specially recommended for high purity applications.

MAIN FEATURES

Compact design.
Completely machined from bar stock materials, no castings or forgings are used on the standard version.
Precision borosilicate glass mounted without stress.
Excellent visualization.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Full view design.

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

AVAILABLE MODELS: SWS.

SIZES: 1/2" to 4".

CONNECTIONS: ASME BPE clamp ferrules.
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: In any position.
See IMI – Installation and maintenance instructions.

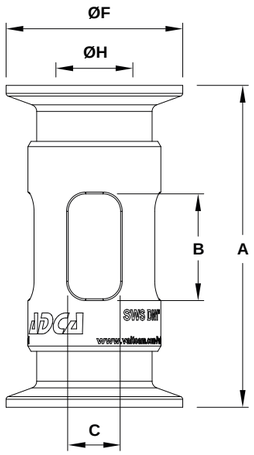
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
SIZE	**CATEGORY**
1/2" to 4"	SEP

LIMITING CONDITIONS *	
Maximum operating temperature **	200 ºC
Minimum operating temperature	-10 ºC

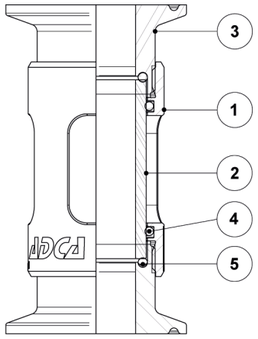
* Other limits on request. Maximum operating conditions may be limited by the equipment end connections due to normative restrictions.
** See "Ordering Codes" table for restrictions.

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.

MAXIMUM OPERATING PRESSURE (bar)							
1/2"	3/4"	1"	11/2"	2"	21/2"	3"	4"
20	16	14	10	10	9	9	8



DIMENSIONS (mm)						
SIZE	A	B	C	ØF	ØH	WEIGHT (kg)
1/2"	76	20	10	25	9,4	0,13
3/4"	92	30	10	25	15,8	0,23
1"	92	30	15	50,4	22,1	0,4
11/2"	105	32	24	50,4	34,8	0,58
2"	120	48	34	63,9	47,5	0,83
21/2"	151	55	40	77,4	60,2	1,35
3"	175	90	50	90,1	72,9	2,53
4"	200	110	60	118,9	97,4	3,81



MATERIALS		
POS. No.	DESIGNATION	MATERIAL
1	Valve body	AISI 316L / 1.4404
2	* Glass	Borosilicate
3	Connection end	AISI 316L / 1.4404
4	* O-ring	High performance EPDM
5	* O-ring	** High performance EPDM; PTFE

* 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.

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ORDERING CODES SWS								
MODEL	SWS	X	T	X	X	DX	015	
SWS – Sanitary sight glass	SWS							
MATERIAL								
AISI 316L / 1.4404		X						
BODY SEALING								
PTFE – Tmax 200 ºC			T					
EPDM – Tmax 150 ºC (180 ºC with steam and hot water)			E					
SURFACE FINISH (a)								
Standard surface finish				X				
Mirror mechanical polished external surfaces (SF1)				P				
Electropolished internal wetted parts (SF5)				E				
Electropolished internal wetted parts (SF4)				Q				
SPECIAL FEATURES								
None					X			
PIPE CONNECTIONS								
Clamp ferrule ASME BPE						DX		
SIZE								
1/2"							015	
3/4"							020	
1"							025	
11/2"							040	
2"							050	
21/2"							065	
3"							080	
4"							100	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS								
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.

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS SWS.015 E 09.18

SANITARY CHECK VALVES
SRT10

DESCRIPTION

The ADCAPure SRT10 all stainless steel disc check valve has a compact design and is specially designed for use with clean steam, hot condensate, WFI and other process fluids.
These valves are particularly recommended for use in high purity applications found in the pharmaceutical, fine chemical and cosmetic industries.

MAIN FEATURES

Compact design.
Spring loaded.
Low friction stem guiding.
Completely machined from bar stock material, no castings or forgings are used on the standard version.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

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

AVAILABLE MODELS: SRTV10 – vertical installation.
SRTH10 – horizontal installation.

SIZES: 1/2" to 4".

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

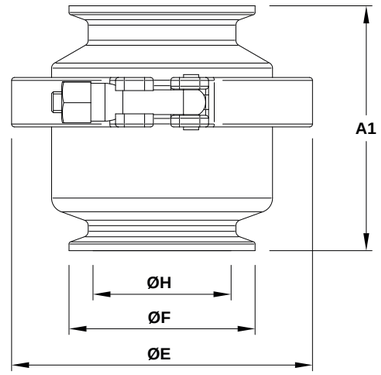
PACKAGING: Assembling and packaging in a clean room certified according to ISO 14644-1.
The product is end capped and sealed with recyclable thermo-shrinkable plastic film, to avoid contamination.

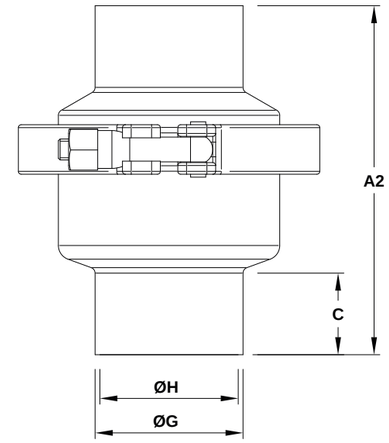
INSTALLATION: Vertical or horizontal according to the selected model and use.
See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" to 4"	SEP

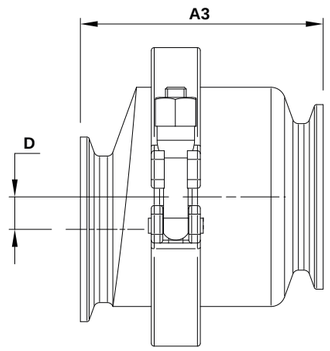
LIMITING CONDITIONS *	
Maximum operating temperature **	200 ºC
Minimum operating temperature	-10 ºC

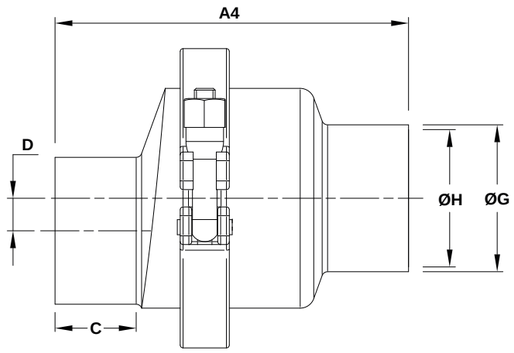
* Other limits on request. Maximum operating conditions may be limited by the valve end connections due to normative restrictions.
** See "Ordering Codes" table for restrictions.





SRTV10



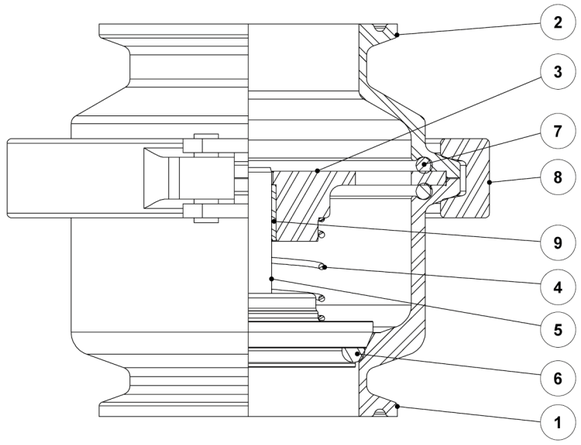


SRTH10

DIMENSIONS (mm)											
SIZE	**A1**	**A2**	**A3**	**A4**	**C**	**D**	**ØE**	**F**	**ØG**	**ØH**	**WEIGHT (kg)**
1/2"	50	88,8	50	90,4	28	11,8	61	25	12,7	9,4	0,4
3/4"	50	91,9	50	91,1	28	8,6	61	25	19,1	15,8	0,5
1"	60	97	60	96,5	28	5,5	61	50,4	25,4	22,1	0,6
11/2"	73	112,2	73	112,1	28	11,1	90	50,4	38,1	34,8	1,1
2"	84	119,8	84	122,3	28	11,3	104	63,9	50,8	47,5	1,4
21/2"	89	129	89	124	28	9,2	119	77,4	63,5	60,2	1,8
3"	98	141	98	134	28	11,1	134	90,9	76,2	72,9	2,7
4"	109	165,7	109	160	36	15,6	170	118,9	101,6	97,38	4,9

Remarks: Face to face dimensions are not standardized. Different dimensions available on request.

We reserve the right to change the design and material of this product without notice.
IS SRT10.015 E 13.18



MATERIALS		
POS. No.	**DESIGNATION**	**MATERIAL**
1	Valve inlet body	AISI 316L / 1.4404
2	Valve outlet body	AISI 316L / 1.4404
3	Guide plate	AISI 316L / 1.4404
4	Spring	AISI 316 / 1.4401 electropolished
5	* Valve and stem	AISI 316L / 1.4404
6	* Valve seal	** High performance EPDM; PTFE
7	* Body seal	** High performance EPDM; PTFE
8	Safety clamp	AISI 316 / 1.4401
9	Plain bearing	** PTFE

* 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.

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ORDERING CODES SRT10										
VALVE MODEL	**SRT**	**V**	**X**	**T**	**000S**	**X**	**X**	**DX**	**015**	
SRT10 – Sanitary check valve	**SRT**									
DESIGN										
Vertical installation		**V**								
Horizontal installation		**H**								
MATERIAL										
AISI 316L / 1.4404			**X**							
VALVE SEALING										
PTFE – Tmax 200 ºC				**T**						
EPDM – Tmax 150 ºC (180 ºC with steam and hot water)				**E**						
MINIMUM OPENNING PRESSURE (a)										
Standard spring					**000S**					
Without spring (only for vertical installation with upwards flow)					**000W**					
5 mbar					**0005**					
...										
100 mbar					**0100**					
...										
SURFACE FINISH (b)										
Standard surface finish						**X**				
Mirror mechanical polished external surfaces (SF1)						**P**				
Electropolished internal wetted parts (SF5)						**E**				
Electropolished internal wetted parts (SF4)						**Q**				
SPECIAL FEATURES										
None							**X**			
Degreased for oxygen							**O**			
PIPE CONNECTIONS										
Clamp ferrule ASME BPE								**DX**		
Tube weld (ETO) according to ASME BPE								**DI**		
SIZE										
1/2"									**015**	
3/4"									**020**	
1"									**025**	
11/2"									**040**	
2"									**050**	
21/2"									**065**	
3"									**080**	
4"									**100**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS										
Full description or additional codes have to be added in case of non-standard combination										**E**

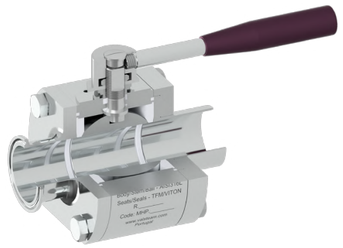
(a) If a non-standard is required, please consult the manufacturer prior to ordering to confirm availability and feasibility of supply.
(b) Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

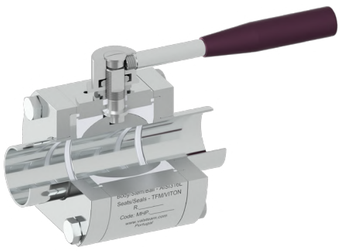
VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS SRT10.015 E 13.18

HIGH PURITY BALL VALVES
M3HP
(1/2" to 2" – DN 10 to DN 50)

DESCRIPTION

The ADCAPure M3HP three piece body ball valves are isolating valves designed for use with clean steam, condensate and other gases and liquids used in high purity and aseptic processes.
The valve is not designed as a control valve and should only be used as an isolating valve, fully open or fully closed.
The product is mainly designed for the pharmaceutical, biotech, semiconductor, cosmetics, fine chemical and food & beverage industries.





MAIN FEATURES

True or full bore floating ball design.
Completely made from solid bar stock material.
Can be serviced without removal from the pipeline.
Bidirectional.
Antistatic device.
Anti blow out proof stem.
Tube weld with loose body flanges (360º rotation after installation).
ISO 5211 mounting (with adapter for sizes below 1" and DN 20).

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: ISO 5211 mounting with flange adapter for sizes below 1" and DN 20.
Degreased for oxygen use.
Cavity fillers.
Lever with locking system.
Low ferrite stainless steel, C22 and other alloys.
For more options and extras, consult IS M3H.100 – Sanitary Ball Valves Additional Options and Extras.

USE: Clean steam, gases and liquids compatible with the construction.

AVAILABLE MODELS: M3HP – complete bar stock construction.

SIZES: 1/2" to 2"; DN 10 to DN 50.

CONNECTIONS: ASME BPE, DIN or ISO clamp ferrules, tube weld (ETO) ends or a combination of both.
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: See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED - European Directive)		
PN 63	**PN 100**	**Category**
DN 25 to 32	1/2" to 1" DN 10 to 20	SEP
11/2" to 2" DN 40 and 50	—	1 (CE Marked)

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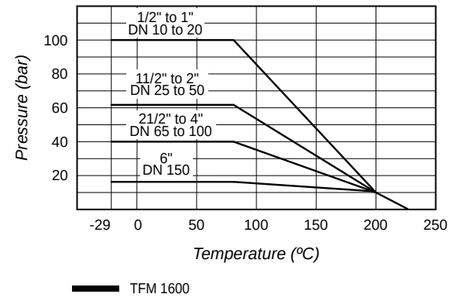
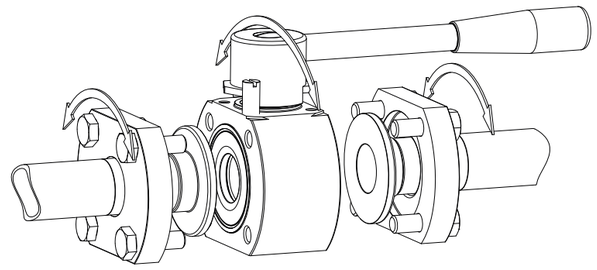
PRESSURE / TEMPERATURE LIMITS



Remark: Maximum operating conditions may be limited by the valve end connections due to normative restrictions.



Tube weld easy and quick installation

Valves with tube weld (ETO) connections are fitted, as standard, with loose body flanges which allow installation with no need to align the end connections. After installation the valve can rotate freely 360º to the desired orientation.

LEVER OPTIONS		
ROUND LEVER	**FLAT LEVER**	**FLAT LEVER WITH LOCKING SYSTEM**
		

STEM EXTENSION UNITS *		
SEF/H	**SEF/P**	**SEF/A**
		

* Consult IS M3H.100 – Sanitary Ball Valves Additional Options and Extras – for further information.

VALSTEAM ADCA
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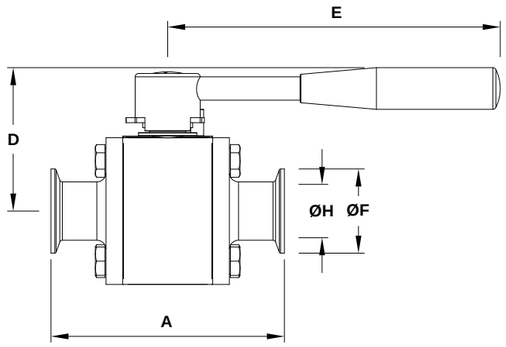
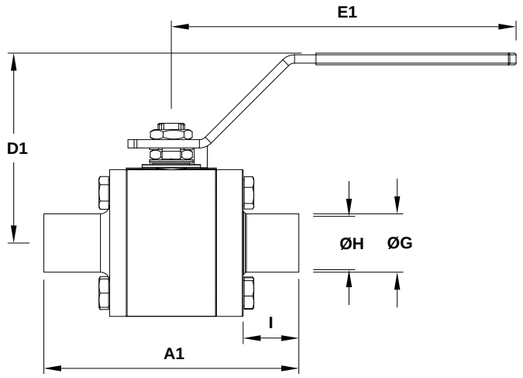
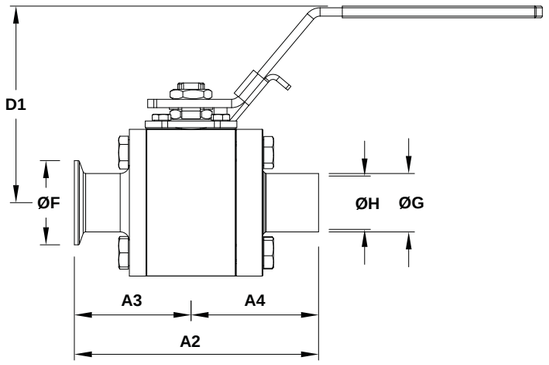
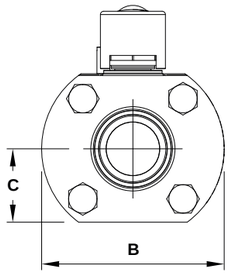
IS M3HP.010 E 03.23









DIMENSIONS – ASME BPE (mm)

SIZE	A	A1	A2	A3	A4	B	C	D	D1	E	E1	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
1/2"	88,9	101,6	95,5	44	51,5	59	22	49	65	130	150	25	12,7	9,4	25	9,4	F03 *	0,9
3/4"	101,6	114,3	108	51	57	64	24,5	53	69	130	150	25	19,1	15,8	27	15,8	F03 *	1,4
1"	114,3	127	120,5	57	63,5	79	31	68	87	165	176	50,4	25,4	22,1	27	22,1	F04	2,3
11/2"	139,7	152,4	146,5	70	76,5	109	44	86	114	200	207	50,4	38,1	34,8	27	34,8	F05	5,3
2"	165,1	177,8	171,5	82,5	89	134	53	97	124	200	232	63,9	50,8	47,5	28	47,5	F05	8,5

* Flange adapter option is required. See IS M3H.100 – Sanitary Ball Valves Additional Options and Extras.

DIMENSIONS – DIN (mm)

SIZE	A	A1	A2	A3	A4	B	C	D	D1	E	E1	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
DN 10	90	102	96	45	51	59	22	48	65	130	150	34	13	10	25	10	F03 *	0,8
DN 15	100	114	107	50	57	64	24,5	53	69	130	150	34	19	16	27	16	F03 *	1,1
DN 20	115	127	121,5	57,5	64	79	31	68	86	165	176	34	23	20	27	20	F04	2,2
DN 25	125	135	130,5	62,5	68	89	36	73	92	165	176	50,5	29	26	27	26	F04	2,9
DN 32	140	153	147	71	76	109	44	86	114	200	207	50,5	35	32	27	32	F05	5,1
DN 40	150	161	155	75	80	119	48	90	119	200	207	50,5	41	38	27	38	F05	6,3
DN 50	165	178	172	82	90	134	53	97	124	200	232	64	53	50	28	50	F05	8,4

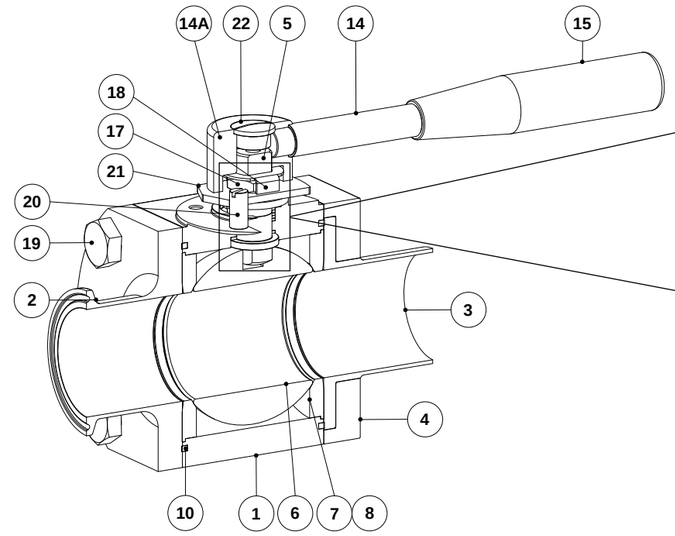
* Flange adapter is required. See IS M3H.100 – Sanitary Ball Valves Additional Options and Extras.

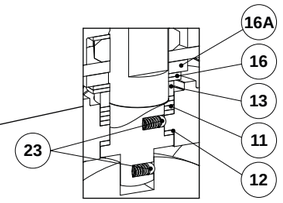
DIMENSIONS – ISO (mm)

SIZE	A	A1	A2	A3	A4	B	C	D	D1	E	E1	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
DN 10	90	102	96	45	51	59	22	48	65	130	150	25	17,2	14	25	10	F03 *	0,8
DN 15	100	114	107	50	57	64	24,5	53	69	130	150	50,5	21,3	18,1	27	16	F03 *	1,1
DN 20	115	127	121,5	57,5	64	79	31	68	86	165	176	50,5	26,9	23,7	27	22,1	F04	2,2
DN 25	125	135	130,5	62,5	68	89	36	73	92	165	176	50,5	33,7	29,7	27	26	F04	2,9
DN 32	140	153	147	71	76	109	44	86	114	200	207	64	42,4	38,4	27	34,8	F05	5,1
DN 40	150	161	155	75	80	119	48	90	119	200	207	64	48,3	44,3	27	38	F05	6,3
DN 50	165	178	172	82	90	134	53	97	124	200	232	77,5	60,3	56,3	28	50	F05	8,4

* Flange adapter is required. See IS M3H.100 – Sanitary Ball Valves Additional Options and Extras.

MATERIALS





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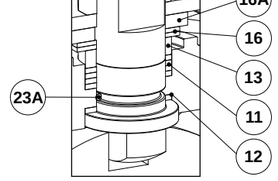
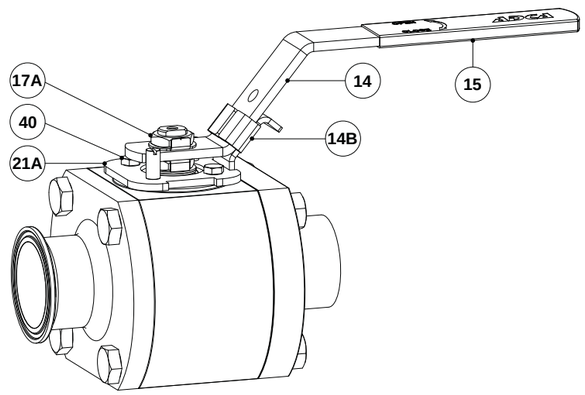
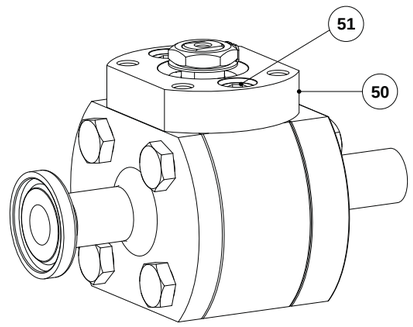


Material code I and H



Optional flat lever with locking system



Optional ISO 5211 mounting with flange adapter (only for sizes 1/2" and 3/4" – DN 10 and DN 15)

MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4602
2	Clamp ferrule end connection	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4602
3	Tube weld end connection	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4602
4	Flange	AISI 316L / 1.4404
5	Stem	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4602
6	* Valve ball	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4602
7	* Standard seat	TFM 1600
8	* Cavity filler seat	TFM 1600
10	* Body seal	PTFE
11	* Stem seal	TFM 1600
12	* Stem thrust seal	TFM 1600
13	* Spacer	AISI 316 / 1.4401
14	Handle	AISI 304 / 1.4301
14A	Handle body	AISI 304 / 1.4301
14B	Locking piece	AISI 304 / 1.4301
15	Handle end	Vinyl; AISI 304 / 1.4301
16	Spring washer	Stainless steel A2
16A	Washer	AISI 304 / 1.4301
17	Compression nut	AISI 304 / 1.4301
17A	Nut	AISI 304 / 1.4301
18	Lock washer	AISI 304 / 1.4301
19	Body fixing bolt	Stainless steel A2-70
20	Stop pin	AISI 304 / 1.4301
21	Handle stopper	AISI 304 / 1.4301
21A	Locking flange	AISI 304 / 1.4301
22	Handle fixing bolt	AISI 304 / 1.4301
23	Antistatic device	AISI 316 / 1.4401
23A	* O-ring	** FPM; FFKM
40	Fixing bolt	Stainless steel A2-70
50	Flange adapter	AISI 316L / 1.4404
51	Fixing bolt	Stainless steel A2-70

* 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.

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ORDERING CODES M3HP											
Valve model	**MHP**	**X**	**X**	**X**	**F**	**X**	**X**	**CB**	**X**	**10**	
M3HP – Three pieces ball valve	**MHP**										
Lever handle											
Round lever in stainless steel with plastic end		**X**									
Round lever with complete stainless steel construction		**1**									
Flat lever in stainless steel with plastic cover		**2**									
Flat lever in stainless steel with plastic cover and locking system		**3**									
Bare stem		**9**									
Material											
AISI 316L / 1.4404			**X**								
AISI 316L / 1.4404 with end connections in AISI 316L / 1.4435 **a)**			**G**								
AISI 316L / 1.4435			**I**								
Alloy C22 / 2.4602			**H**								
Seat design											
Standard seats				**X**							
Cavity fillers				**F**							
Seat material											
TFM 1600					**F**						
Surface finish b)											
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**				
Condensate drain connection – Clamp ferrule **c)**							**C**				
Condensate drain connection – Tube weld (ETO) **c)**							**T**				
Pipe connection											
Clamp ferrule ASME BPE								**CB**			
Clamp ferrule DIN (DIN 32676-A)								**CD**			
Clamp ferrule ISO (DIN 32676-B)								**CI**			
Tube weld (ETO) according to ASME BPE								**TB**			
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)								**TD**			
Tube weld (ETO) according to DIN 11866-B (ISO 1127)								**TI**			
TC/ETO combination ASME BPE								**CTB**			
TC/ETO combination DIN 32676-A / DIN 11866-A								**CTD**			
TC/ETO combination DIN 32676-B / DIN 11866-B								**CTI**			
Ball port											
True bore (ASME BPE and DIN) or full bore (ISO)									**X**		
Size											
DN 10										**10**	
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) Only available with tube weld (ETO) ends. **b)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options. **c)** According to ASME BPE, DIN or ISO depending on selected pipe end connections. Only available with standard seats.

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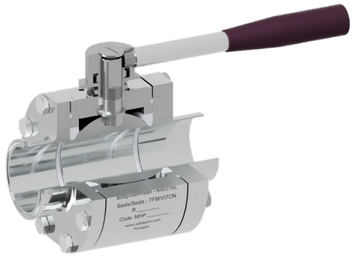
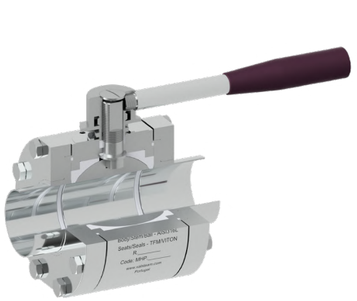
We reserve the right to change the design and material of this product without notice.
IS M3HP.010 E 03.23

HIGH PURITY BALL VALVES
M3HP
(21/2" to 4" – DN 65 to DN 100)

DESCRIPTION

The ADCAPure M3HP three piece body ball valves are isolating valves designed for use with clean steam, condensate and other gases and liquids used in high purity and aseptic processes.
The valve is not designed as a control valve and should only be used as an isolating valve, fully open or fully closed.
The product is mainly designed for the pharmaceutical, biotech, semiconductor, cosmetics, fine chemical and food & beverage industries.





MAIN FEATURES

True or full bore floating ball design.
Completely made from solid bar stock material.
Can be serviced without removal from the pipeline.
Bidirectional.
Antistatic device.
Anti blow out proof stem.
Tube weld with loose body flanges (360º rotation after installation).
ISO 5211 mounting.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS:	Degreased for oxygen use. Cavity fillers. Lever with locking system. Low ferrite stainless steel, C22 and other alloys. For more options and extras, consult IS M3H.100 – Sanitary Ball Valves Additional Options and Extras.
USE:	Clean steam, gases and liquids compatible with the construction.
AVAILABLE MODELS:	M3HP – Complete bar stock construction.
SIZES:	21/2" to 4"; DN 65 to DN 100.
CONNECTIONS:	ASME BPE, DIN or ISO clamp ferrules, tube weld (ETO) ends or a combination of both. 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:	See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED - European Directive)	
PN 40	**Category**
21/2" to 4" – DN 65 to 100	1 (CE Marked)

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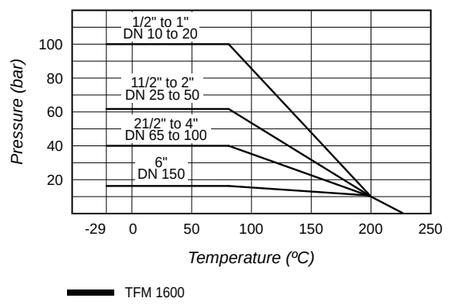
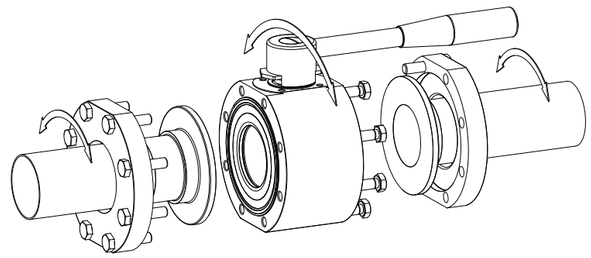
PRESSURE / TEMPERATURE LIMITS



Remark: Maximum operating conditions may be limited by the valve end connections due to normative restrictions.



Tube weld easy and quick installation

Valves with tube weld (ETO) connections are fitted, as standard, with loose body flanges which allow installation with no need to align the end connections. After installation the valve can rotate freely 360º to the desired orientation.

LEVER OPTIONS		
ROUND LEVER	**FLAT LEVER**	**FLAT LEVER WITH LOCKING SYSTEM**
		

STEM EXTENSION UNITS *		
SEF/H	**SEF/P**	**SEF/A**
		

* Consult IS M3H.100 – Sanitary Ball Valves Additional Options and Extras – for further information.

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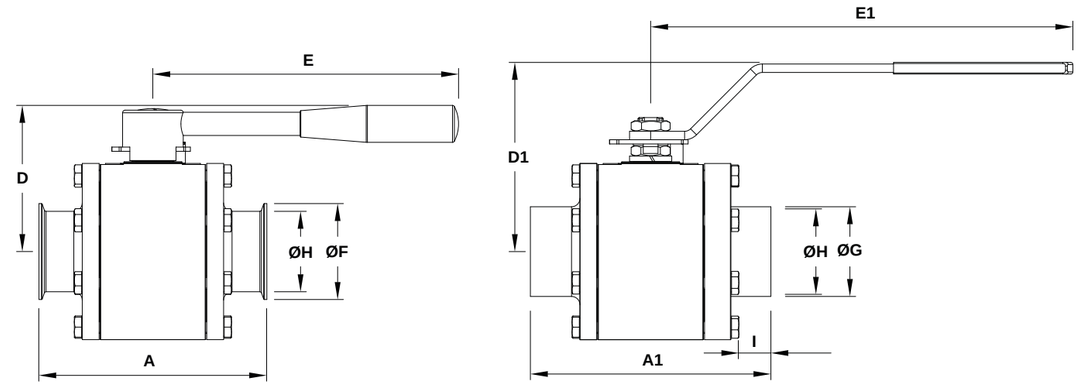
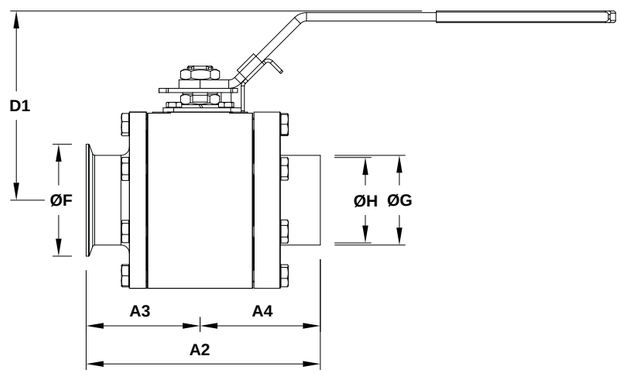
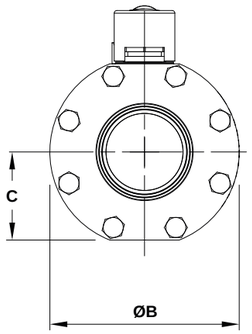
IS M3HP.065 E 03.23







DIMENSIONS – ASME BPE (mm)																	
SIZE	**A**	**A1**	**A2**	**A3**	**A4**	**ØB**	**C**	**D**	**D1**	**E**	**E1**	**ØF**	**ØG**	**ØH**	**I**	**BALL PORT**	**ISO 5211**	**WGT. (kg)**
21/2"	190	203	196,3	95	101,5	160	72,5	130	169	250	400	77,4	63,5	60,2	29	60,2	F7	15,3
3"	216	228	222	108	114	180	83,5	140	179	290	400	90,9	76,2	72,9	30	72,9	F7	22,1
4"	254	267	260,5	127	133,5	220	101,5	158	198	290	400	118,9	101,6	97,4	36	97,4	F10	39,7

DIMENSIONS – DIN (mm)																	
SIZE	**A**	**A1**	**A2**	**A3**	**A4**	**ØB**	**C**	**D**	**D1**	**E**	**E1**	**ØF**	**ØG**	**ØH**	**I**	**BALL PORT**	**ISO 5211**	**WGT. (kg)**
DN 65	190	203	197	95	102	160	72,5	130	169	250	400	91	70	66	29	62	F7	15,4
DN 80	216	228	222	108	114	180	83,5	140	179	290	400	106	85	81	30	75	F7	22,1
DN 100	255	267	261,5	127,5	134	220	101,5	158	198	290	400	119	104	100	36	98	F10	36,4

DIMENSIONS – ISO (mm)																	
SIZE	**A**	**A1**	**A2**	**A3**	**A4**	**ØB**	**C**	**D**	**D1**	**E**	**E1**	**ØF**	**ØG**	**ØH**	**I**	**BALL PORT**	**ISO 5211**	**WGT. (kg)**
DN 65	190	203	197	95	102	160	72,5	130	169	250	400	91	76,1	72,1	29	62	F7	15,4
DN 80	216	228	222	108	114	180	83,5	140	179	290	400	106	88,9	84,3	30	75	F7	22,1
DN 100	255	267	261,5	127,5	134	220	101,5	158	198	290	400	130	114,3	109,7	36	98	F10	36,4

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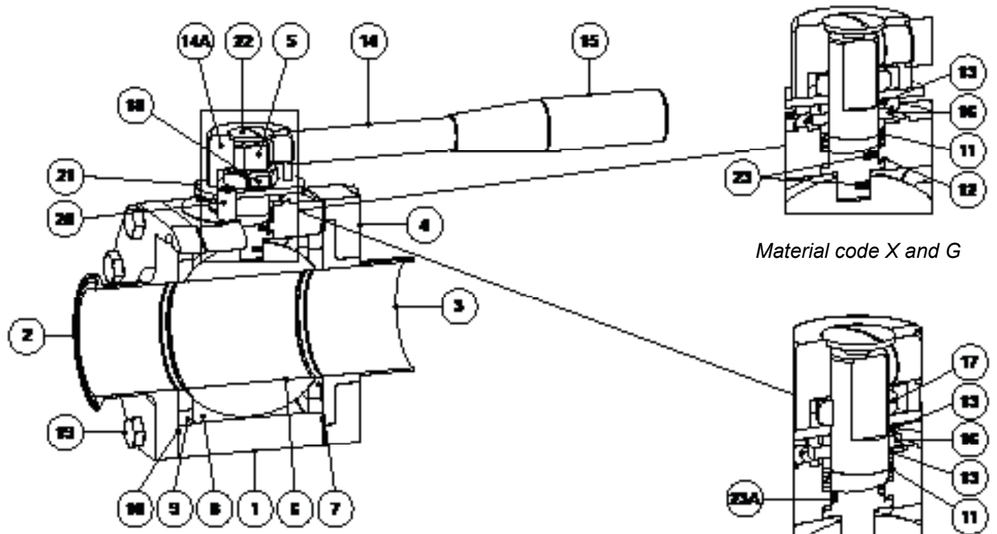
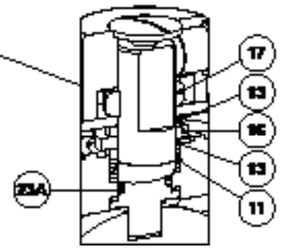
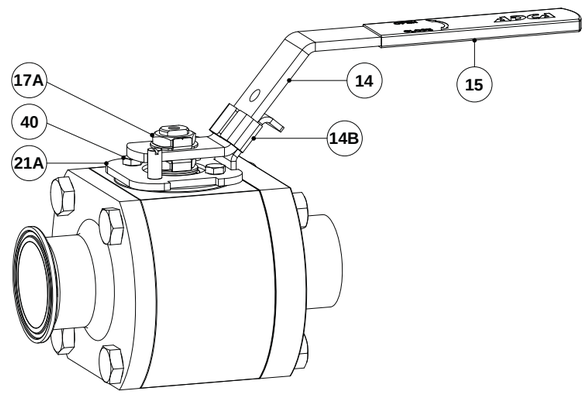
MATERIALS



Material code X and G



Material code I and H



Optional flat lever with locking system

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IS M3HP.065 E 03.23

MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4601
2	Clamp ferrule end connection	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4601
3	Tube weld end connection	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4601
4	Flange	AISI 316L / 1.4404
5	Stem	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4601
6	* Valve ball	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4601
7	* Standard seat	TFM 1600
8	* Cavity filler seat	TFM 1600
9	Body ring	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4601
10	* Body seal	PTFE
11	* Stem seal	TFM 1600
12	* Stem thrust seal	TFM 1600
13	* Spacer	AISI 316L / 1.4404
14	Handle	AISI 304 / 1.4301
14A	Handle body	AISI 304 / 1.4301
14B	Locking piece	AISI 304 / 1.4301
15	Handle end	Vinyl; AISI 304 / 1.4301
16	Spring washer	Stainless steel A2
17	Compression nut	AISI 304 / 1.4301
17A	Nut	AISI 304 / 1.4301
18	Lock washer	AISI 304 / 1.4301
19	Body fixing bolt	Stainless steel A2-70
20	Stop pin	AISI 304 / 1.4301
21	Handle stopper	AISI 304 / 1.4301
21A	Locking flange	AISI 304 / 1.4301
22	Handle fixing bolt	AISI 304 / 1.4301
23	Antistatic device	AISI 316 / 1.4401
23A	* O-ring	** FPM; FFKM
40	Fixing bolt	Stainless steel A2-70

* 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.

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ORDERING CODES M3HP											
Valve model	**MHP**	**X**	**X**	**X**	**F**	**X**	**X**	**CD**	**X**	**100**	
M3HP – Three pieces ball valve	**MHP**										
Lever handle											
Round lever in stainless steel with plastic end		**X**									
Round lever with complete stainless steel construction		**1**									
Flat lever in stainless steel with plastic cover		**2**									
Flat lever in stainless steel with plastic cover and locking system		**3**									
Bare stem		**9**									
Material											
AISI 316L / 1.4404			**X**								
AISI 316L / 1.4404 with end connections in AISI 316L / 1.4435 **a)**			**G**								
AISI 316L / 1.4435			**I**								
Alloy C22 / 2.4602			**H**								
Seat design											
Standard seats				**X**							
Cavity fillers				**F**							
Seat material											
TFM 1600					**F**						
Surface finish b)											
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 connection											
Clamp ferrule ASME BPE								**CB**			
Clamp ferrule DIN (DIN 32676-A)								**CD**			
Clamp ferrule ISO (DIN 32676-B)								**CI**			
Tube weld (ETO) according to ASME BPE								**TB**			
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)								**TD**			
Tube weld (ETO) according to DIN 11866-B (ISO 1127)								**TI**			
TC/ETO combination ASME BPE								**CTB**			
TC/ETO combination DIN 32676-A / DIN 11866-A								**CTD**			
TC/ETO combination DIN 32676-B / DIN 11866-B								**CTI**			
Ball port											
True bore (ASME BPE) or full bore (DIN and ISO)									**X**		
Size											
21/2" or DN 65										**65**	
3" or DN 80										**80**	
4" or DN 100										**100**	
Special construction / Additional options											
Full description or additional codes have to be added in case of a non standard combination											**E**

a) Only available with tube weld (ETO) ends. **b)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

VALSTEAM ADCA
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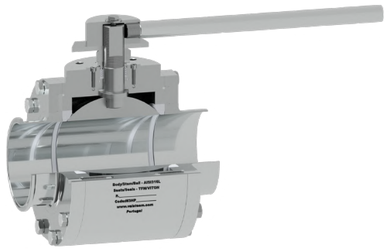
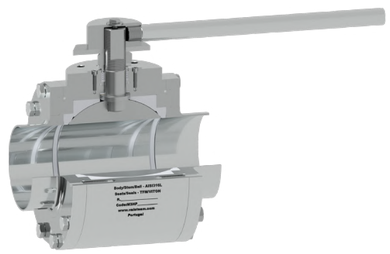
IS M3HP.065 E 03.23

HIGH PURITY BALL VALVES
M3HP
(6" – DN 150)

DESCRIPTION

The ADCAPure M3HP three piece body ball valves are isolating valves designed for use with clean steam, condensate and other gases and liquids used in high purity and aseptic processes.
The valve is not designed as a control valve and should only be used as an isolating valve, fully open or fully closed.
The product is mainly designed for the pharmaceutical, biotech, semiconductor, cosmetics, fine chemical and food & beverage industries.





MAIN FEATURES

True or full bore floating ball design.
Completely made from solid bar stock material.
Can be serviced without removal the from the pipeline.
Bidirectional.
Antistatic device.
Anti blow out proof stem.
Tube weld with loose body flanges (360º rotation after installation).
ISO 5211 mounting.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Degreased for oxygen use.
Cavity fillers.
Gearboxes.
Low ferrite stainless steel, C22 and other alloys.
For more options and extras, consult IS M3H.100 – Sanitary Ball Valves Additional Options and Extras.

USE: Clean steam, gases and liquids compatible with the construction.

AVAILABLE MODELS: M3HP – Complete bar stock construction.

SIZES: 6"; DN 150.

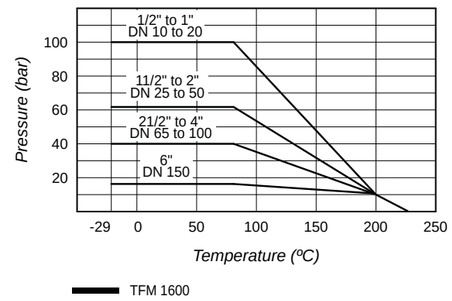
CONNECTIONS: ASME BPE, DIN or ISO clamp ferrules, tube weld (ETO) ends or a combination of both.
Others on request.

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.

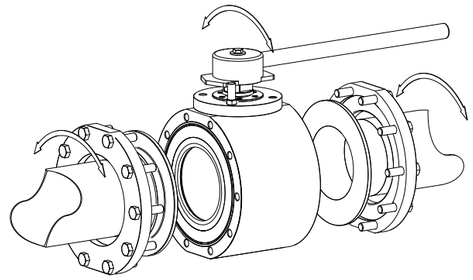
INSTALLATION: See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN16	**Category**
6" – DN 150	1 (CE marked)

PRESSURE / TEMPERATURE LIMITS

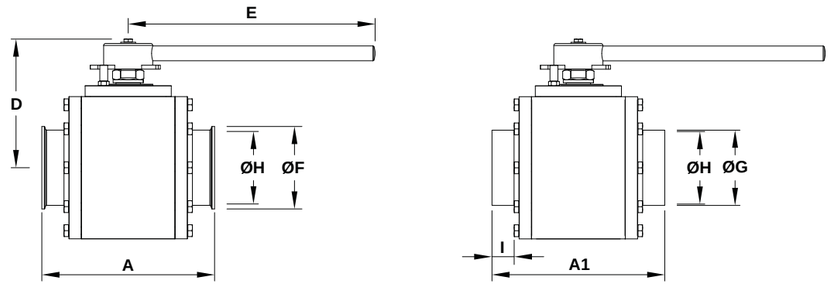


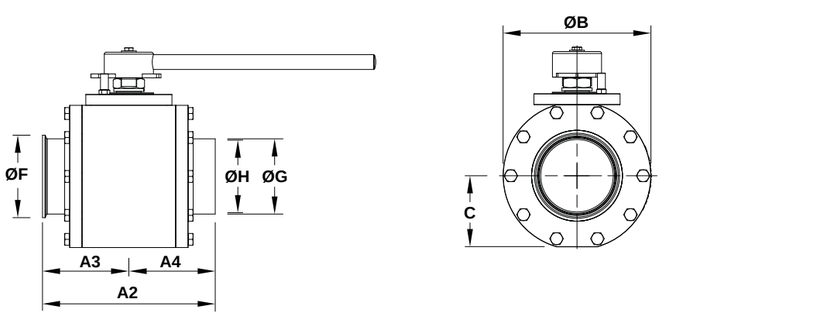
Remark: Maximum operating conditions may be limited by the valve end connections due to normative restrictions.



Tube weld easy and quick installation

Valves with tube weld (ETO) connections are fitted, as standard, with loose body flanges which allow installation with no need to align the end connections. After installation the valve can rotate freely 360º to the desired orientation.



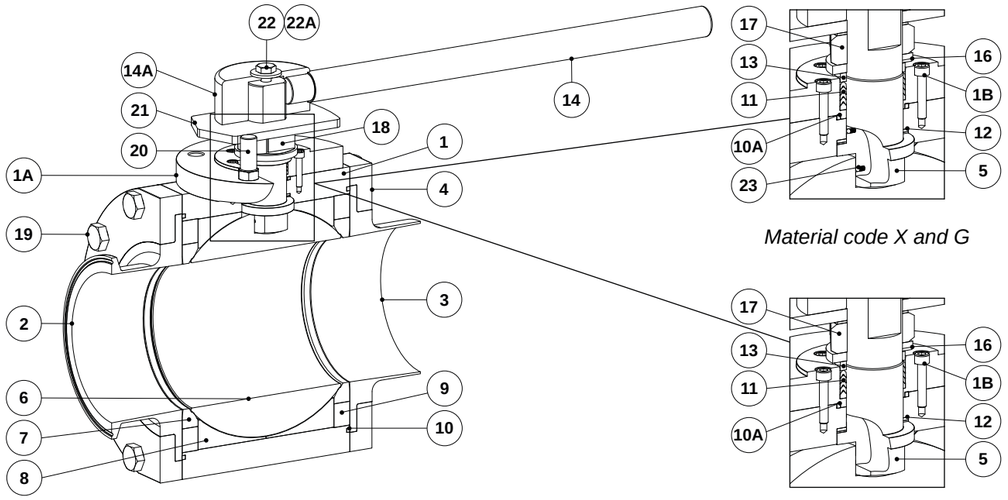


DIMENSIONS - ASME BPE (mm)																
SIZE	**A**	**A1**	**A2**	**A3**	**A4**	**ØB**	**C**	**D**	**E**	**ØF**	**ØG**	**ØH**	**I**	**BALL PORT**	**ISO 5211**	**WGT. (kg)**
6"	350	350	350	175	175	300	144	260	500	166,9	152,4	146,9	45	147	F14	102

DIMENSIONS - DIN (mm)																
SIZE	**A**	**A1**	**A2**	**A3**	**A4**	**ØB**	**C**	**D**	**E**	**ØF**	**ØG**	**ØH**	**I**	**BALL PORT**	**ISO 5211**	**WGT. (kg)**
DN 150	350	350	350	175	175	300	144	260	500	183	154	150	45	147	F14	102

DIMENSIONS - ISO (mm)																
SIZE	**A**	**A1**	**A2**	**A3**	**A4**	**ØB**	**C**	**D**	**E**	**ØF**	**ØG**	**ØH**	**I**	**BALL PORT**	**ISO 5211**	**WGT. (kg)**
DN 150	350	350	350	175	175	300	144	260	500	183	168,3	163,1	45	147	F14	102

We reserve the right to change the design and material of this product without notice.
IS M3HP.150 E 13.16



Material code X and G

Material code I and H

MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	** AISI 316L / 1.4404; AISI 316L / 1.4435 ; Alloy C22 / 1.4601
1A	Seal retainer	AISI 316L / 1.4404
1B	Bolt	Stainless steel A2-70
2	Clamp ferrules end connection	** AISI 316L / 1.4404; AISI 316L / 1.4435 ; Alloy C22 / 1.4601
3	Tube weld end connection	** AISI 316L / 1.4404; AISI 316L / 1.4435 ; Alloy C22 / 1.4601
4	Flange	AISI 316L / 1.4404
5	Stem	** AISI 316L / 1.4404; AISI 316L / 1.4435 ; Alloy C22 / 1.4601
6	* Valve ball	** AISI 316L / 1.4404; AISI 316L / 1.4435 ; Alloy C22 / 1.4601
7	* Standard seat	TFM 1600
8	* Cavity filler seat	TFM 1600
9	Body ring	** AISI 316L / 1.4404; AISI 316L / 1.4435 ; Alloy C22 / 1.4601
10	* Body seal	PTFE
10A	* Retainer seal	PTFE
11	* Stem seal	TFM1600
12	* Stem thrust seal	TFM1600; PEEK
13	* Spacer	AISI 316 / 1.4401
14	Handle	AISI 304 / 1.4301
14A	Handle body	AISI 304 / 1.4301
16	Spring washer	Stainless steel A2
17	Compression nut	AISI 304 / 1.4301
18	Lock washer	AISI 304 / 1.4301
19	Body fixing bolt	Stainless steel A2-70
20	Stop pin	AISI 304 / 1.4301
21	Handle stopper	AISI 304 / 1.4301
22	Handle fixing bolt	Stainless steel A2-70
22A	Washer	Stainless steel A2
23	Antistatic device	AISI 316 / 1.4401

* 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.

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ORDERING CODES M3HP											
Valve model	**MHP**	**1**	**X**	**X**	**F**	**X**	**X**	**CB**	**X**	**150**	
M3HP – Three pieces ball valve	**MHP**										
Lever handle											
Round lever with complete stainless steel construction		**1**									
Bare stem		**9**									
Material											
AISI 316L / 1.4404			**X**								
AISI 316L / 1.4404 with end connections in AISI 316L / 1.4435 **a)**			**G**								
AISI 316L / 1.4435			**I**								
Alloy C22 / 2.4602			**H**								
Seat design											
Standard seats				**X**							
Cavity fillers				**F**							
Seat material											
TFM 1600					**F**						
Surface finish b)											
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 connection											
Clamp ferrule ASME BPE								**CB**			
Clamp ferrule DIN (DIN 32676-A)								**CD**			
Clamp ferrule ISO (DIN 32676-B)								**CI**			
Tube weld (ETO) according to ASME BPE								**TB**			
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)								**TD**			
Tube weld (ETO) according to DIN 11866-B (ISO 1127)								**TI**			
TC/ETO combination ASME BPE								**CTB**			
TC/ETO combination DIN 32676-A / DIN 11866-A								**CTD**			
TC/ETO combination DIN 32676-B / DIN 11866-B								**CTI**			
Ball port											
True bore (ASME BPE) or full bore (DIN and ISO)									**X**		
Size											
6" or DN 150										**150**	
Special construction / Additional options											
Full description or additional codes have to be added in case of a non standard combination											**E**

a) Only available with tube weld (ETO) ends. **b)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS M3HP.150 E 13.16

HYGIENIC BALL VALVES
M3H
(1/2" to 2" – DN 10 to DN 50)

DESCRIPTION

The ADCAPure M3H three pieces body ball valves are isolating valves designed for use with clean steam, condensate and other gases and liquids used in high purity and aseptic processes.
The valve is not designed as a control valve and should only be used as an isolating valve, fully open or fully closed.
The product is mainly designed for the pharmaceutical, biotech, semiconductor, cosmetics, fine chemical and food & beverage industries.

MAIN FEATURES

True or full bore floating ball design.
Can be serviced without removal from the pipeline.
Tube weld with loose body flanges (360º rotation after installation).
Bidirectional.
Antistatic device.
Anti blow out proof stem.
ISO 5211 mounting.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: as casted.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Different sealing materials.
Degreased for oxygen use.
Cavity fillers.
Lever with locking system.
For more options and extras, consult IS M3H.100 – Sanitary Ball Valves Additional Options and Extras.

USE: Clean steam, gases and liquids compatible with the construction.

AVAILABLE MODELS: M3H – investment casting.

SIZES: 1/2" to 2"; DN 10 to DN 50.

CONNECTIONS: ASME BPE, DIN or ISO clamp ferrules, tube weld (ETO) ends or a combination of both.
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: See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED - European Directive)		
PN 63	**PN 100**	**Category**
DN 25 to 32	1/2" to 1" DN 10 to 20	SEP
11/2" to 2" DN 40 and 50	—	1 (CE marked)

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EHEDG EUROPEAN HYGIENIC ENGINEERING & DESIGN GROUP
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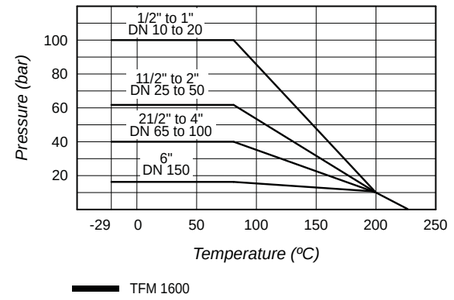
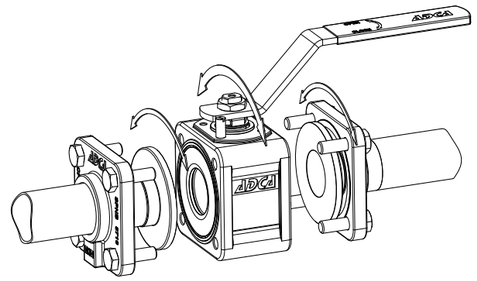
PRESSURE / TEMPERATURE LIMITS



Remark: Maximum operating conditions may be limited by the valve end connections due to normative restrictions.



Tube weld easy and quick installation

Valves with tube weld (ETO) connections are fitted, as standard, with loose body flanges which allow installation with no need to align the end connections. After installation the valve can rotate freely 360º to the desired orientation.

LEVER OPTIONS	
FLAT LEVER	**FLAT LEVER WITH LOCKING SYSTEM**
	

STEM EXTENSION UNITS *		
SEF/H	**SEF/P**	**SEF/A**
		

* Consult IS M3H.100 – Sanitary Ball Valves Additional Options and Extras – for further information.

VALSTEAM ADCA
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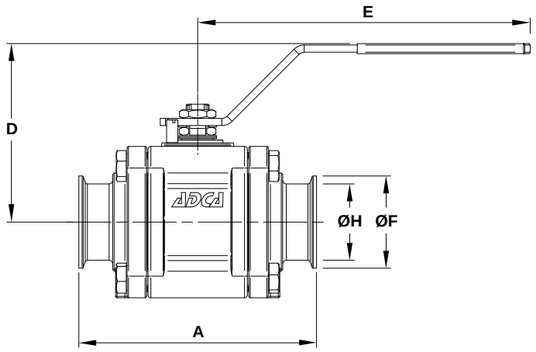
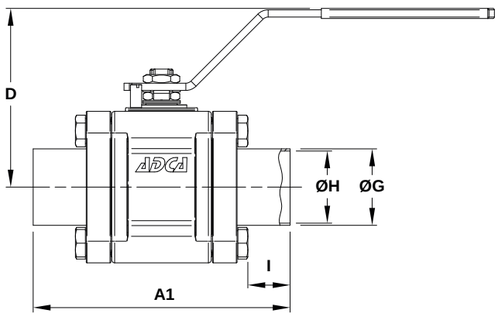
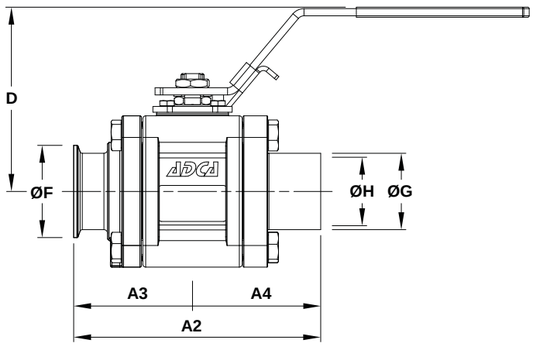
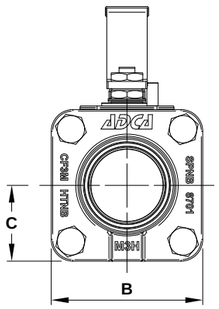
IS M3H.010 E 04.23









DIMENSIONS – ASME BPE (mm)

SIZE	A	A1	A2	A3	A4	B	C	D	E	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
1/2"	88,9	101,6	95,5	51,5	44	42	21	67	150	25	12,7	9,4	25	9,4	F03	0,5
3/4"	101,6	114,3	108	57	51	50	25	70	148	25	19,1	15,8	27	15,8	F03	1
1"	114,3	127	120,5	63,5	57	62	31	90	175	50,4	25,4	22,1	27	22,1	F04	2,2
11/2"	139,7	152,4	146,5	76,5	70	85	42,5	117	210	50,4	38,1	34,8	27	34,8	F05	4,4
2"	165,1	177,8	171,5	89	82,5	105	52,5	128	235	63,9	50,8	47,5	28	47,5	F05	7,4

DIMENSIONS – DIN (mm)

SIZE	A	A1	A2	A3	A4	B	C	D	E	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
DN 10	90	102	96	51	45	42	21	67	150	34	13	10	25	10	F03	0,8
DN 15	100	114	107	57	50	50	25	70	148	34	19	16	27	16	F03	1,6
DN 20	115	127	121,5	64	57,5	62	31	90	175	34	23	20	27	20	F04	2
DN 25	125	135	130,5	68	62,5	72	36	95	175	50,5	29	26	27	26	F04	2,7
DN 32	140	153	147	76	71	85	42,5	117	210	50,5	35	32	27	32	F05	4,5
DN 40	150	161	155	80	75	95	47,5	123	210	50,5	41	38	27	38	F05	5,6
DN 50	165	178	172	90	82	105	52,5	128	235	64	53	50	28	50	F05	7,1

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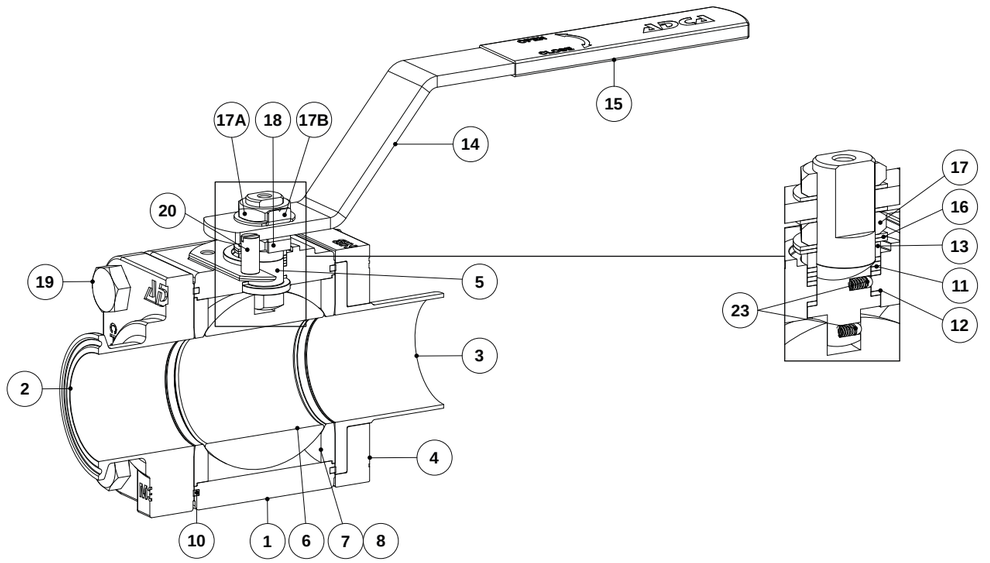
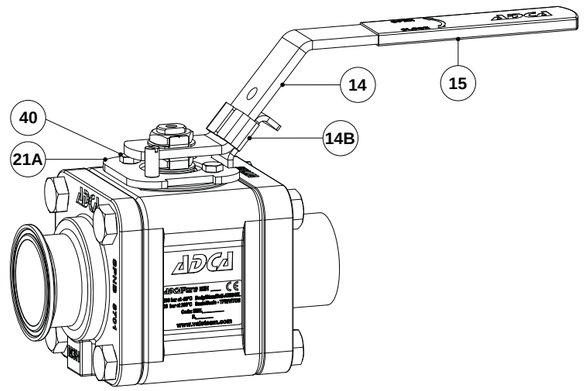
DIMENSIONS – ISO (mm)

SIZE	A	A1	A2	A3	A4	B	C	D	E	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
DN 10	-	102	-	-	45	42	21	67	150	-	17,2	14	25	10	F03	0,8
DN 15	-	114	-	-	50	50	25	70	148	-	21,3	18,1	27	16	F03	1,6
DN 20	-	127	-	-	57,5	62	31	90	175	-	26,9	23,7	27	22,1	F04	2
DN 25	-	135	-	-	62,5	72	36	95	175	-	33,7	29,7	27	26	F04	2,7
DN 32	-	153	-	-	71	85	42,5	117	210	-	42,4	38,4	27	34,8	F05	4,5
DN 40	-	161	-	-	75	95	47,5	123	210	-	48,3	44,3	27	38	F05	5,6
DN 50	-	178	-	-	82	105	52,5	128	235	-	60,3	56,3	28	50	F05	7,1

MATERIALS





Optional flat lever with locking system

MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	A351 CF3M / 1.4409
2	Clamp ferrule end connection	A351 CF3M / 1.4409
3	Tube weld end connection	AISI 316L / 1.4404; AISI 316L / 1.4435
4	Flange	A351 CF8M / 1.4408
5	Stem	AISI 316L / 1.4404
6	* Valve ball	AISI 316L / 1.4404
7	* Standard seat	TFM 1600
8	* Cavity filler seat	TFM 1600
10	* Body seal	PTFE
11	* Stem seal	TFM 1600
12	* Stem thrust seal	TFM 1600
13	* Spacer	AISI 316 / 1.4401
14	Handle	AISI 304 / 1.4301
14B	Locking piece	AISI 304 / 1.4301
15	Handle end	Vinyl
16	Spring washer	Stainless steel A2
17	Compression nut	AISI 304 / 1.4301
17A	Nut	AISI 304 / 1.4301
17B	* Lock washer	AISI 304 / 1.4301
18	Lock washer	AISI 304 / 1.4301
19	Body fixing bolt	Stainless steel A2-70
20	Stop pin	AISI 304 / 1.4301
21A	Locking flange	AISI 304 / 1.4301
23	Antistatic device	AISI 316 / 1.4401
40	Fixing bolt	Stainless steel A2-70

* Available spare parts.
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.

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ORDERING CODES M3H											
Valve model	**MH**	**X**	**X**	**X**	**F**	**X**	**X**	**CB**	**X**	**15**	
M3H – A351 CF3M / 1.4409 Three pieces ball valve	**MH**										
Lever handle											
Flat lever in stainless steel with plastic cover		**X**									
Flat lever in stainless steel with plastic cover and locking system		**3**									
Bare stem		**9**									
Material											
A351 CF3M / 1.4409			**X**								
A351 CF3M / 1.4409 with end connections in AISI 316L / 1.4435 **a)**			**G**								
Seat design											
Standard seats				**X**							
Cavity fillers				**F**							
Seat material											
TFM 1600					**F**						
Surface finish b)											
Standard surface finish						**X**					
Electropolished internal wetted parts (SF5)						**E**					
Special features											
None							**X**				
Degreased for oxygen							**O**				
Condensate drain connection – Clamp ferrule **c)**							**C**				
Condensate drain connection – Tube weld (ETO) **c)**							**T**				
Pipe connection											
Clamp ferrule ASME BPE								**CB**			
Clamp ferrule DIN (DIN 32676-A)								**CD**			
Tube weld (ETO) according to ASME BPE								**TB**			
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)								**TD**			
Tube weld (ETO) according to DIN 11866-B (ISO 1127)								**TI**			
TC/ETO combination ASME BPE								**CTB**			
TC/ETO combination DIN 32676-A / DIN 11866-A								**CTD**			
Ball port											
True bore (ASME BPE and DIN) or full bore (ISO)									**X**		
Size											
DN 10										**10**	
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) Only available with tube weld (ETO) ends. **b)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options. **c)** According to ASME BPE, DIN or ISO depending on selected pipe end connections. Only available with standard seats.

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS M3H.010 E 04.23

HYGIENIC BALL VALVES
M3H
(21/2" to 4" – DN 65 to DN 100)

DESCRIPTION

The ADCAPure M3H three piece body ball valves are isolating valves designed for use with clean steam, condensate and other gases and liquids used in high purity and aseptic processes.
The valve is not designed as a control valve and should only be used as an isolating valve, fully open or fully closed.
The product is mainly designed for the pharmaceutical, biotech, semiconductor, cosmetics, fine chemical and food & beverage industries.

MAIN FEATURES

True or full bore floating ball design.
Can be serviced without removal from the pipeline.
Tube weld with loose body flanges (360º rotation after installation).
Bidirectional.
Antistatic device.
Anti blow out proof stem.
ISO 5211 mounting.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: as casted.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Different sealing materials.
Degreased for oxygen use.
Cavity fillers.
Lever with locking system.
For more options and extras, consult IS M3H.100 – Sanitary Ball Valves Additional Options and Extras.

USE: Clean steam, gases and liquids compatible with the construction.

AVAILABLE MODELS: M3H – investment casting.

SIZES: 21/2" to 4"; DN 65 to DN 100.

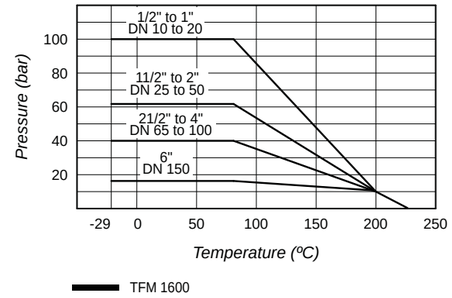
CONNECTIONS: ASME BPE, DIN or ISO clamp ferrules, tube weld (ETO) ends or a combination of both.
Others on request.

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.

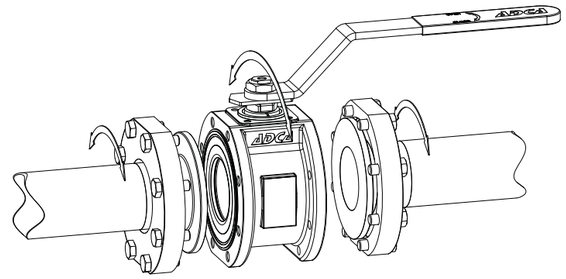
INSTALLATION: See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED - European Directive)	
PN 40	**Category**
21/2" to 4" – DN 65 to 100	1 (CE marked)

PRESSURE / TEMPERATURE LIMITS



Remark: Maximum operating conditions may be limited by the valve end connections due to normative restrictions.



Tube weld easy and quick installation

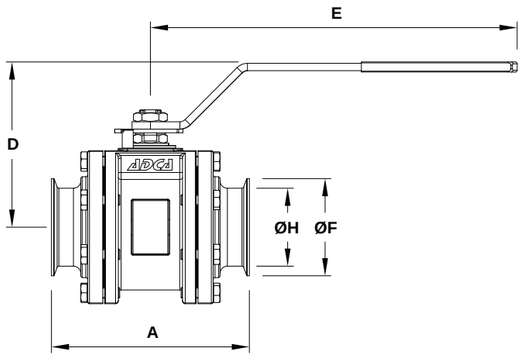
Valves with tube weld (ETO) connections are fitted, as standard, with loose body flanges which allow installation with no need to align the end connections. After installation the valve can rotate freely 360º to the desired orientation.

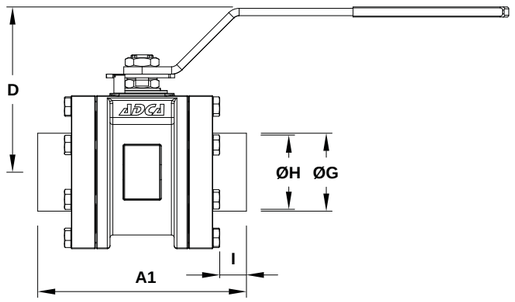
LEVER OPTIONS	
FLAT LEVER	**FLAT LEVER WITH LOCKING SYSTEM**
	

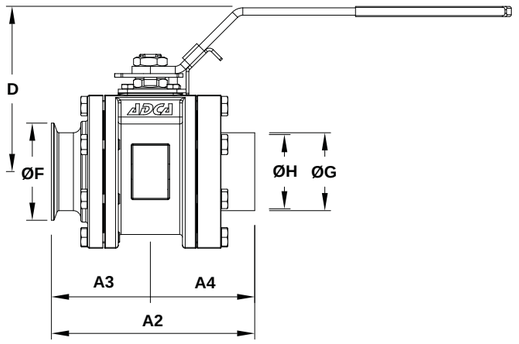
STEM EXTENSION UNITS *		
SEF/H	**SEF/P**	**SEF/A**
		

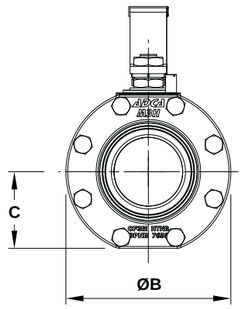
* Consult IS M3H.100 – Sanitary Ball Valves Additional Options and Extras – for further information.

We reserve the right to change the design and material of this product without notice.
IS M3H.065 E 03.23









DIMENSIONS – ASME BPE (mm)

SIZE	A	A1	A2	A3	A4	ØB	C	D	E	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
21/2"	190	203	196,3	95	101,5	160	72,5	169	394	77,4	63,5	60,2	37	60,2	F7	13,3
3"	216	228	222	108	114	180	83,5	180	394	90,9	76,2	72,9	38	72,9	F7	18,6
4"	254	267	260,5	127	133,5	220	101,5	198	394	118,9	101,6	97,4	44	97,4	F10	29,6

DIMENSIONS – DIN (mm)

SIZE	A	A1	A2	A3	A4	ØB	C	D	E	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
65	190	203	197	95	101,5	160	72,5	169	394	91	70	66	37	62	F7	13,3
80	216	228	222	108	114	180	83,5	180	394	106	85	81	38	75	F7	18,6
100	255	267	261	127,5	130,5	220	101,5	198	394	119	104	100	44	98	F10	29,6

DIMENSIONS – ISO (mm)

SIZE	A	A1	A2	A3	A4	ØB	C	D	E	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
65	-	203	-	-	101,5	160	72,5	169	394	91	76,1	72,1	37	62	F7	13,3
80	-	228	-	-	114	180	83,5	180	394	106	88,9	84,3	38	75	F7	18,6
100	-	267	-	-	130,5	220	101,5	198	394	119	114,3	109,7	44	98	F10	29,6

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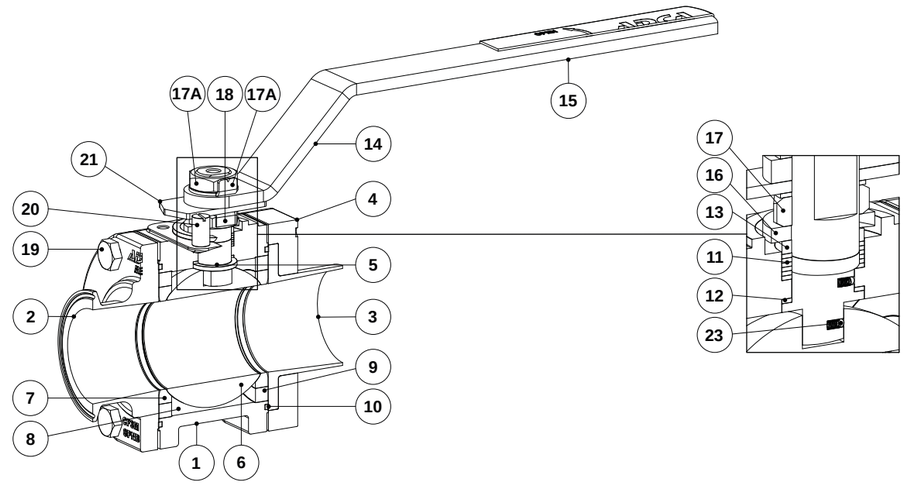
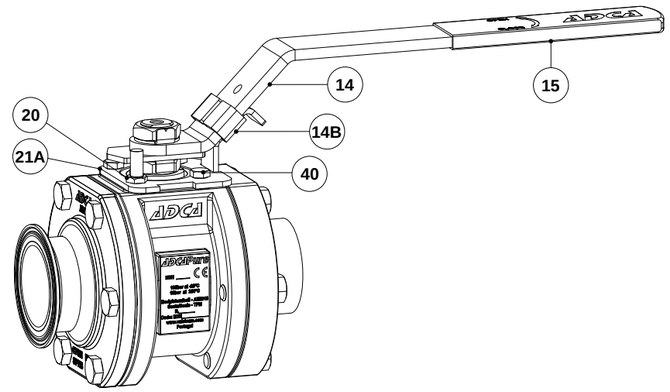




Optional flat lever with locking system

MATERIALS

POS. Nº	DESIGNATION	MATERIAL	POS. Nº	DESIGNATION	MATERIAL
1	Valve body	A351 CF3M / 1.4409	**14B**	Locking piece	AISI 304 / 1.4301
2	Clamp ferrule end connection	A351 CF3M / 1.4409	**15**	Handle end	Vinyl
3	Tube weld end connection	AISI 316L / 1.4404; AISI 316L / 1.4435	**16**	Spring washer	Stainless steel A2
4	Flange	A351 CF8M / 1.4408	**17**	Compression nut	AISI 304 / 1.4301
5	Stem	AISI 316L / 1.4404	**17A**	Nut	AISI 304 / 1.4301
6	* Valve ball	AISI 316L / 1.4404	**17B**	* Lock washer	AISI 304 / 1.4301
7	* Standard seat	TFM 1600	**18**	Lock washer	AISI 304 / 1.4301
8	* Cavity filler seat	TFM 1600	**19**	Body fixing bolt	Stainless steel A2-70
9	Body ring	AISI 316L / 1.4404	**20**	Stop pin	AISI 304 / 1.4301
10	* Body seal	PTFE	**21**	Handle stopper	AISI 304 / 1.4301
11	* Stem seal	TFM 1600	**21A**	Locking flange	AISI 304 / 1.4301
12	* Stem thrust seal	TFM 1600	**23**	Antistatic device	AISI 316 / 1.4401
13	* Spacer	AISI 316 / 1.4401	**40**	Fixing bolt	Stainless steel A2-70
14	Handle	AISI 304 / 1.4301			

* Available spare parts.
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.

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS M3H.065 E 03.23

ORDERING CODES M3H											
Valve model	**MH**	**X**	**X**	**X**	**F**	**X**	**X**	**CB**	**X**	**65**	**E**
M3H – A351 CF3M / 1.4409 Three pieces ball valve	**MH**										
Lever handle											
Flat lever in stainless steel with plastic cover		**X**									
Flat lever in stainless steel with plastic cover and locking system		**3**									
Bare stem		**9**									
Material											
A351 CF3M / 1.4409			**X**								
A351 CF3M / 1.4409 with end connections in AISI 316L / 1.4435 **a)**			**G**								
Seat design											
Standard seats				**X**							
Cavity fillers				**F**							
Seat material											
TFM 1600					**F**						
Surface finish b)											
Standard surface finish						**X**					
Electropolished internal wetted parts (SF5)						**E**					
Special features											
None							**X**				
Degreased for oxygen							**O**				
Pipe connection											
Clamp ferrule ASME BPE								**CB**			
Clamp ferrule DIN (DIN 32676-A)								**CD**			
Tube weld (ETO) according to ASME BPE								**TB**			
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)								**TD**			
Tube weld (ETO) according to DIN 11866-B (ISO 1127)								**TI**			
TC/ETO combination ASME BPE								**CTB**			
TC/ETO combination DIN 32676-A / DIN 11866-A								**CTD**			
Ball port											
True bore (ASME BPE) or full bore (DIN and ISO)									**X**		
Size											
21/2" or DN 65										**65**	
3" or DN 80										**80**	
4" or DN 100										**100**	
Special construction / Additional options											
Full description or additional codes have to be added in case of a non standard combination											**E**

a) Only available with tube weld (ETO) ends. **b)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

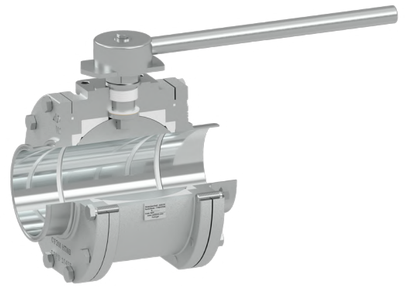
HYGIENIC BALL VALVES
M3H
(6" – DN 150)

DESCRIPTION

The ADCAPure M3H three piece body ball valves are isolating valves designed for use with clean steam, condensate and other gases and liquids used in high purity and aseptic processes.
The valve is not designed as a control valve and should only be used as an isolating valve, fully open or fully closed.
The product is mainly designed for the pharmaceutical, biotech, semiconductor, cosmetics, fine chemical and food & beverage industries.

MAIN FEATURES

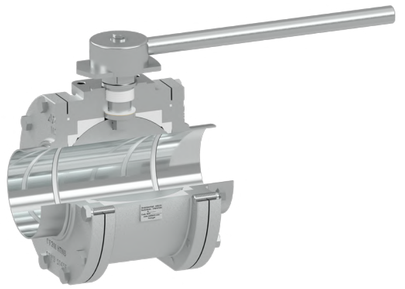
True or full bore floating ball design.
Can be serviced without removal from the pipeline.
Bidirectional.
Antistatic device.
Anti blow out proof stem.
ISO 5211 mounting.



STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: as casted.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Tube weld with loose body flanges (360º rotation after installation).
Different sealing materials.
Degreased for oxygen use.
Gearboxes.
Cavity fillers.
For more options and extras, consult IS M3H.100 – Sanitary Ball Valves Additional Options and Extras.



USE: Clean steam, gases and liquids compatible with the construction.

AVAILABLE MODELS: M3H – investment casting.

SIZES: 6"; DN 150.

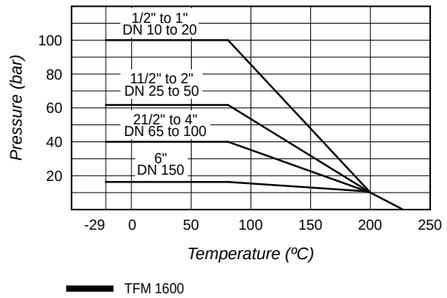
CONNECTIONS: ASME BPE, DIN or ISO clamp ferrules, tube weld (ETO) ends or a combination of both.
Others on request.

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.

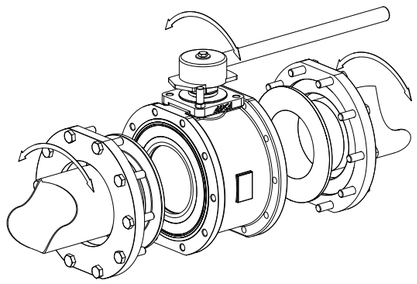
INSTALLATION: See IMI – Installation and maintenance instructions.

CE MARKING – GROUP 2 (PED – European Directive)	
PN 16	**Category**
6" – DN 150	1 (CE marked)

PRESSURE / TEMPERATURE LIMITS

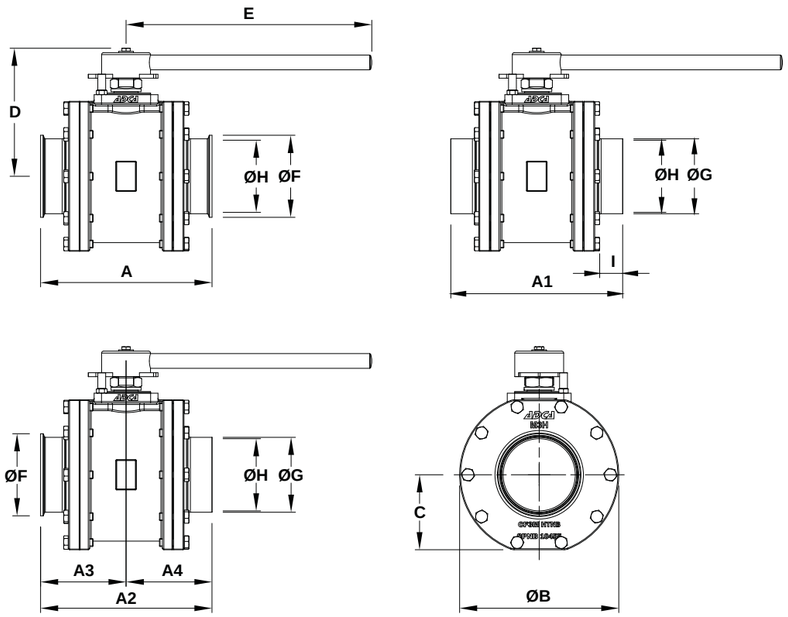


Remark: Maximum operating conditions may be limited by the valve end connections due to normative restrictions.



Tube weld easy and quick installation (on request)

Valves with tube weld (ETO) connections are fitted, as standard, with loose body flanges which allow installation with no need to align the end connections. After installation the valve can rotate freely 360º to the desired orientation.



DIMENSIONS - ASME (mm)

SIZE	A	A1	A2	A3	A4	ØB	C	D	E	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
6"	350	350	350	175	175	324	153	260	500	167	152,4	146,9	48	147	F14	95

DIMENSIONS - DIN (mm)

SIZE	A	A1	A2	A3	A4	ØB	C	D	E	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
DN 150	350	350	350	175	175	324	153	260	500	183	154	150	48	147	F14	102

DIMENSIONS - ISO (mm)

SIZE	A	A1	A2	A3	A4	ØB	C	D	E	ØF	ØG	ØH	I	BALL PORT	ISO 5211	WGT. (kg)
DN 150	350	350	350	175	175	324	153	260	500	183	168,3	163,1	48	147	F14	102

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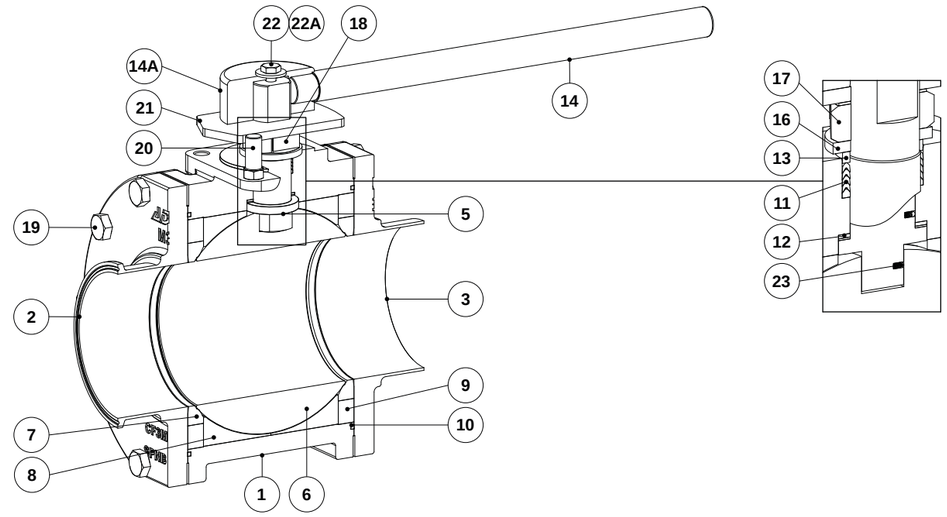

MATERIALS

POS. Nº	DESIGNATION	MATERIAL
1	Valve body	A351 CF3M / 1.4409
2	Clamp ferrule end connection	A351 CF3M / 1.4409
3	Tube weld end connection	A351 CF3M / 1.4409; AISI 316L / 1.4435
5	Stem	AISI 316L / 1.4404
6	* Valve ball	AISI 316L / 1.4404
7	* Standard seat	TFM 1600
8	* Cavity filler seat	TFM 1600
9	Body ring	AISI 316L / 1.4404
10	* Body seal	PTFE
11	* Stem seal	TFM 1600
12	* Stem thrust seal	TFM 1600; PEEK
13	* Spacer	AISI 316 / 1.4401
14	Handle	AISI 304 / 1.4301
14A	Handle body	AISI 304 / 1.4301
16	Spring washer	Stainless steel A2
17	Compression nut	AISI 304 / 1.4301
18	Lock washer	AISI 304 / 1.4301
19	Body fixing bolt	Stainless steel A2-70
20	Stop pin	AISI 304 / 1.4301
21	Handle stopper	AISI 304 / 1.4301
22	Handle fixing bolt	Stainless steel A2-70
22A	Washer	Stainless steel A2
23	Antistatic device	AISI 316 / 1.4401

* Available spare parts.
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.

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IS M3H.150 E 09.18

ORDERING CODES M3H											
Valve model	**MH**	**1**	**X**	**X**	**F**	**X**	**X**	**CB**	**X**	**150**	
M3H – A351 CF3M / 1.4409 Three pieces ball valve	**MH**										
Lever handle											
Round lever with complete stainless steel construction		**1**									
Bare stem		**9**									
Material											
A351 CF3M / 1.4409			**X**								
A351 CF3M / 1.4409 with end connections in AISI 316L / 1.4435 **a)**			**G**								
Seat design											
Standard seats				**X**							
Cavity fillers				**F**							
Seat material											
TFM 1600					**F**						
Surface finish b)											
Standard surface finish						**X**					
Electropolished internal wetted parts (SF5)						**E**					
Special features											
None							**X**				
Degreased for oxygen							**O**				
Pipe connection											
Clamp ferrule ASME BPE								**CB**			
Clamp ferrule DIN (DIN 32676-A)								**CD**			
Clamp ferrule ISO (DIN 32676-B)								**CI**			
Tube weld (ETO) according to ASME BPE								**TB**			
Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)								**TD**			
Tube weld (ETO) according to DIN 11866-B (ISO 1127)								**TI**			
TC/ETO combination ASME BPE								**CTB**			
TC/ETO combination DIN 32676-A / DIN 11866-A								**CTD**			
TC/ETO combination DIN 32676-B / DIN 11866-B								**CTI**			
Ball port											
True bore (ASME BPE) or full bore (DIN and ISO)									**X**		
Size											
6" or DN 150										**150**	
Special construction / Additional options											
Full description or additional codes have to be added in case of a non standard combination											**E**

a) Only available with tube weld (ETO) ends. **b)** Consult TIS.GIA – General information ADCAPure – for further details and other surface finish options.

SANITARY BALL VALVES
ADDITIONAL OPTIONS AND EXTRAS

STEM EXTENSION UNITS

SEF/H – Stem extension where the overall height readily clears common insulation thickness.The installation of the The stem extension unit is tight against the ball valve body to avoid fluid leakage. The stem extension unit allows ISO 5211 mounting.
The lever handle parts from the valve should be reassembled on the extension unit when retrofitting.

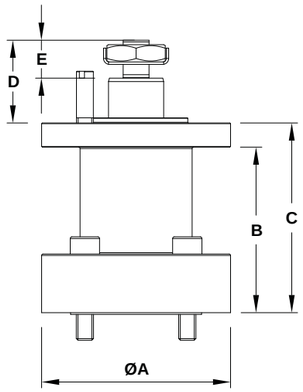
SEF/P – Stem extension with the same features as the SEF/H unit plus an additional packing set which serves as a safety feature in case of leakage through the ball valve stem seals.
The stem extension also features two sensing ports to provide a means of leakage detection.

SEF/A – Direct mounting assembly unit with barstock body and enclosed stem coupling. Compact and cleaner than typical ISO 5211 brackets and couplings which tend to accumulate dust and impurities.
This mounting adapter serves dual purpose as a mounting adapter for actuators and a stem extension.

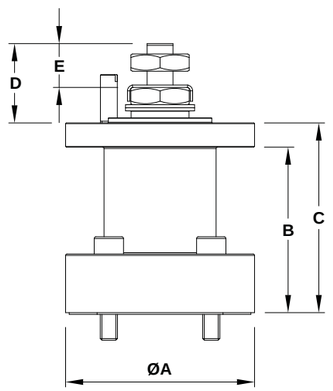
SEF/H

SEF/P

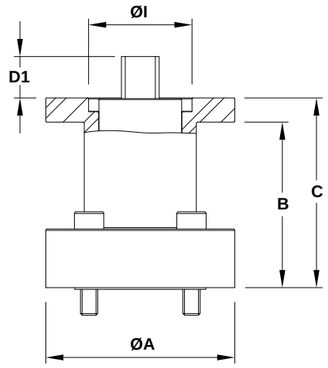
SEF/A



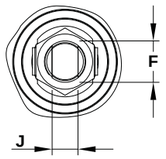
SEF/H



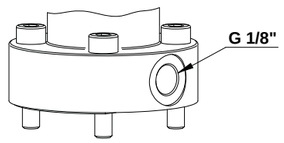
SEF/P



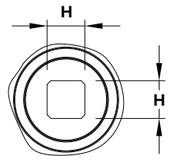
SEF/A



SEF/H and SEF/P
(same dimensions as top of valve)



Leakage detection sensing points

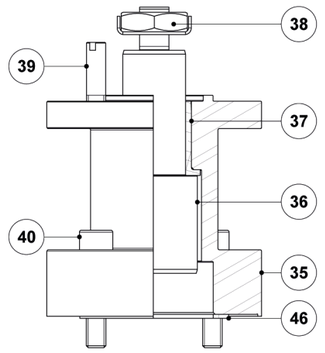


SEF/A

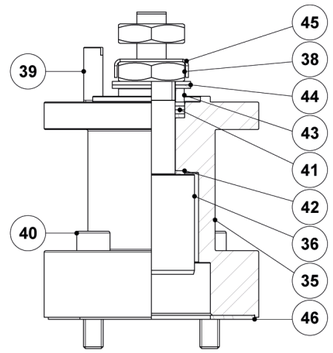
DIMENSIONS (mm)

MODEL	ISO 5211 *	SIZE		ØA	B	C	D	D1	E	F	H	J	ØI	WGT. (kg)
		BPE	DIN / ISO											
SEF/...3	F03 *	1/2"	DN 10	46	44	50	16	10	8	6	9	M10 x 1	25	0,4
SEF/...3	F03 *	3/4"	DN 15	46	44	50	16	10	8	6	9	M10 x 1	25	0,4
SEF/...4	F04	1"	DN 20	55	48	55	24	12	11	7,5	11	M12 x 1,25	30	0,6
SEF/...4	F04	-	DN 25	55	48	55	24	12	11	7,5	11	M12 x 1,25	30	0,6
SEF/...5	F05	11/2"	DN 32	65	57	65	27	16	15	11	14	M16 x 1,5	35	0,9
SEF/...5	F05	2"	DN 40	65	57	65	27	16	15	11	14	M16 x 1,5	35	0,9
SEF/...5	F05	-	DN 50	65	57	65	27	16	15	11	14	M16 x 1,5	35	0,9
SEF/...7	F7	21/2"	DN 65	90	64	75	44	19	25	18	17	M24 x 2	55	2,2
SEF/...7	F7	3"	DN 80	90	64	75	44	19	25	18	17	M24 x 2	55	2,2
SEF/...10	F10	4"	DN 100	OR	OR	OR	44	24	16,5	18	22	M24 x 2	70	OR
SEF/...14	F14	6"	DN 150	OR	OR	OR	79	38	45	30	36	M39 x 2	100	OR

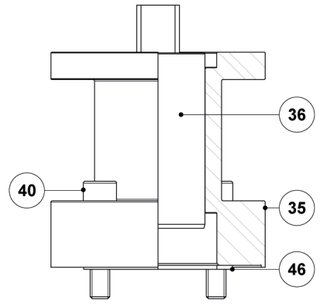
* Flange adapter is required (M3HP models only).
OR – On request.



SEF/H



SEF/P



SEF/A

MATERIALS

POS. Nº	DESIGNATION	MATERIAL
35	Body	AISI 304 / 1.4401
36	Stem	AISI 304 / 1.4401
37	Plain bearing	PTFE
38	Compression nut	AISI 304 / 1.4301
39	Stop pin	AISI 304 / 1.4301
40	Fixing bolt	AISI 304 / 1.4301
41	* Stem seal	TFM 1600
42	Stem thrust seal	TFM 1600
43	Spacer	AISI 316 / 1.4401
44	* Spring washer	AISI 304 / 1.4401
45	Lock washer	AISI 304 / 1.4401
46	* Gasket	PTFE

* Available spare parts.

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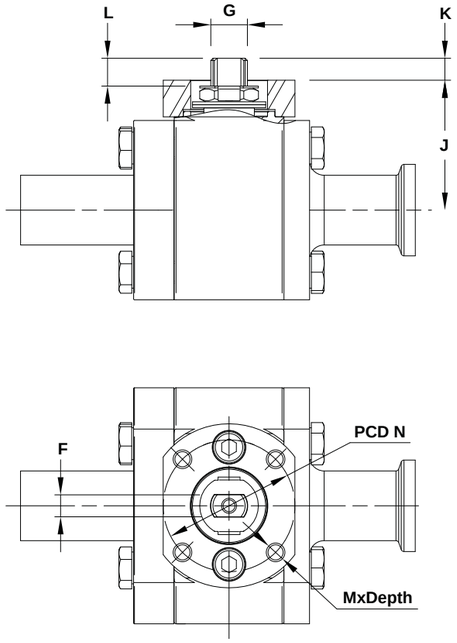
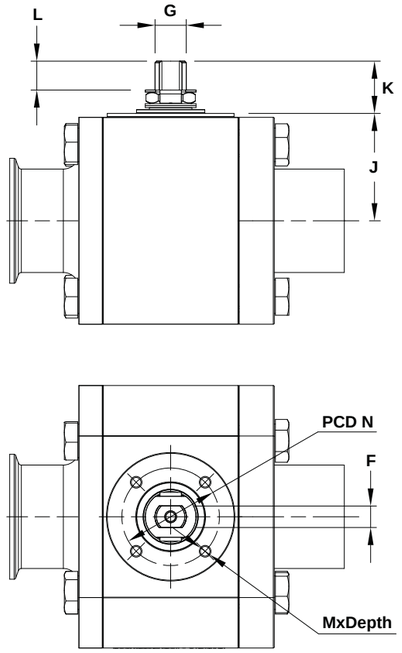
IS M3H.100 E 02.23

ISO 5211 MOUNTING DIMENSIONS – M3HP



1/2" and 3/4" – DN 10 and DN 15



1" to 6" – DN 20 to DN 150

DIMENSIONS (mm)								
SIZE		J	K	L	F	G	M x Depth	N
BPE	DIN / ISO							
1/2"	DN 10	32	5,5	7,5	6	M10 x 1	M5 x 10	PCD Ø36 (F03) *
3/4"	DN 15	35,5	6	7,5	6	M10 x 1	M5 x 10	PCD Ø36 (F03) *
1"	DN 20	32	24	13	7,5	M12 x 1,25	M5 x 8	PCD Ø42 (F04)
-	DN 25	37	24	13	7,5	M12 x 1,25	M5 x 8	PCD Ø42 (F04)
11/2"	DN 32	45	27	15	11	M16 x 1,5	M6 x 12	PCD Ø50 (F05)
-	DN 40	49	27	15	11	M16 x 1,5	M6 x 12	PCD Ø50 (F05)
2"	DN 50	55	27	15	11	M16 x 1,5	M6 x 12	PCD Ø50 (F05)
21/2"	DN 65	72,5	44	25	18	M24 x 2	M8 x 15	PCD Ø70 (F07)
3"	DN 80	83,5	44	25	18	M24 x 2	M8 x 15	PCD Ø70 (F07)
4"	DN 100	101,5	44	25	18	M24 x 2	M10 x 18	PCD Ø102 (F10)
6"	DN 150	166	79	45	30	M39 x 2	M16 x 22	PCD Ø140 (F14)

* Dimensions include flange adapter.

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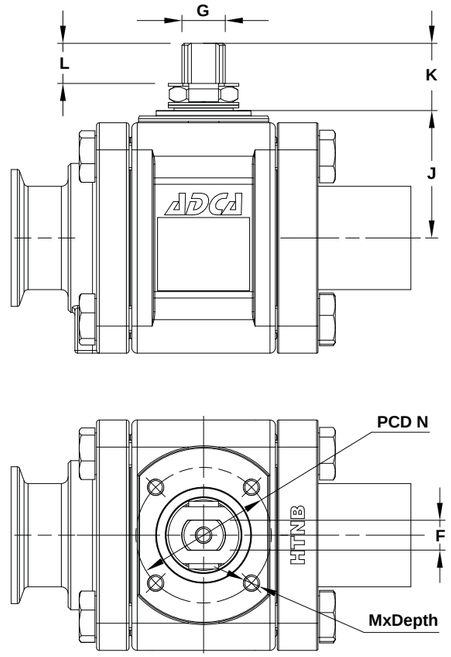
ISO 5211 MOUNTING DIMENSIONS – M3H



DIMENSIONS (mm)								
SIZE		J	K	L	F	G	M x Depth	N
BPE	DIN / ISO							
1/2"	DN 10	27,5	10	7	6	M10 x 1	M5 x 5	PCD Ø36 (F03) *
3/4"	DN 15	30,5	11	7,5	6	M10 x 1	M5 x 5	PCD Ø36 (F03) *
1"	DN 20	38	18	14	7,5	M12 x 1,25	M5 x 10	PCD Ø42 (F04)
-	DN 25	37	24	13	7,5	M12 x 1,25	M5 x 10	PCD Ø42 (F04)
11/2"	DN 32	45	27	15	11	M16 x 1,5	M6 x 12	PCD Ø50 (F05)
-	DN 40	50	27	15	11	M16 x 1,5	M6 x 12	PCD Ø50 (F05)
2"	DN 50	55	27	15	11	M16 x 1,5	M6 x 12	PCD Ø50 (F05)
21/2"	DN 65	74,5	41	25	18	M24 x 2	M8 x 13	PCD Ø70 (F07)
3"	DN 80	86	41	25	18	M24 x 2	M8 x 13	PCD Ø70 (F07)
4"	DN 100	104	42	25	18	M24 x 2	M10 x 18	PCD Ø102 (F10)
6"	DN 150	166	79	45	30	M39 x 2	M16 x 22	PCD Ø140 (F14)

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IS M3H.100 E 02.23

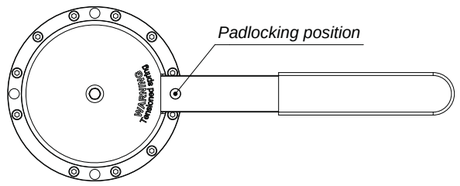
STEM TORQUE

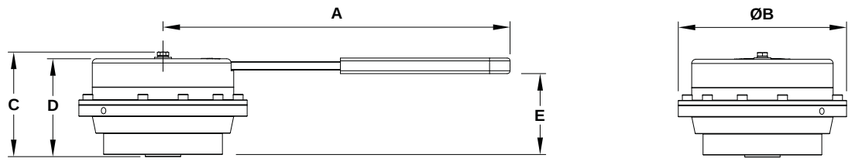
STEM TORQUE VALUES			
SIZE		BREAKAWAY TORQUE * (Nm)	MAXIMUM ALLOWABLE STEM TORQUE – MAST ** (Nm)
ASME	DIN / ISO		
1/2"	DN 10	4	17
3/4"	DN 15	4	17
1"	DN 20	10	44
-	DN 35	16	44
11/2"	DN 32	23	95
-	DN 40	28	95
2"	DN 50	35	95
21/2"	DN 65	48	250
3"	DN 80	75	250
4"	DN 100	120	250
6"	DN 150	180	495

* Torque values for valves with PTFE or TFM standard seals at full differential pressure. The indicated torques are for valves operated frequently. Greater torques can be required for valves subject to long static periods. Safety margins not included in these figures. Values may vary depending on the working conditions.
** Torque values are related to valves with stem manufactured in AISI 316L/1.4404. In case of valves manufactured from other materials (executed under special request) please consult.

SPRING RETURN HANDLES

Spring return handles, also called “dead man’s handles” consist of an enclosed spring-loaded lever mechanism which ensures fail-safe operation when mounted in a quarter-turn valve.
This device ensures that the valve cannot be left open (or closed) as a powerful spring will place the valve in the fail-safe position as soon as the operator releases the handle.





DIMENSIONS (mm)							
MODEL	A	ØB	C	D	E	MOUNTING TYPES	TORQUE (Nm)
SRH1/24	245	119	74	69	57	F03 / F05 / F07	24
SRH1/40	245	199	74	69	57	F03 / F05 / F07	40

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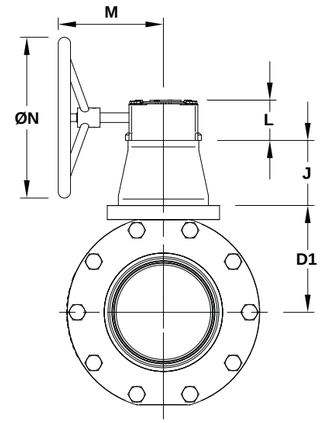
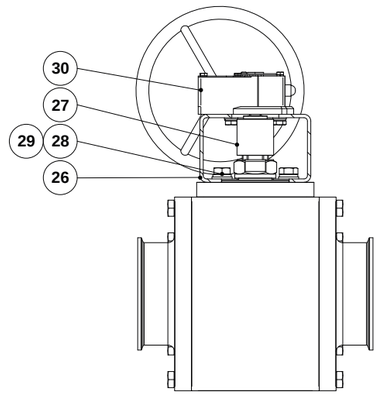
GEARBOXES

Gearboxes are quarter-turn devices intended for the operation of ball valves, among others. The handwheels are designed for smooth and easy operation.



DIMENSIONS (mm)							
SIZE		D1	J	L	M	ØN	WEIGHT (kg)
ASME	DIN / ISO						
21/2"	DN 65	75	60	57	144	125	34,1
3"	DN 80	86	60	57	144	125	48,0
4"	DN 100	104	80	57	144	125	77,6
6"	DN 150	166	101	67	164	250	101,0



MATERIALS		
POS. Nº	DESIGNATION	MATERIAL
26	Bracket	AISI 304 / 1.4301
27	Coupling stem	AISI 304 / 1.4301
28	Bolt	Stainless steel A2
29	Washer	Stainless steel A2
30	Gearbox	* Cast iron

* Others on request.

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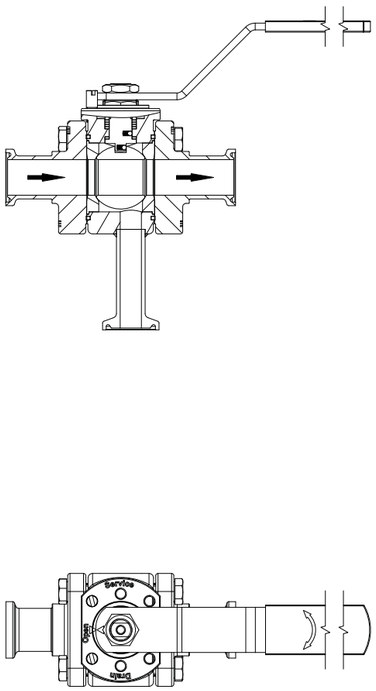
IS M3H.100 E 02.23

VALVES WITH CONDENSATE DRAIN CONNECTION

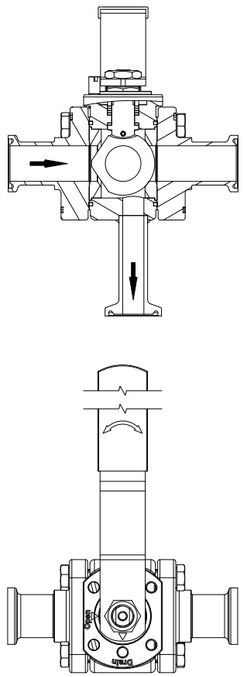
Valves with condensate drain connection feature an additional port which allows drainage of steam condensate or trapped liquids from the valve body cavity. Valves with this option are also used to allow sampling of steam for purity checks or to serve as isolation means for safe maintenance of steam traps.
In addition to these features, the flow of steam surrounding the valve ensures complete sterilisation of the valve body cavity.

HOW IT WORKS

Open position – The valve allows steam flow to the process. The steam trap is isolated from the flow to allow sterilization temperatures to be quickly reached.
Drain position – Condensate flows inside the valve body cavity and is discharged by an automatic steam trap connected to the bottom connection, preventing backup of liquid. Flow to the process, or sampling, is isolated.
Service position – Allows steam trap maintenance to be performed safely without the need of a second isolating valve, since in this position the valve is fully closed.



Open position



Drain position

Service position

SANITARY PRESSURE GAUGES SMAN63

DESCRIPTION

The ADCAPure SMAN-63 are reliable general purpose sanitary bourdon tube pressure gauges designed for pressure measurement of liquid and gaseous media. These units have a size diameter of 63 mm, range marked in bar and are fully manufactured in stainless steel.

MAIN FEATURES

Compact full stainless steel construction.
Wetted parts in AISI 316L / 1.4435 – flush diaphragm.
Designed according to EN 837-1.
Bayonet lock case with blow-out.
Suitable to be filled with glycerine.

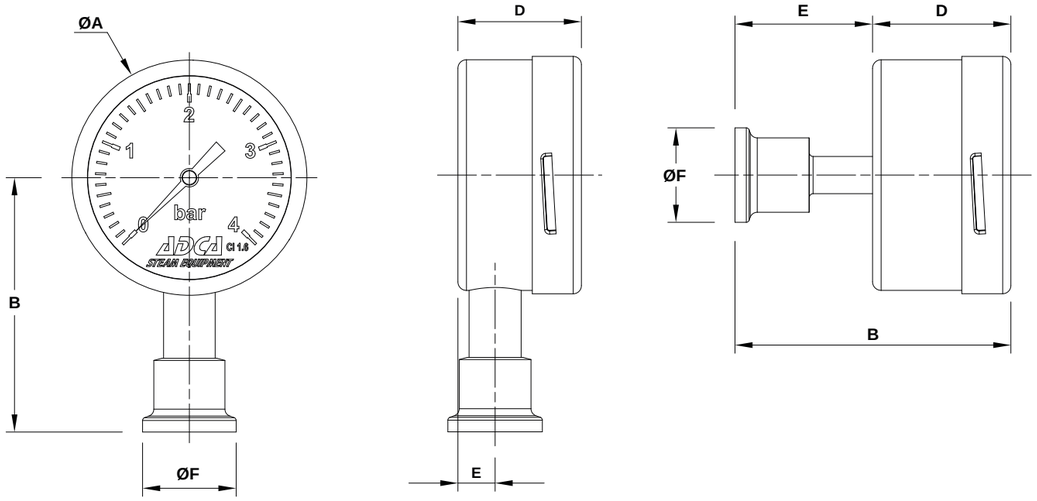
STANDARD SURFACE FINISH

Wetted parts: ≤ 0,76 µm Ra – SF3.

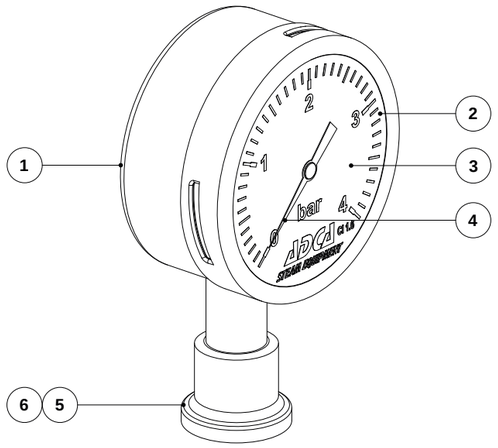
OPTIONS:	Electropolished ≤ 0,38 µm Ra (SF4) wetted parts. High temperature design on request.
USE:	Gases and liquids compatible with the construction.
AVAILABLE MODELS:	SMAN63R – radial connection. SMAN63A – axial connection.
SIZES:	3/4".
CONNECTIONS:	ASME BPE clamp ferrules. Others on request.
MEASURING RANGES:	0 to 4 bar; 0 to 6 bar; 0 to 10 bar; 0 to 16 bar.

LIMITING CONDITIONS	
Accuracy	±2,5% FS
IP rating	IP 65
Maximum allowable pressure	Full scale reading
Maximum operating temperature	120 ºC *
Minimum operating temperature	-20 ºC
Ambient temperature	-10 to 60 ºC

* 150 ºC for short term (cleaning). Other limits on request.



DIMENSIONS (mm)						
MODEL	**ØA**	**B**	**D**	**E**	**ØF**	**WEIGHT (kg)**
SMAN-63R	63,8	69	33,2	10	25,4	0,2
SMAN-63A	63,8	74,2	37,2	37	25,4	0,4



MATERIALS		
POS. No.	**DESIGNATION**	**MATERIAL**
1	Case and bezel ring	AISI 304 / 1.4301
2	Window	Glass
3	Dial	White aluminium
4	Pointer	Black aluminium
5	Connection	AISI 316L / 1.4435
6	Measuring system	AISI 316L / 1.4435

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ORDERING CODES SMAN63											
MODEL	**SM**	**063**	**R**	**X**	**V015**	**X**	**X**	**X**	**D**	**20**	
SMAN – Sanitary pressure gauge	**SM**										
CASE SIZE											
Ø63		**063**									
DESIGN											
Radial			**R**								
Axial			**A**								
MATERIAL											
AISI 316L / 1.4404 wetted parts				**X**							
MEASURING RANGE											
-1 to 1,5 bar					**V015**						
0 to 2,5 bar					**0025**						
0 to 4 bar					**0040**						
0 to 6 bar					**0060**						
0 to 10 bar					**0100**						
0 to 16 bar					**0160**						
0 to 25 bar					**0250**						
0 to 40 bar					**0400**						
OPTIONS											
None						**X**					
Glycerine filled						**G**					
SURFACE FINISH											
Standard surface finish							**X**				
Electropolished wetted parts (SF4)							**Q**				
SPECIAL FEATURES											
None								**X**			
High temperature design								**H**			
PIPE CONNECTIONS											
Clamp ferrule ASME BPE									**D**		
SIZE											
3/4"										**20**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS											
Full description or additional codes have to be added in case of non-standard combination											**E**

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IS SMAN63.020 E 06.22

HYGIENIC FILTER HOUSINGS
ISH10i
(Steam and gases)

DESCRIPTION

The ADCAPure ISH10i high efficiency filters are used to remove contaminated particles from gases such as steam and compressed air.
The optimized construction of these units offers low differential pressure at high flow rates.
All sizes are built in two halves and are joined by a sanitary clamp ferrule according to DIN 32676 Series A.

MAIN FEATURES

Clamped body.
Fabricated from AISI 316L stainless steel.
Body machined from bar stock.
Optimized flow paths for low pressure drop and high throughput.
FDA / USP Class VI compliant seals.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Air vent and bottom drain connections.
Other connections and dimensions.
Vertical installation design (ISV10i).

USE: Steam, compressed air and other gases.

AVAILABLE MODELS: ISH10i.

FILTER ELEMENTS: Consult respective IS information sheets.

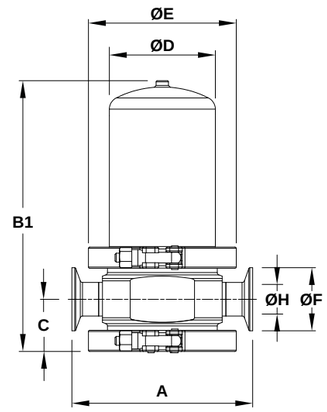
SIZES: 1/2" to 2"; DN 10 to DN 50.

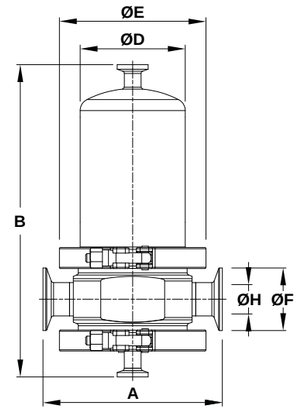
CONNECTIONS: ASME BPE, DIN and ISO clamp ferrules.
Others on request.

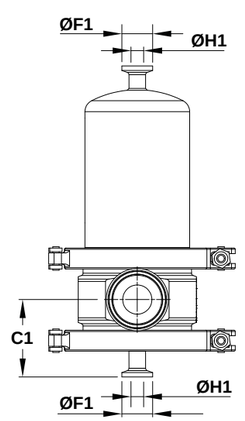
INSTALLATION: Horizontal installation with the drain connection pointing downwards.
See IMI – Installation and maintenance instructions.

ISV10i
Vertical inlet/outlet

CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
Ps 16 bar	**CATEGORY**
1/4" to 2"L – DN 10 to 50L	SEP
2"H – DN 50H	1 (CE marked)







DIMENSIONS – ASME BPE (mm)															
SIZE *	**A**	**B**	**B1**	**C**	**C1**	**ØD**	**ØE**	**ØF**	**ØF1**	**ØH**	**ØH1**	**ISFE SIZE**	**ISFE QTY.**	**VOL. (L)**	**WGT. (kg)**
1/2"	140	204	154	34	55	70	104	25	25	9,4	9,4	0310	1	0,31	3,3
3/4"	140	237	187	37	58	70	104	25	25	15,75	9,4	0420	1	0,37	3,6
1"	159	272	222	42	63	85	119	50,4	25	22,1	9,4	0520	1	0,84	5,3
11/2"	161	339	288	49	70	85	119	50,4	25	34,8	9,4	0725	1	1,22	6,3
2"L	174	418	369	52	73	104	134	63,9	25	47,5	9,4	1030	1	2,15	7,9
2"H	174	545	496	52	73	104	134	63,9	25	47,5	9,4	1530	1	3,56	8,7

DIMENSIONS – DIN (mm)															
SIZE *	**A**	**B**	**B1**	**C**	**C1**	**ØD**	**ØE**	**ØF**	**ØF1**	**ØH**	**ØH1**	**ISFE SIZE**	**ISFE QTY.**	**VOL. (L)**	**WGT. (kg)**
DN 10	140	204	154	34	55	70	104	34	34	10	10	0310	1	0,31	3,4
DN 15	140	237	187	37	58	70	104	34	34	16	10	0420	1	0,37	3,7
DN 20	159	272	222	42	63	85	119	34	34	20	10	0520	1	0,8	5,2
DN 25	174	272	222	42	63	85	119	50,5	34	26	10	0525	1	0,81	5,2
DN 32	176	344	295	49	70	85	119	50,5	34	32	10	0725	1	1,19	6,4
DN 40	189	344	295	52	73	104	134	50,5	34	38	10	0730	1	1,64	7,6
DN 50L	189	418	369	52	73	104	134	64	34	50	10	1030	1	2,32	7,8
DN 50H	189	545	496	52	73	104	134	64	34	50	10	1530	1	3,64	8,6

Remark: Clamp ferrules according to DIN 32676-A (for pipes DIN 11866-A – DIN 11850-2).

DIMENSIONS – ISO (mm)															
SIZE *	**A**	**B**	**B1**	**C**	**C1**	**ØD**	**ØE**	**ØF**	**ØF1**	**ØH**	**ØH1**	**ISFE SIZE**	**ISFE QTY.**	**VOL. (L)**	**WGT. (kg)**
DN 08	140	204	155	34	55	70	104	25	25	10,3	10,3	0310	1	0,35	3,3
DN 10	140	237	187	34	55	70	104	25	25	14	10,3	0410	1	0,45	3,5
DN 15	140	242	192	37	58	70	104	50,5	25	18,1	10,3	0420	1	0,46	3,7
DN 20	145	272	222	42	63	85	119	50,5	25	23,7	10,3	0520	1	0,85	5,1
DN 25	145	282	232	42	63	85	119	50,5	25	29,7	10,3	0525	1	0,89	5,1
DN 32	147	344	294	49	70	85	119	64	25	38,4	10,3	0725	1	1,26	6,3
DN 40	160	344	295	52	73	104	134	64	25	44,3	10,3	0730	1	1,95	7,6
DN 50L	173	433	384	57	78	104	134	77,5	25	56,3	10,3	1030	1	2,69	8,4
DN 50H	173	560	511	57	78	104	134	77,5	25	56,3	10,3	1530	1	3,71	9,2

* Suffix L corresponds to low capacity design; suffix H corresponds to high capacity design.
Remarks: Clamp ferrules according to DIN 32676-B (for pipes DIN 11866-B – ISO 1127).
Other sizes on request.

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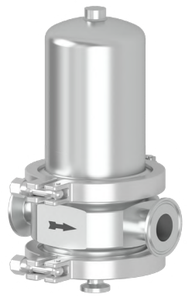
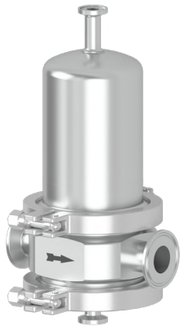
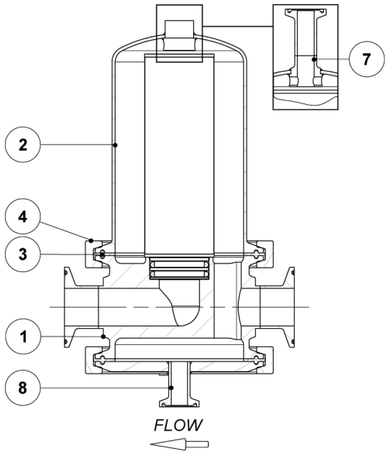
IS ISH10I.010 E 19.16

LIMITING CONDITIONS *	
Maximum allowable pressure	16 bar
Maximum allowable temperature	200 ºC
Minimum allowable temperature	-20 ºC
Maximum cold hydraulic test pressure	28 bar
Maximum differential pressure	5 bar

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

OPTIONS

BOTTOM DRAIN CONNECTION FOR CLEAN STEAM APPLICATIONS	AIR VENT AND BOTTOM DRAIN CONNECTIONS
	



MATERIALS		
POS. No.	**DESIGNATION**	**MATERIAL**
1	Filter housing	AISI 316L / 1.4404
2	Filter housing cover	AISI 316L / 1.4404
3	* Seal	** PTFE / FPM Envelope
4	Safety clamp	AISI 316 / 1.4401
7	Air vent connection	AISI 316L / 1.4404
8	Drain connection	AISI 316L / 1.4404

* Available spare parts. ** Others on request.
FDA / USP Class VI seals certificate on request.
All filters have a serial number. In case of non-standard filters this number must be supplied if spare parts are ordered.

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ORDERING CODES – ISH10i FILTER HOUSING									
FILTER MODEL	**ISH10**	**X**	**T**	**X**	**X**	**DX**	**0**	**008X**	
ISH10i – Hygienic steam filter, filter housing	**ISH10**								
MATERIAL									
AISI 316L / 1.4404		**X**							
BODY SEALING									
PTFE / FPM			**T**						
SURFACE FINISH (a)									
Standard surface finish				**X**					
Mirror mechanical polished external surfaces (SF1)				**P**					
Electropolished internal wetted parts (SF5)				**E**					
Electropolished internal wetted parts (SF4)				**Q**					
SPECIAL FEATURES									
None					**X**				
Degreased for oxygen					**O**				
PIPE CONNECTIONS									
Clamp ferrule ASME BPE						**DX**			
Clamp ferrule DIN (DIN 32676-A)						**FX**			
Clamp ferrule ISO (DIN 32676-B)						**EX**			
DRAIN AND VENT CONNECTIONS									
Without vent or drain connection							**0**		
With bottom drain connection							**1**		
With bottom drain and vent connection							**2**		
SIZE									
1/4" or DN 08								**008X**	
3/8" or DN 10								**010X**	
1/2" or DN 15								**015X**	
...								**...**	
2"L or DN 50L								**050L**	
2"H or DN 50H								**050H**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS									
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.

HOW TO ORDER

1 ADCAPure filter housing ISH10i with PTFE seals and clamp ferrules ASME BPE 2"L – Code: ISH10XTXXDX0050L
1 ISFE filter element with 5 micron retention rate and EPM seals for the above mentioned filter – Code: ISFE.P1030.05
Remark: We recommend a second filter element set as a spare part to ensure minimum downtime when replacing the one in use after saturation.

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IS ISH10I.010 E 19.16

CULINARY STEAM FILTER HOUSINGS
ISC20i and ISC20i2
(Steam and gases)

DESCRIPTION

The ADCAPure ISC20i and ISC20i2 high efficiency filters are used to remove contaminated particles from gases such as steam and compressed air.
The optimized construction of these units offers low differential pressure at high flow rates.
All sizes are built in two halves, with 1/4" to 3" being joined by a sanitary clamp ferrule according to DIN 32676 Series A. Whereas 4" to 6" are joined by bolts and nuts. All sizes include plugged drain and vent connections.

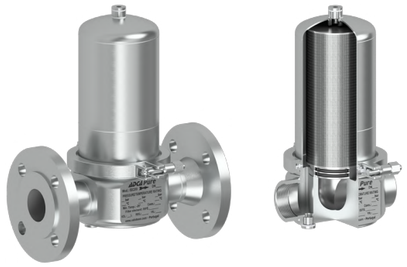
MAIN FEATURES

Clamped body.
Fabricated from AISI 316L or CF8M for corrosion resistance and long service life.
Optimized flow paths for low pressure drop and high throughput.
Designed to comply with FDA and 3A sanitary standards for culinary steam.

STANDARD SURFACE FINISH

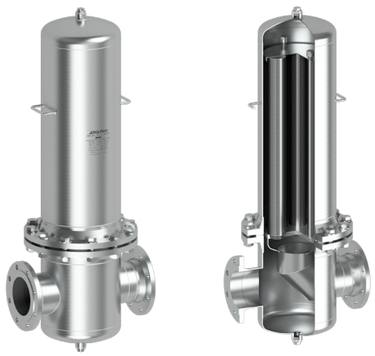
Internal wetted parts upstream of filter elements:
≤ 1,6 µm Ra for model ISC20i.
As casted for model ISC20i2.
Internal wetted parts downstream of filter elements:
≤ 0,76 µm Ra – SF3, for all models.
External:
Satin bead blast finish. As casted body for model ISC20i2.
Other surface conditions see TIS.GIA – General information ADCAPure.

USE:	Steam, compressed air and other gases.
AVAILABLE MODELS:	ISC20i – AISI 316L / 1.4404 stainless steel. ISC20i2 – CF8M / 1.4408 body and AISI 316L / 1.4404 cover.
FILTER ELEMENTS:	Consult respective IS information sheets.
SIZES:	1/4" to 6"; DN 10 to DN 150.
CONNECTIONS:	Female threaded ISO 7 Rp or NPT. Tube weld (TW). Flanged EN 1092-1 PN 16. Flanged ASME B16.5 Class 150. Others on request.
INSTALLATION:	Horizontal installation with the drain connection pointing downwards. See IMI – Installation and maintenance instructions.



ISC20i (AISI 316L body)
1/4" to 3" – DN 10 to DN 80

ISC20i2 (CF8M body)
3/4" to 3" – DN 20 to DN 80



ISC20i (AISI 316L body)
4" and 6" – DN 100 and DN 150

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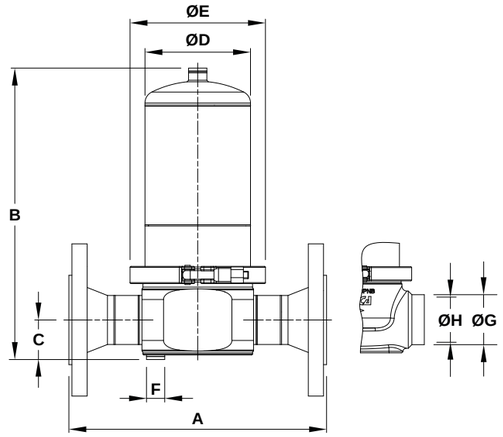
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)			
Ps 16 bar	**Ps 12 bar**	**Ps 10 bar**	**CATEGORY**
1/4" to 2"L – DN 10 to 50L	–	–	SEP
2"H to 3"L – DN 50H to 80L	3"H – DN 80H	–	1
–	–	4"L to 6"L – DN 100L to 150L	2
–	–	6"H – DN 150H	3

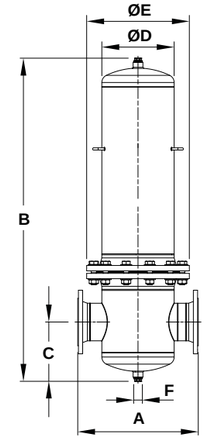
LIMITING CONDITIONS *		
Maximum allowable pressure	1/4" to 3"L – DN 10 to 80L	16 bar
	3"H – DN 80H	12 bar
	4"L to 6"H – DN 100L to 150H	10 bar
Maximum allowable temperature		200 ºC
Minimum allowable temperature		-20 ºC
Maximum cold hydraulic test pressure	1/4" to 21/2" – DN 10 to 80L	28 bar
	3"H – DN 80H	24,5 bar
	4"L to 6"H – DN 100L to 150H	20 bar
Maximum differential pressure		5 bar

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

DIMENSIONS



1/4" to 3" – DN 10 to DN 80



4" and 6" – DN 100 and DN 150

VALSTEAM ADCA
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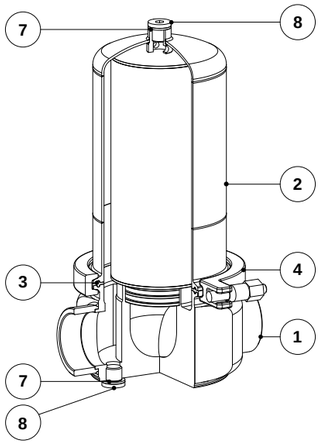
IS ISC20I.008 E 11.18

DIMENSIONS – ISC20i (mm)															
SIZE *	A THREADED	A ** TUBE WELD	A PN 16	A CLASS 150	B	C	ØD	ØE	F	ØG	ØH	ISFE SIZE	ISFE QTY.	VOL. *** (L)	WGT. *** (kg)
1/4"	108	108	–	–	145	23	70	104	1/4"	13,5	10,3	0310	1	0,4	2,3
3/8"– DN 10	108	108	180	–	173	23	70	104	1/4"	17,2	14	0410	1	0,5	3,7
1/2" – DN 15	108	108	180	203	180	25	70	104	1/4"	21,3	15,8	0420	1	0,5	4,3
3/4" – DN 20	130	130	202	230	210	28	85	118	1/4"	26,7	21	0520	1	0,9	6
1" – DN 25	136	136	212	247	217	31	85	118	1/4"	33,4	27,9	0525	1	1	6,9
11/4" – DN 32	142	142	220	254	279	36	85	118	1/4"	42,2	36,7	0725	1	1,1	8,9
11/2" – DN 40	154	154	254	294	287	39	104	133	1/4"	48,3	42,8	0730	1	2,2	10,6
2"L – DN 50L	163	163	260	297	374	45	104	133	1/4"	60,3	54,8	1030	1	2,8	13
2"H – DN 50H	163	163	260	297	501	45	104	133	1/4"	60,3	54,8	1530	1	3,9	14
21/2" – DN 65	–	216	306	356	637	52	129	170	1/4"	76,1	68,9	2030	1	8,2	21,7
3"L – DN 80L	–	240	340	380	911	60	129	170	1/4"	88,9	82,5	3030	1	11	28,6
3"H – DN 80H	–	240	340	380	918	60	154	198	1/4"	88,9	82,5	3050	1	16	30,4
4"L – DN 100L	–	–	410	395	1070	214	219	340	1"	–	–	2030	3	34,6	65,2
4"H – DN 100H	–	–	410	395	1331	214	219	340	1"	–	–	3030	3	43,7	73,5
6"L – DN 150L	–	–	480	484	1409	256	273	405	1"	–	–	3030	4	74,1	112
6"H – DN 150H	–	–	540	534	1446	265	324	460	1"	–	–	3030	6	106,1	138

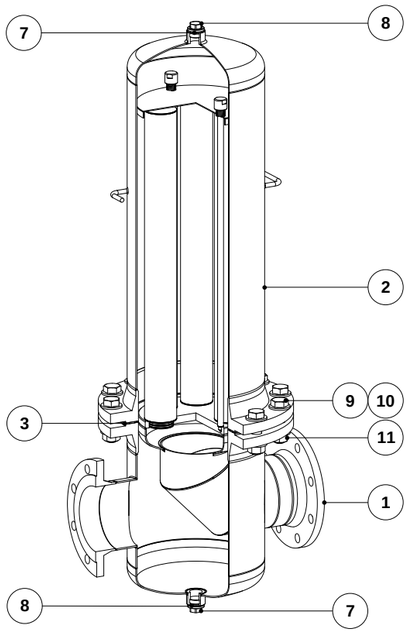
* Suffix L corresponds to low capacity design; suffix H corresponds to high capacity design.
** Tube weld (TW) ends according to ASME B36.19 or ISO 1127 depending on the size. See dimensions ØG and ØH. Other dimensions on request.
*** Volume and weight correspond to flanged EN 1092-1 PN 16 design. Weight of filter housing with filter element(s). Other designs may have slightly different values.
Remark: Other sizes on request.

DIMENSIONS – ISC20i2 (mm)															
SIZE *	A THREADED	A ** TUBE WELD	A PN 16	A CLASS 150	B	C	ØD	ØE	F	ØG	ØH	ISFE SIZE	ISFE QTY.	VOL. *** (L)	WGT. *** (kg)
3/4" – DN 20	130	122	202	227	234	36	85	118	1/4"	26,9	22,3	0520	1	0,9	5,9
1" – DN 25	136	132	212	243	234	36	85	118	1/4"	33,7	28,5	0525	1	0,9	6,4
11/4" – DN 32	136	136	220	250	286	36	85	118	1/4"	42,4	37,2	0725	1	1,3	7,6
11/2" – DN 40	164	164	254	288	302	43	104	133	1/4"	48,3	43,1	0730	1	2	10,4
2"L – DN 50L	164	164	260	291	377	43	104	133	1/4"	60,3	54,5	1030	1	2,7	11,8
2"H – DN 50H	164	164	260	291	503	43	104	133	1/4"	60,3	54,5	1530	1	3,7	12,8
21/2" – DN 65	–	216	306	356	669	60	129	170	1/4"	76,1	70,3	2030	1	7,5	20,8
3"L – DN 80L	–	216	316	356	923	60	129	170	1/4"	88,9	82,5	3030	1	10,8	24,3
3"H – DN 80H	–	240	340	380	934	60	154	198	1/4"	88,9	82,5	3050	1	15,2	28,4

* Suffix L corresponds to low capacity design; suffix H corresponds to high capacity design.
** Tube weld (TW) ends according to ISO 1127. Other dimensions on request.
*** Volume and weight correspond to flanged EN 1092-1 PN 16 design. Weight of filter housing with filter element(s). Other designs may have slightly different values.
Remark: Other sizes on request.



1/4" to 3" – DN 10 to DN 80



4" and 6" – DN 100 and DN 150

MATERIALS		
POS. No.	DESIGNATION	MATERIAL
1	Filter housing body (ISC20i)	AISI 316L / 1.4404
	Filter housing body (ISC20i2)	CF8M / 1.4408
2	Filter housing cover	AISI 316L / 1.4404
3	* Seal (1/4" to 3" – DN 10 to 80)	** PTFE / FPM Envelope
	* Seal (4" and 6" – DN 100 and 150)	** PTFE
4	Safety clamp	AISI 316 / 1.4401
7	Gasket	** PTFE
8	Plug	AISI 304 / 1.4301
9	Bolt (4" and 6" – DN 100 and 150)	Stainless steel A2-70
10	Washer (4" and 6" – DN 100 and 150)	Stainless steel A2
11	Nut (4" and 6" – DN 100 and 150)	Stainless steel A2-70

* Available spare parts. ** Others on request.
FDA / USP Class VI seals certificate on request.
All filters have a serial number. In case of non-standard filter, this number must be supplied if spare parts are ordered.

VALSTEAM ADCA
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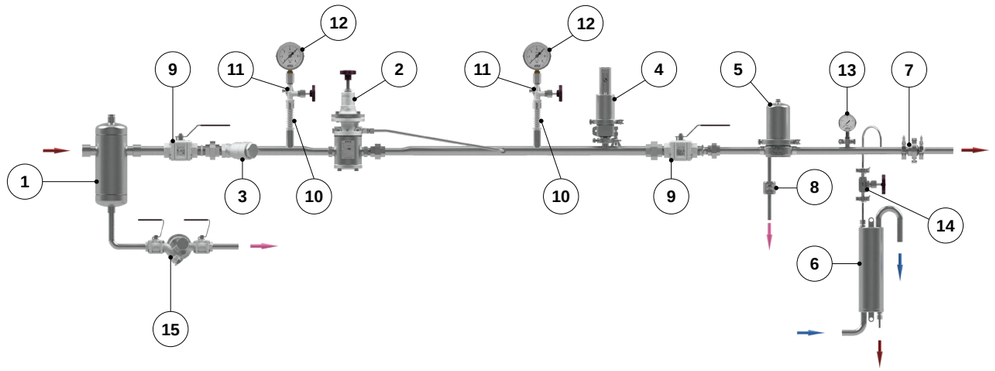
IS ISC20I.008 E 11.18

TYPICAL INSTALLATION – FILTERED STEAM PRESSURE REDUCING STATION



EQUIPMENT	
POS. No.	**DESIGNATION**
1	ADCA S16SS Centrifugal humidity separator
2	ADCA PRV47i Pilot operated pressure reducing valve
3	ADCA IS140i Y Strainer
4	ADCA Safety valve
5	ADCAPure ISC20i Culinary steam filter with 5 µm ISFE filter element
6	ADCAPure SC32P Sample cooler
7	ADCAPure SRTH10 Check valve
8	ADCA TSS22 Steam trap
9	ADCA M3i1 Three piece ball valve
10	ADCA GSV Gauge siphon
11	ADCA GC400i Gauge cock
12	ADCA MAN100i Pressure gauge
13	ADCAPure SMAN-63R Pressure gauge
14	Sanitary needle valve
15	UniADCA CTS4U Compact trapping station with UFS32 Steam trap

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ORDERING CODES – ISC20i FILTER HOUSING							
FILTER MODEL	**ISC20I**	**.**	**T**	**A**	**.**	**08**	
ISC20i – AISI 316L / 1.4404 filter housing	**ISC20I**						
ISC20i2 – CF8M / 1.4408 body and AISI 316L / 1.4404 cover	**ISC20I2**						
HOUSING SEAL MATERIAL							
PTFE / FPM (1/4" to 3" – DN 10 to 80) or PTFE (4" and 6" – DN 100 and 150)			**T**				
PIPE CONNECTIONS							
Female threaded ISO 7 Rp (only available from 1/4" up to 2")				**A**			
Female threaded NPT ASME B1.20.1 (only available from 1/4" up to 2")				**C**			
Tube weld				**H**			
Flanged EN 1092-1 PN 16				**L**			
Flanged ASME B16.5 Class 150				**U**			
SIZE							
1/4"						**08**	
3/8" or DN 10						**10**	
...						**...**	
3"L or DN 80L						**80L**	
3"H or DN 80H						**80H**	
...						**...**	
6"L or DN 150L						**150L**	
6" or DN 150H						**150H**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS							
Full description or additional codes have to be added in case of non-standard combination							**E**

HOW TO ORDER

1 ADCAPure filter housing ISC20i with PTFE/FPM seals, threaded NPT 2"L – Code: ISC20I.TC.50L
1 ISFE filter element with 5 micron retention rate and EPM seals for the above mentioned filter – Code: ISFE.P1030.05
Remark: We recommend a second filter element set as a spare part to ensure minimum downtime when replacing the one in use after saturation.

VALSTEAM ADCA
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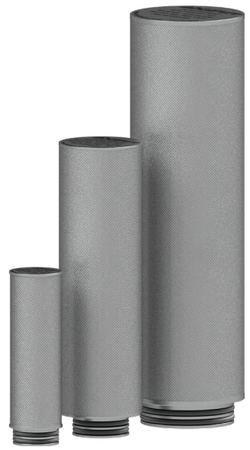
IS ISC20I.008 E 11.18

SINTERED FILTER ELEMENTS
ISFE

DESCRIPTION

The ISFE are sintered filter elements designed for removal of particles from steam, gases and liquids.
These filters are produced in AISI 316L with a robust welded construction and are compatible with all ADCAPure filter housings.



MAIN FEATURES

Robust construction.
Compatible with ADCAPure filter housings.
Good durability against aggressive gases.
Porosity level above 50% to ensure high particle and dirt load capacity as well as high flow rates at low differential pressures.
Regeneration by ultrasonic cleaning, back-flushing or solvent cleaning with hydrogen peroxide and other chemicals.

OPTIONS: Various retention rates and seal materials. Connections suitable for different third party filter housings.

USE: Steam, compressed air and other gases and liquids.

AVAILABLE MODELS: ISFE.

RETENTION RATES: 1, 5 and 25 micron.

INSTALLATION: See IMI – Installation and maintenance instructions.

LIMITING CONDITIONS	
Maximum operating temperature *	200 ºC
Maximum differential pressure	5 bar

* See "Ordering Codes" table for restrictions.

RETENTION RATES FOR STEAM AND AIR		
PORE SIZE (µm)	98% (µm)	100% (µm)
1	0,5	1
5	1	5
25	8	20

MATERIALS	
DESIGNATION	MATERIAL
Filter media	AISI 316L / 1.4404
End caps	AISI 316L / 1.4404; AISI 304 / 1.4301
* O-ring	** EPM; FEPM

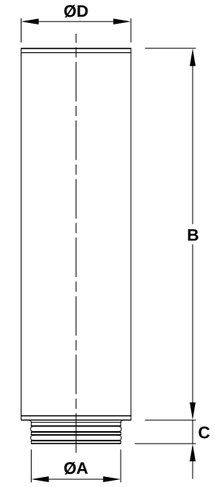
* Available spare parts. ** Others on request.

MAXIMUM RECOMMENDED FLOW RATE CAPACITIES				
PORE SIZE (µm)	STEAM (kg/h)			COMPRESSED AIR (m³/h)
	1 bar	3,5 bar	7 bar	–
1	136	295	454	22,7
5	181	363	680	27,2
25	227	454	–	31,8

Remarks: Values shown refer to maximum capacities with a filter element size 1030.
Properly sizing a filter depends on several factors, including flow rate, pressure, element retention rate and acceptable pressure drop across the filtration system. For assistance in selecting the appropriate housing and filter element, consult the manufacturer.

FLOW RATE CAPACITY – COMPRESSED AIR (m³/h) AND STEAM (kg/h)							
PORE SIZE (µm)	PRESSURE DROP (mbar)						
	50	100	200	300	400	500	600
1	25	50	100	150	200	250	300
5	80	170	330	500	–	–	–
25	250	500	–	–	–	–	–

Remarks: Values shown refer to approximate capacities with a filter element size 1030.
Reference values for compressed air at 1 bar and 20 ºC.
Reference values for saturated steam at 2 bar and 121 ºC.
Properly sizing a filter depends on several factors, including flow rate, pressure, element retention rate and acceptable pressure drop across the filtration system. For assistance in selecting the appropriate housing and filter element, consult the manufacturer.



DIMENSIONS (mm)						
SIZE	ØA	B	C	ØD	FILTRATION SURFACE (cm²)	WEIGHT (kg)
0310	30	75	11	35	60	0,2
0410	30	103	11	35	85	0,3
0420	37	103	14	45	95	0,4
0520	37	127	14	45	125	0,5
0525	37	127	14	55	160	0,5
0725	37	179	14	55	235	0,6
0730	61	177	16	75	341	1,3
1030	61	254	16	75	502	1,6
1530	61	378	16	75	778	2,3
2030	61	505	16	75	1054	2,8
3030	61	759	16	75	1646	3,9
3050	89	760	16	130	2956	5

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IS ISFE.010 E 02.26

ORDERING CODES – ISFE FILTER ELEMENT								
FILTER ELEMENT MODEL			**ISFE**	**.**	**X**	**0310**	**.**	**01**
ISFE – Hygienic steam filter, filter element			**ISFE**					
FILTER SEALS								
Without o-rings					**X**			
EPM – Tmax 150 ºC (180 ºC with steam)					**P**			
FEPM – Tmax 200 ºC					**F**			
FILTER ELEMENT SIZE ACCORDING TO HOUSING CONNECTIONS								
TW	**THREADED**	**FLANGED**	**TC DIN (DIN 32676-A)**	**TC ISO (DIN 32676-B)**	**TC ASME BPE**			
1/4"	1/4"	–	DN 10	DN 08	1/2"	**0310**		
3/8"	3/8"	DN 10	–	DN 10	–	**0410**		
1/2"	1/2"	1/2" or DN 15	DN 15	DN 15	3/4"	**0420**		
3/4"	3/4"	3/4" or DN 20	DN 20	DN 20	1"	**0520**		
1"	1"	1" or DN 25	DN 25	DN 25	–	**0525**		
11/4"	11/4"	11/4" or DN 32	DN 32	DN 32	11/2"	**0725**		
11/2"	11/2"	11/2" or DN 40	DN 40	DN 40	–	**0730**		
2"L	2"L	2"L or DN 50L	DN 50L	DN 50L	2"L	**1030**		
2"H	2"H	2"H or DN 50H	DN 50H	DN 50H	2"H	**1530**		
21/2"	–	21/2", 4"L, DN 65 or DN 100L	–	–	–	**2030**		
3"L	–	3"L, 4"H, 6"L, 6"H, DN 80L, DN 100H, DN 150L or DN 150H	–	–	–	**3030**		
3"H	–	3"H or DN 80H	–	–	–	**3050**		
RETENTION RATE								
1 micron								**01**
5 micron								**05**
25 micron								**25**
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS								
Full description or additional codes have to be added in case of non-standard combination								**E**

HOW TO ORDER

1 ADCAPure filter housing ISH10i with PTFE seals and clamp ferrules ASME BPE 2"L – Code: ISH10XTXXDX0050L
1 ISFE filter element with 5 micron retention rate and EPM seals for the above mentioned filter – Code: ISFE.P1030.05
Remark: We recommend a second filter element set as a spare part to ensure minimum downtime when replacing the one in use after saturation.

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EUROPEAN HYGIENIC ENGINEERING & DESIGN GROUP EHEDG
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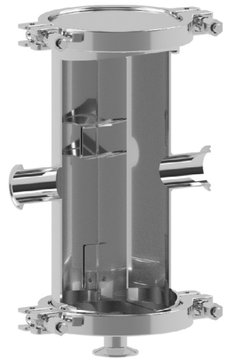
HUMIDITY SEPARATORS S10H (Baffle design)

DESCRIPTION

When wet steam is used in sterilization, moisture in suspension reduces the heat transfer efficiency, and the validity of the sterilization process can be compromised.
The ADCAPure S10H series baffle separators remove moisture from steam pipelines. Steam passes through the separator and as a result of expansion, impact and swirling effects, the particles with a heavier specific gravity are separated, such as water droplets and moisture in suspension.
The condensate collected at the bottom of the separator must be automatically drained by a suitable steam trap.

MAIN FEATURES

316L stainless steel construction.
No moving parts.
Self drainable design.
Clamped construction to ease access for cleaning operations.



STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: Satin bead blast finish – 1,6 µm Ra.
Other surface conditions see TIS.GIA – General information ADCAPure.

OPTIONS: Vent connection.
Special connections and dimensions.

USE: Steam, compressed air and other gases.

AVAILABLE MODELS: S10H – horizontal connections, baffle design.

SIZES: 1/2" to 3".

CONNECTIONS: ASME BPE clamp ferrules.
Others on request.

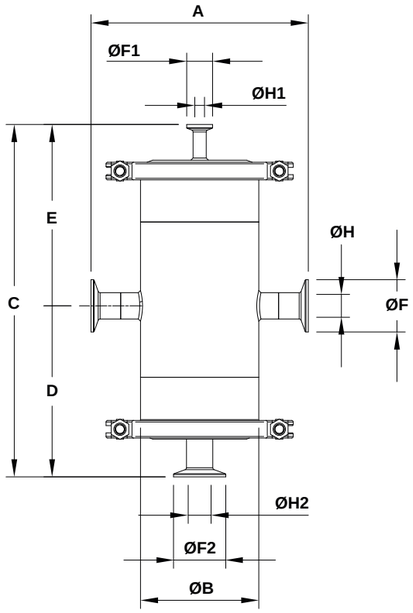
PACKAGING: Assembling and packaging in a clean room certified according to ISO 14644-1.
The product is end capped and sealed with recyclable thermo-shrinkable plastic film, to avoid contamination.

INSTALLATION: Always with the condensate discharge pointing downwards.
See IMI – Installation and maintenance instructions.

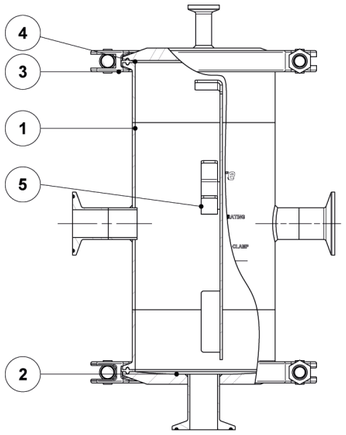
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" to 2"	SEP
21/2" to 3"	1 (CE Marked)

BODY LIMITING CONDITIONS *	
ALLOWABLE PRESSURE	**RELATED TEMPERATURE**
10 bar	50 ºC
8 bar **	175 ºC
7,4 bar	200 ºC

* Other limits on request. Maximum operating conditions may be limited by the equipment end connections due to normative restrictions.
** PMO – Max. operating pressure for saturated steam. Minimum operating temperature: -10 ºC.
Design code: AD-Merkblatt.



DIMENSIONS (mm)												
SIZE	A	ØB	C	D	E	ØF	ØF1	ØF2	ØH	ØH1	ØH2	VOL. (dm³)	WEIGHT (kg)
1/2"	210	114	338	163	175	25	25	50,5	9,4	9,4	22,1	2,4	5
3/4"	210	114	338	163	175	25	25	50,5	15,8	9,4	22,1	2,4	5
1"	210	114	338	163	175	50,4	25	50,5	22,1	9,4	22,1	2,4	5,1
11/2"	240	140	404	163	209	50,4	25	50,5	34,8	9,4	22,1	4,7	9,6
2"	240	140	404	195	209	63,9	25	50,5	47,5	9,4	22,1	4,7	9,6
21/2"	270	168	478	235	244	77,4	25	50,5	60,2	9,4	22,1	8,4	13,7
3"	270	168	478	235	244	90,9	25	50,5	72,9	9,4	22,1	8,6	13,8



MATERIALS		
POS. No.	DESIGNATION	MATERIAL
1	Body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	Clamp	AISI 316 / 1.4401
4	* Gasket	** PTFE/FPM Envelope
5	Internals	AISI 316L / 1.4404

* Available spare parts. ** Others on request.
EN 10204 3.1 certificate available if requested along with the order.
Remarks: FDA / USP Class VI seals certificate on request.
All separators have a serial number. In case of non-standard separators, this number must be supplied if spare parts are ordered.

LRQA CERTIFIED ISO 9001
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ORDERING CODES S10H									
MODEL	S10H	X	T	X	X	DX	0	015	
S10H – Sanitary humidity separator, horizontal connections, baffle design	S10H								
MATERIAL									
AISI 316L / 1.4404		X							
BODY SEALING									
PTFE / FPM			T						
SURFACE FINISH (a)									
Standard surface finish				X					
Mirror mechanical polished external surfaces (SF1)				P					
Electropolished internal wetted parts (SF5)				E					
Electropolished internal wetted parts (SF4)				Q					
SPECIAL FEATURES									
None					X				
PIPE CONNECTIONS									
Clamp ferrule ASME BPE						DX			
VENT CONNECTION									
Without vent connection							0		
With vent connection							1		
SIZE									
1/2"								015	
3/4"								020	
1"								025	
11/2"								040	
2"								050	
21/2"								065	
3"								080	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS									
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.

VALSTEAM ADCA
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IS S10H.015 E 11.16

HUMIDITY SEPARATORS
S10HV
(Centrifugal design)

DESCRIPTION

When wet steam is used in sterilization, moisture in suspension reduces the heat transfer efficiency, and the validity of the sterilization process can be compromised.
The ADCAPure S10HV series centrifugal separators remove moisture from steam pipelines. Steam passes through the separator and as a result of centrifugal forces, impact and swirling effects, the particles with a heavier specific gravity are separated, such as water droplets and moisture in suspension.
The condensate collected at the bottom of the separator must be automatically drained by a suitable steam trap.

MAIN FEATURES

316L stainless steel construction.
No moving parts.
Self drainable design.
Clamped construction to ease access for cleaning operations.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: Satin bead blast finish – 1,6 µm Ra.
Other surface conditions see TIS.GIA – General information ADCAPure.

OPTIONS: Special connections and dimensions.

USE: Steam, compressed air and other gases.

AVAILABLE MODELS: S10HV – horizontal inlet, vertical outlet.

SIZES: 1/2" to 2".

CONNECTIONS: ASME BPE clamp ferrules.
Others on request.

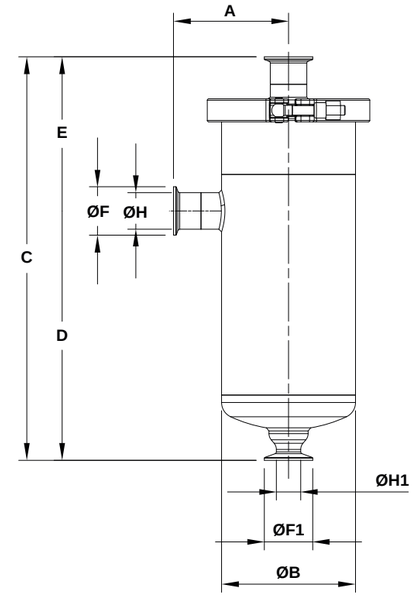
PACKAGING: Assembling and packaging in a clean room certified according to ISO 14644-1.
The product is end capped and sealed with recyclable thermo-shrinkable plastic film, to avoid contamination.

INSTALLATION: Always with the condensate discharge pointing downwards.
See IMI – Installation and maintenance instructions.

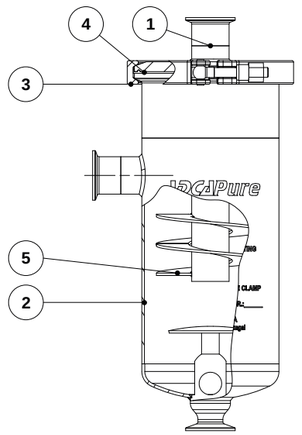
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" to 1"	SEP
11/2" and 2"	1

BODY LIMITING CONDITIONS *	
ALLOWABLE PRESSURE	**RELATED TEMPERATURE**
10 bar	50 ºC
8 bar **	175 ºC
7,4 bar	200 ºC

* Other limits on request. Maximum operating conditions may be limited by the equipment end connections due to normative restrictions.
** PMO – Max. operating pressure for saturated steam.
Minimum operating temperature: -10 ºC.
Design code: AD-Merkblatt.



DIMENSIONS (mm)											
SIZE	**A**	**ØB**	**C**	**D**	**E**	**ØF**	**ØF1**	**ØH**	**ØH1**	**VOL. (dm^3)**	**WEIGHT (kg)**
1/2"	105	114	326	195	131	25	50,5	9,4	22,1	2,84	3,8
3/4"	105	114	326	195	131	25	50,5	15,8	22,1	2,87	3,9
1"	105	114	341	210	131	50,4	50,5	22,1	22,1	2,9	4,2
11/2"	120	140	421	260	161	50,4	50,5	34,8	22,1	5,82	7,25
2"	120	140	421	260	161	63,9	50,5	47,5	22,1	5,93	7,28



MATERIALS		
POS. No.	**DESIGNATION**	**MATERIAL**
1	Body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	Clamp	AISI 316 / 1.4401
4	* Gasket	** PTFE/FPM Envelope
5	Internals	AISI 316L / 1.4404

* Available spare parts. ** Others on request.
EN 10204 3.1 certificate available if requested along with the order.
Remarks: FDA / USP Class VI seals certificate on request.
All separators have a serial number. In case of non-standard separators, this number must be supplied if spare parts are ordered.

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IS S10HV.015 E 19.13

ORDERING CODES S10HV								
MODEL	**S10HV**	**X**	**T**	**X**	**X**	**DX**	**015**	
S10HV – Sanitary humidity separator, horizontal inlet and vertical outlet	**S10HV**							
MATERIAL								
AISI 316L / 1.4404		**X**						
BODY SEALING								
PTFE / FPM			**T**					
SURFACE FINISH (a)								
Standard surface finish				**X**				
Mirror mechanical polished external surfaces (SF1)				**P**				
Electropolished internal wetted parts (SF5)				**E**				
Electropolished internal wetted parts (SF4)				**Q**				
SPECIAL FEATURES								
None					**X**			
PIPE CONNECTIONS								
Clamp ferrule ASME BPE						**DX**		
SIZE								
1/2"							**015**	
3/4"							**020**	
1"							**025**	
11/2"							**040**	
2"							**050**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS								
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.

HUMIDITY SEPARATORS
S11
(Centrifugal design)

DESCRIPTION

When wet steam is used in sterilization, moisture in suspension reduces the heat transfer efficiency, and the validity of the sterilization process can be compromised.
The ADCAPure S11 series centrifugal separators remove moisture from steam pipelines. Steam passes through the separator and, as a result of centrifugal forces, impact and swirling effects, the particles with a heavier specific gravity are separated, such as water droplets and moisture in suspension.
The condensate collected at the bottom of the separator must be automatically drained by a suitable steam trap.

MAIN FEATURES

316L stainless steel construction.
No moving parts.
Self drainable design.
Clamped construction to ease access for cleaning operations.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: Satin bead blast finish – 1,6 µm Ra.
Other surface conditions see TIS.GIA – General information ADCAPure.

OPTIONS: Vent connection.
Special connections and dimensions.

USE: Steam, compressed air and other gases.

AVAILABLE MODELS: S11 – horizontal connections.

SIZES: 1/2" to 2".

CONNECTIONS: ASME BPE clamp ferrules.
Others on request.

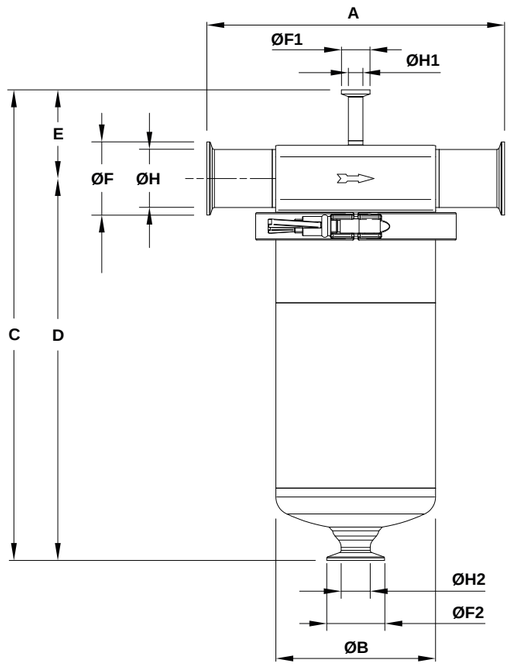
PACKAGING: Assembling and packaging in a clean room certified according to ISO 14644-1.
The product is end capped and sealed with recyclable thermo-shrinkable plastic film, to avoid contamination.

INSTALLATION: Always with the condensate discharge pointing downwards.
See IMI – Installation and maintenance instructions.

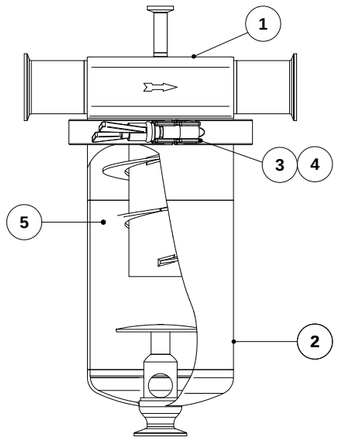
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
1/2" to 1"	SEP
11/2" to 2"	1

BODY LIMITING CONDITIONS *	
ALLOWABLE PRESSURE	**RELATED TEMPERATURE**
10 bar	50 ºC
8 bar **	175 ºC
7,4 bar	200 ºC

* Other limits on request. Maximum operating conditions may be limited by the equipment end connections due to normative restrictions.
** PMO – Max. operating pressure for saturated steam.
Minimum operating temperature: -10 ºC.
Design code: AD-Merkblatt.



DIMENSIONS (mm)												
SIZE	A	ØB	C	D	E	ØF	ØF1	ØF2	ØH	ØH1	ØH2	VOL. (dm³)	WEIGHT (kg)
1/2"	215	114	345	283,5	62,5	25	25	50,5	9,4	9,4	22,1	2,84	3,8
3/4"	215	114	345	283,5	62,5	25	25	50,5	15,8	9,4	22,1	2,87	3,9
1"	215	114	345	283,5	62,5	50,4	25	50,5	22,1	9,4	22,1	2,9	4,2
11/2"	235	141	416	338,5	77,5	50,4	25	50,5	34,8	9,4	22,1	5,82	7,25
2"	260	141	416	338,5	77,5	63,9	25	50,5	47,5	9,4	22,1	5,93	7,28



MATERIALS		
POS. No.	DESIGNATION	MATERIAL
1	Body	AISI 316L / 1.4404
2	Cover	AISI 316L / 1.4404
3	Clamp	AISI 316 / 1.4401
4	* Gasket	** PTFE/FPM Envelope
5	Internals	AISI 316L / 1.4404

* Available spare parts. ** Others on request.
EN 10204 3.1 certificate available if requested along with the order.
Remarks: FDA / USP Class VI seals certificate on request.
All separators have a serial number. In case of non-standard separators, this number must be supplied if spare parts are ordered.

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ORDERING CODES S11									
MODEL	**S11**	**X**	**T**	**X**	**X**	**DX**	**0**	**015**	
S11 – Sanitary humidity separator, horizontal connections	**S11**								
MATERIAL									
AISI 316L / 1.4404		**X**							
BODY SEALING									
PTFE			**T**						
SURFACE FINISH (a)									
Standard surface finish				**X**					
Mirror mechanical polished external surfaces (SF1)				**P**					
Electropolished internal wetted parts (SF5)				**E**					
Electropolished internal wetted parts (SF4)				**Q**					
SPECIAL FEATURES									
None					**X**				
PIPE CONNECTIONS									
Clamp ferrule ASME BPE						**DX**			
VENT CONNECTION									
Without vent connection							**0**		
With vent connection							**1**		
SIZE									
1/2"								**015**	
3/4"								**020**	
1"								**025**	
11/2"								**040**	
2"								**050**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS									
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.

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IS S11.015 E 15.13

HYGIENIC DIRECT STEAM INJECTION HUMIDIFIERS
DSHS

DESCRIPTION

The presence of chemicals used in water treatment of plant steam boilers which produce steam used in humidification systems can have toxic effects on human health. Regulations have come into force in some countries so that only clean steam is used for humidification purposes and, to meet such requirements.
The ADCAPure DSHS series of hygienic direct steam injection humidifiers are designed to ensure highly efficient and moisture free clean steam injection in air ducts and AHU for humidification purposes. These units are completely manufactured in 316L stainless steel, and are available as plug and play packaged solutions or alternatively as individual components to be incorporated into humidification systems. Each humidifier is manufactured as a bespoke solution to meet flow requirements and duct design with single or multiple injection tubes.

Single tube humidifier

MAIN FEATURES

Quiet and efficient.
Hygienic design in 316L / 1.4404 stainless steel.
Bespoke injection tubes to meet flow requirements and duct design.
Fully jacketed injection tubes providing moisture free steam injection.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: Satin bead blast finish – 1,6 µm Ra.
Other surface conditions see TIS.GIA – General information ADCAPure.

OPTIONS: Fully assembled in a package.

USE: Clean steam.

AVAILABLE MODELS: DSHS10 and DSHS25.

INJECTION TUBE SIZES: 3/4" x 1/2" and 1" x 1/2".

CONNECTIONS: ASME BPE clamp ferrules.
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 or vertical (pointing upwards) installation in horizontal air ducts.
Horizontal installation in vertical air ducts. See IMI – Installation and maintenance instructions.

Injection tube

S10HV
Centrifugal separator

OPERATION

Clean steam moves in the supply line passing, if necessary, through an ADCAPure pressure reducing valve to reduce it to humidification pressure (generally around 1 to 2 barg). Steam then passes through an ADCAPure S10HV centrifugal humidity separator which removes most of its moisture content. The separator special design dries the steam which is injected and also the steam which feeds the injection tube heating chamber keeping heating temperatures stable. As steam leaves the humidity separator and passes through the jacketed injection tubes it is kept at a constant temperature, preventing condensation to be carried over with the steam.
Condensate collects on the bottom of the separator and is removed from the system via a ADCAPure TSS6 thermostatic steam trap. Condensate which forms inside the injection tube heating chamber is removed by means of one or multiple steam traps depending on the case.
An ADCAPure hygienic control valve equipped with a fail-safe electric or pneumatic actuator provides accurate modulation of flow and, thus, precise humidity control.

ABSORPTION DISTANCE

Absorption distance is the dimension from the injection tube outlet to the downstream point where steam has been fully absorbed by the air passing through and is no longer visible as mist. The absorption distance serves as base for the calculation of the minimum distances to any obstacle (e.g. branches, filters, ventilators) installed downstream. If such obstacles would otherwise be located at a shorter distance, unabsorbed steam would hit those parts and condense, causing dripping which often results in microbial growth and, consequently, odors and an overall unhealthy air.

Absorption distance is mainly affected by:

- Air temperature: absorption distance decreases with increase in inlet air temperature.
- Inlet relative humidity: absorption distance decreases with increase in inlet relative humidity.
- Required relative humidity: absorption distance increases with increase in required relative humidity.
- Mixing homogeneity: absorption distance decreases with increase in mixing homogeneity.

SINGLE VS MULTI-TUBE HUMIDIFIERS

A single-tube humidifier is the most economically viable solution if a single injection tube respects the humidification load and the higher absorption distance (generally associated with single-tube humidifiers) is lower than the distance to any obstacle downstream – Consult Table 1 and Table 2.
If on the other hand, the available distance is insufficient to accommodate the necessary absorption distance of a single-tube solution or when duct height is significant then a multi-tube humidifier should be selected. This solution will shorten the necessary absorption distance by up to 4 times as the increase in injection points will decrease flow velocity and also promote an homogenous and efficient mixing – Consult Table 3 and Table 4.

TABLE 1 – INJECTION TUBE STEAM CAPACITY – SINGLE-TUBE (kg/h)

MODEL	C * (mm)	STEAM PRESSURE TO HUMIDIFIER SUPPLY CONNECTION (barg)															
		0,25	0,5	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,25	3,5	3,75	4
DSHS10	180 – 450	17	24	30	35	38	41	45	49	51	53	56	60	61	63	67	70
	451 – 650	21	31	38	43	46	50	55	61	64	67	71	75	77	79	83	87
	651 – 1000	32	46	55	64	70	76	83	90	94	99	105	111	114	117	123	128
	≥ 1001	43	63	74	86	94	103	112	121	127	133	141	149	153	157	165	173
DSHS25	330 – 600	72	103	126	145	159	173	188	204	214	226	237	251	257	266	279	291
	601 – 900	78	114	138	158	172	187	204	221	232	248	261	274	280	288	303	319
	901 – 1250	95	139	168	192	212	232	253	273	286	301	316	332	339	349	368	386
	≥ 1251	114	166	200	230	252	275	299	324	341	359	377	397	–	–	–	–

* Tube insertion length (see dimensions table).

TABLE 2 – MAXIMUM RECOMMENDED DUCT HEIGHT FOR SINGLE-TUBE HUMIDIFIER

INJECTION TUBE	DSHS10	DSHS25
DUCT HEIGHT	Up to 900 mm	Up to 1100 mm

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IS DSHS.020 E 02.22

HOW TO SIZE

Example 1 – Single-tube humidifier

Installation position: Inside a horizontal air duct with 2000 mm of available downstream distance without obstacles.
Duct size (H x W): 500 x 800 mm
Maximum humidification load: 100 kg/h @ 1 barg

Step 1: Select the injection tube model

A single-tube humidifier is appropriate for the required absorption distance (see Note).

According to Table 1 a single DSHS25 injection tube respects the maximum humidification load as it ensures 158 kg/h for an insertion length between 601 and 900 mm.

Step 2: Select the humidity separator

The humidity separator should be of the same size as the pipeline upstream which has previously been sized accordingly, e.g. by pressure drop or velocity, not exceeding 25 m/s (recommended).
For the current example, with a maximum humidification load of 100 kg/h @ 1 barg, the recommended pipe size is 11/4" and so the appropriate humidity separator is a 11/4" ADCAPure S10HV.

Step 3: Select the control valve and actuator

After calculating the required Kv for the application one can find the valve Kvs on the respective ADCAPure control valve datasheet. For the current example, the selection could be e.g. a 11/2" ADCAPure V926H with a 25 mm seat and Kvs of 10 m³/h to suit the application. The valve can be fitted with an ADCATrol ELF series electric fail-safe spring return actuator or a reverse action ADCATrol PA series pneumatic actuator.

Step 4: Steam traps, pressure reducing station and ancillaries

A suitable trapping set must be installed on the drain connection of the humidity separator and heating chamber. A pressure reducing station may be required in some situations to reduce system pressure to the desired value and different valves and ancillaries may also be necessary. Consult the manufacturer for further information.

TABLE 3 – INJECTION TUBE STEAM CAPACITY – MULTI-TUBE (kg/h)

MODEL	C * (mm)	STEAM PRESSURE TO HUMIDIFIER SUPPLY CONNECTION (barg)															
		0,25	0,5	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,25	3,5	3,75	4
DSHS10	180 – 1000	43	62	74	86	94	102	112	121	126	133	141	149	153	157	166	172
	≥ 1001	58	85	99	116	126	139	151	163	171	179	190	201	206	211	222	233
DSHS25	330 – 1250	128	187	226	259	286	313	341	368	386	406	426	448	457	471	496	521
	≥ 1251	153	224	270	310	340	371	403	437	460	484	508	535	562	589	617	645

* Tube insertion length (see dimensions table).

TABLE 4 – MINIMUM RECOMMENDED NUMBER OF INJECTION TUBES FOR MULTI-TUBE HUMIDIFIER

DUCT HEIGHT	Up to 1500 mm	1501 – 2000 mm	2001 – 2500 mm	above 2501 mm
Nº OF TUBES	2	3	4	5 or more

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Example 2 – Multi-tube humidifier

Installation position: Inside a AHU with 500 mm downstream distance to fan entry
AHU size (H x W): 1600 x 1600 mm
Maximum humidification load: 180 kg/h @ 1,5 barg

Step 1: Select the injection tube model and quantity

A multi-tube humidifier is recommended in order to ensure complete steam absorption before reaching the fan entry (see Note).
According to table Table 4 a total of three injection tubes are recommended for a AHU height of 1600 mm. Their nominal size can then be selected according to Table 3. In this case, a set of three DSHS25 will ensure 371 kg/h for an insertion length ≥ 1251 mm.

Step 2: Select the humidity separator

The humidity separator should be of the same size as the pipeline upstream which has previously been sized accordingly, e.g. by pressure drop or velocity, not exceeding 25 m/s (recommended).
For the current example, with a maximum humidification load of 180 kg/h @ 1.5 barg, the recommended pipe size is 11/2" and so the appropriate humidity separator is a 11/2" ADCAPure S10HV.

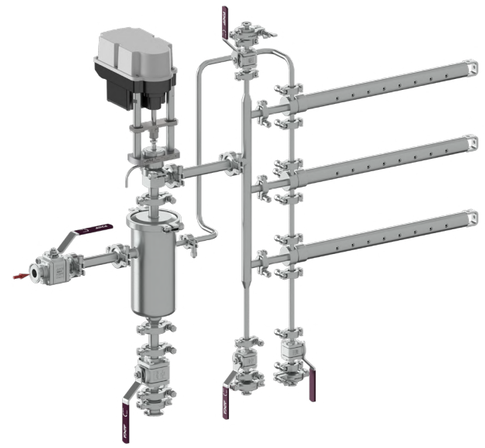
Step 3: Select the control valve and actuator

After calculating the required Kv for the application one can find the valve Kvs on the respective ADCAPure control valve datasheet. For the current example, the selection could be e.g. a 11/2" ADCAPure V926H with a Kvs of 16 m³/h to suit the application. The valve can be fitted with an ADCATrol ELF series electric fail-safe spring return actuator or a reverse action ADCATrol PA series pneumatic actuator.

Step 4: Steam traps, pressure reducing station and ancillaries

A suitable trapping set must be installed on the drain connection of the humidity separator and one or multiple steam traps must also be installed to drain the heating chambers and manifold if any. A pressure reducing station may be required in some situations to reduce system pressure to the desired value and different valves and ancillaries may also be necessary. Consult the manufacturer for further information.

Note: For information on ADCAPure DSHS absorption distances consult the manufacturer. Required information: Inlet air temperature (ºC), inlet relative humidity (%), outlet relative humidity (%), injection steam pressure (barg), maximum humidification load (kg/h), duct/AHU dimensions (H x W in mm).



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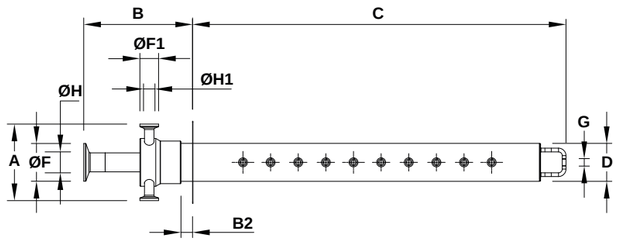
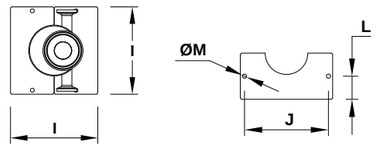
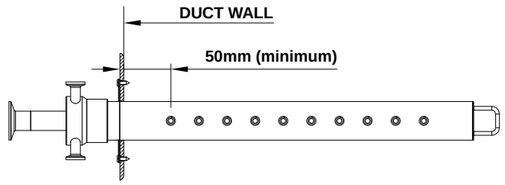
IS DSHS.020 E 02.22

INJECTION TUBES





Cover plates



CE MARKING – GROUP 2 (PED – European Directive)	
PN 6	**Category**
3/4" x 1/2" and 1" x 1/2"	SEP

LIMITING CONDITIONS	
Maximum operating pressure	4 bar
Maximum operating temperature	152 ºC

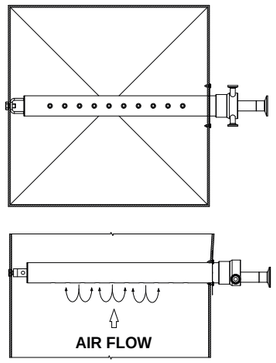
DIMENSIONS (mm)

MODEL	A	B	B1	B2 *	C ** Min. - Max.	D	E	ØF	ØF1	G	ØG1	ØH	ØH1	I	J	L	ØM	WGT. (kg)
DSHS10	91	147,5	85	20	180 - 3100	38	3,1	25	25	M10	8,5	15,75	9,4	100	90	25	5	***
DSHS25	102,5	145,7	87,7	15,5	330 - 3100	50	4,9	50,5	25	M10	8,5	22,1	9,4	110	100	25,5	5	

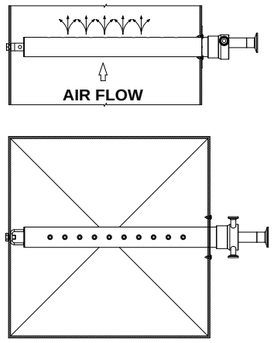
* When thermal insulation is present, this dimension must be increased accordingly.
** Tube insertion length to be defined according to customer requirements (e.g. duct width).
*** To be confirmed after exact length is defined.

STEAM EMISSION DIRECTION

Steam injection should be against the air flow. In vertical air flow applications, steam should be injected upwards, regardless of the air flow direction.



(plan view)
Horizontal duct



(plan view)
Vertical duct

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ORDERING CODES DSHS

Model	DHS	10	XXXX	XX	A	X	X	A	15	
DSHS – AISI 316L / 1.4404 hygienic injection tube	**DHS**									
Type										
10		**10**								
25		**25**								
Insertion length (mm)										
Specify dimension “C”			**XXXX**							
Options										
None				**XX**						
“B2” increased by 30 mm to accommodate thermal insulation thickness.				**I3**						
Pipe connection (d1)										
Clamp ferrule ASME BPE					**D**					
Surface finish a)										
Standard surface finish						**X**				
Mirror mechanical polished external surfaces (SF1)						**P**				
Electropolished internal wetted parts (SF5)						**E**				
Special features										
None							**X**			
Pipe connection (d2)										
Clamp ferrule ASME BPE								**D**		
Size (d1 x d2)										
3/4" x 1/2"									**20**	
1" x 1/2"									**25**	
Special construction / Additional options										
A full description must to be provided and validated in case of a non-standard construction.										**E**

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

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SAMPLE COOLERS
SC32P

DESCRIPTION

The ADCAPure SC32P sample coolers consist in a helical-coil heat exchanger used to take samples quickly and safely from steam generators, clean or pure steam systems, WFI, and other high purity mediums. Its spiral design saves significant space without compromise and a counter current flow path maximizes heat transfer and consequently cooling efficiency. The vertical sampling side ensures self drainability, as medium flows naturally by gravity to the sample outlet with no chance to remain inside.
The device is available with integrated mounting brackets for fixed installation at the point of use or alternatively in a portable version (suffix PP) to carry along to any sampling point within the system.

MAIN FEATURES

Fully manufactured from corrosion-resistant 316L stainless steel.
Compact and efficient.
Self-drainable design eliminates possibility of sample retention.
Integrated mounting bracket and alternative portable version.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

USE: Steam, WFI, and other liquids and condensable gases compatible with the construction.

AVAILABLE MODELS: SC32P – fixed installation version.
SC32PP – portable version.

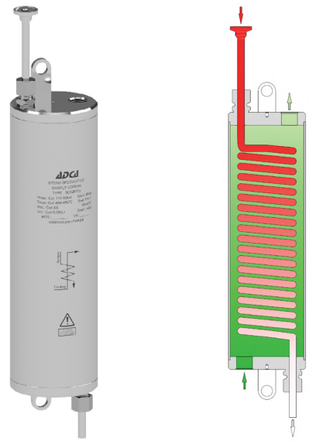
SIZES AND CONNECTIONS: Cooling water inlet/outlet: 1/2" on body (ISO 228 or NPT) or 3/4" ASME BPE clamp ferrules.
Sample tube inlet/outlet: 8 mm O/D or 1/2" ASME BPE clamp ferrules.

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.

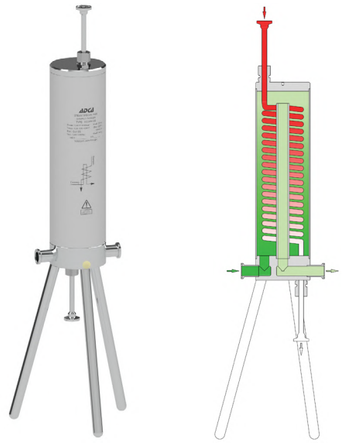
INSTALLATION: Vertical installation. See IMI – Installation and maintenance instructions.

OPERATION: Cooling water must be at its maximum flow before opening or closing the sample inlet valve, in order to avoid scalding.
Sample valve must also be closed before opening the cooling water valve.
Sample coil should always be completely immersed in water.

PERFORMANCE: 30 to 60 kg/h of sample water at ≈ 30 ºC with 1 m³/h – 15 ºC inlet cooling water (boilers up to 20 bar – 220 ºC). For other pressures, temperatures and/or certified values, consult the manufacturer.



SC32P



SC32PP

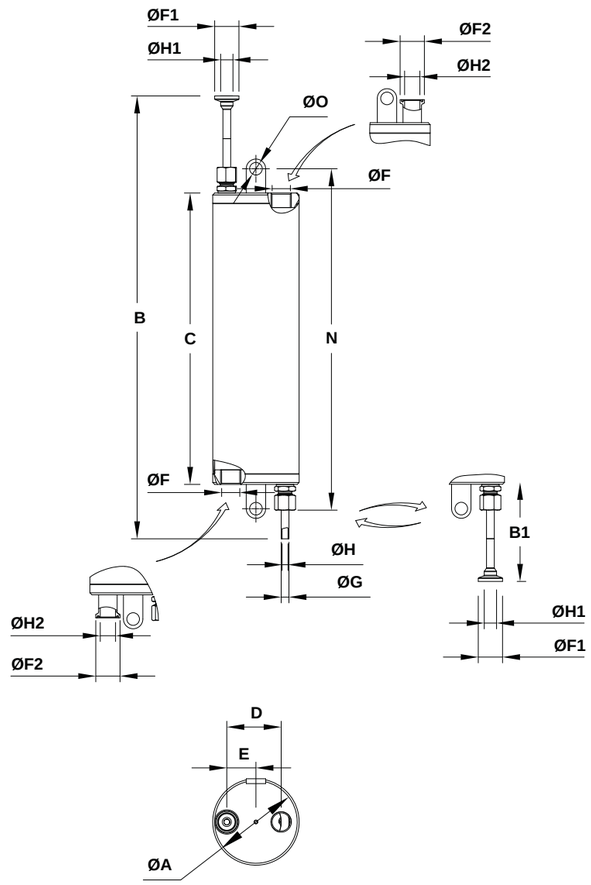
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PS 20 bar	**CATEGORY**
All sizes	SEP

MATERIALS	
DESIGNATION	**MATERIAL**
Body	AISI 316L / 1.4404
Cover	AISI 316L / 1.4404
Coil *	AISI 316L / 1.4404; AISI 316L / 1.4435
Compression fitting	AISI 316Ti / 1.4571
Discharge tube	AISI 316L / 1.4404

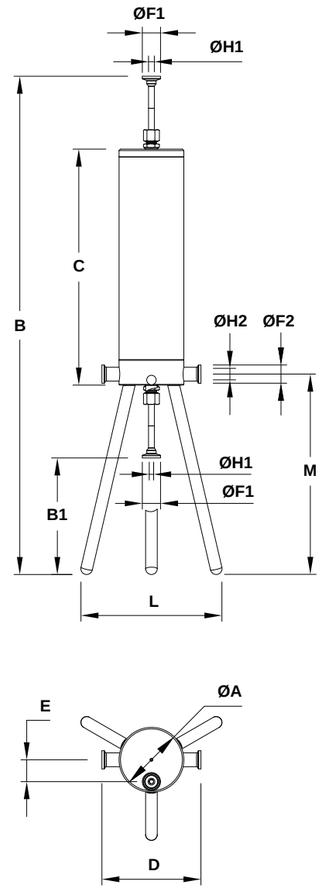
* EN 10204 3.1 certificate and internal surface finish certification available if requested with the order.

LIMITING CONDITIONS *				
MODEL	**BODY**		**COIL**	
	ALLOW. PRESS.	**RELATED TEMP.**	**ALLOW. PRESS. ***	**RELATED TEMP. ***
SC32P SC32PP	20 bar	120 ºC	110 bar	400 ºC
			90 bar	450 ºC

Minimum operating temperature: -10 ºC.
* Other limits on request. Maximum operating conditions may be limited by the equipment end connections due to normative restrictions.



SC32P



SC32PP

DIMENSIONS (mm)																	
MODEL	**ØA**	**B**	**B1**	**C**	**D**	**E**	**ØF ****	**ØF1**	**ØF2**	**G**	**H**	**ØH1**	**ØH2**	**L**	**M**	**N**	**ØO**	**WGT. (kg)**
SC32P	90	456	500	300	26	30	1/2"	25	25	8	6	6	15,75	–	–	350	13	3,3
SC32PP	90	684	160	324	136	30	1/2"	25	25	–	–	6	15,75	194	275 *	–	–	5,9

* Extended legs on request. ** Valid for units with threaded cooling water connections. Can be threaded ISO 228 or NPT.

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IS SC32P.015 E 12.14

ORDERING CODES SC32P							
MODEL	**SC32PX**	**X**	**X**	**X**	**HH08**	**AX15**	
SC32P – Sample cooler, fixed installation version	**SC32PX**						
SC32PP – Sample cooler, portable version	**SC32PP**						
MATERIAL							
AISI 316L / 1.4404		**X**					
Body in AISI 316L / 1.4404 and coil in AISI 316L / 1.4435		**G**					
SURFACE FINISH (a)							
Standard surface finish			**X**				
Mirror mechanical polished external surfaces (SF1)			**P**				
Electropolished sample side wetted parts (SF4) **(b)**			**Q**				
SPECIAL FEATURES							
None				**X**			
SAMPLE SIDE PIPE CONNECTIONS							
8 mm O/D inlet and outlet					**HH08**		
1/2" clamp ferrule ASME BPE inlet and 8 mm O/D outlet					**DH15**		
1/2" clamp ferrule ASME BPE					**DD15**		
COOLING WATER SIDE PIPE CONNECTIONS							
1/2" female threaded ISO 228						**AX15**	
1/2" female threaded NPT ASME B1.20.1						**CX15**	
3/4" clamp ferrule ASME BPE						**DX20**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS							
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.
(b) Only available with coil in AISI 316L / 1.4435.

HYGIENIC SAMPLING VALVES
HSV

DESCRIPTION

The ADCAPure HSV is a series of hygienic sampling valves designed for use in high purity steam, WFI, pure water, and other systems for means of sampling.
These valves may also be used in other pharmaceutical applications where a hygienic design self-drainable manual valve is required.

MAIN FEATURES

Compact self drainable design.
Fully autoclavable.
Fine stem thread for precise flow regulation.
Easily replaceable FDA / USP Class VI compliant seals.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,51 µm Ra – SF1.
External: ≤ 0,76 µm Ra – SF3.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

OPTIONS: Low ferrite stainless steel, C22, and other alloys. Other constructions on request.

USE: Clean steam, pure water, gases, and liquids compatible with the construction.

AVAILABLE MODELS: HSV

SIZES: 1/2" x 1/2"; 1" x 1/2"

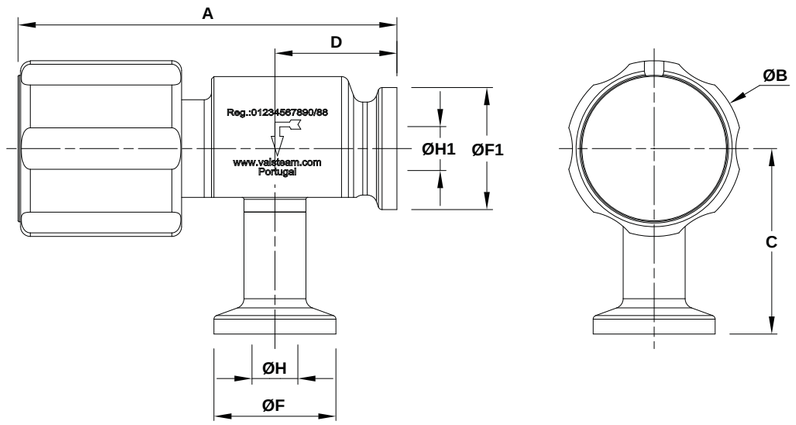
CONNECTIONS: ASME BPE clamp ferrules. Others on request.

INSTALLATION: With the handle at the top or side.
See IMI - Installation and maintenance instructions.

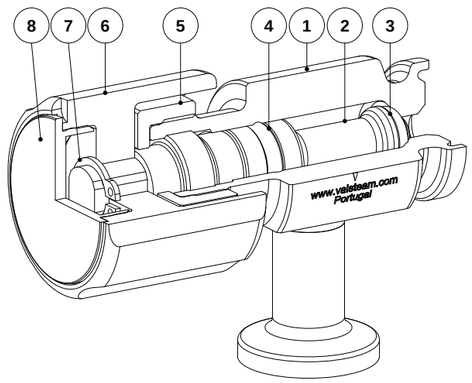
CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN10	**CATEGORY**
All sizes	SEP

LIMITING CONDITIONS *	
Maximum operating pressure	10 bar
Maximum operating temperature **	180 ºC
Minimum operating temperature	-10 ºC

* 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.



DIMENSIONS (mm)									
SIZE	A	ØB	C	D	ØF	ØF1	ØH	ØH1	WEIGHT (kg)
1/2" X 1/2"	81	36	38	25	25	25	9,4	9,4	0,3
1" X 1/2"	81	36	45	25	25	50,5	9,4	22,1	0,4



MATERIALS		
POS. No.	DESIGNATION	MATERIAL
1	Valve body	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4602
2	Valve stem	** AISI 316L / 1.4404; AISI 316L / 1.4435; Alloy C22 / 2.4602
3	* Valve seal	** EPDM; FFKM
4	* O-ring	** EPDM; FFKM
5	Locking nut	AISI 316L / 1.4404
6	Handwheel	POM-C
7	Circlip	Stainless steel
8	Cover nut	Nylon

* 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.

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ORDERING CODES HSV											
VALVE MODEL	HSV	1	X	E	X	X	D	15	D	15	
HSV – Hygienic sampling valve	HSV										
VALVE SERIES											
Series 1		1									
MATERIAL											
AISI 316L / 1.4404			X								
AISI 316L / 1.4435			I								
Alloy C22 / 2.4602			H								
VALVE SEALING											
EPDM - Tmax 150 ºC (180 ºC with steam and hot water)				E							
FFKM				K							
SURFACE FINISH (a)											
Standard surface finish					X						
Mirror mechanical polished external parts (SF1)					P						
Electropolished internal wetted parts (SF5)					E						
SPECIAL FEATURES											
None						X					
INLET PIPE CONNECTION											
Clamp ferrule ASME BPE							D				
INLET SIZE											
1/2"								15			
1"								25			
OUTLET PIPE CONNECTIONS											
Clamp ferrule ASME BPE									D		
OUTLET SIZE											
1/2"										15	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS											
Full description or additional codes must be added in case of a non-standard combination											E

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

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IS HSV.015 E 01.25

CLEAN STEAM INJECTORS
SSI115

DESCRIPTION

The ADCAPure SSI115 is a direct steam injector completely manufactured from 316L stainless steel. It is designed for rapid heating of still or flowing media, inside tanks and mixers and is particularly suitable for application in the food and beverage industry.
Steam enters through the inlet connection, passes along the center of the device and mixes with the cool medium, which is drawn in through radial holes.

MAIN FEATURES

Quiet operation.
Completely machined from 316L stainless steel.

STANDARD SURFACE FINISH

All surfaces: ≤ 0,51 µm Ra – SF1.
Other surface conditions see TIS.GIA – General information ADCAPure.
Ultrasonic cleaning.

USE: Heating via direct injection of culinary or clean steam.

AVAILABLE MODELS: SSI115.

SIZES: DN 15 x 50.

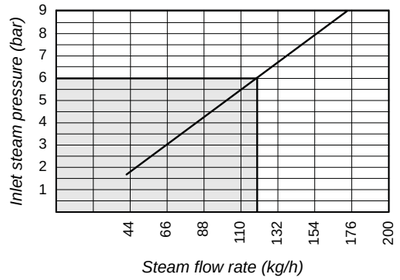
CONNECTIONS: DIN 32676-A clamp ferrules.
Others on request.

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 is recommended.
See IMI – Installation and maintenance instructions.

MATERIAL: AISI 316L / 1.4404.

CAPACITY CHART

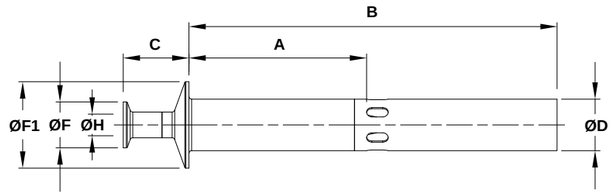


Remark: Selection under shadow area is recommended. Capacities shown are valid for vessels which are vented to atmosphere.

CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
DN 15 x 50	SEP

LIMITING CONDITIONS *	
Maximum operating steam pressure	9 bar @ 180 °C
Max. recommended steam pressure	6 bar
Minimum operating pressure	0,5 bar
Maximum operating temperature **	90 °C

* Other limits on request. Maximum operating conditions may be limited by the equipment end connections due to normative restrictions.
** With vessel vented to atmosphere.



DIMENSIONS (mm)								
SIZE	**A**	**B**	**C**	**ØD**	**ØF**	**ØF1**	**ØH**	**WEIGHT (kg)**
DN 15 x 50	131	273	49	38,1	34	16	64	1,5

ORDERING CODES SSI115

MODEL	SSI115	X	X	X	FX	15	
SSI115 – Clean steam injector	**SSI115**						
MATERIAL							
AISI 316L / 1.4404		**X**					
SURFACE FINISH (a)							
Standard surface finish			**X**				
Mirror mechanical polished external surfaces (SF1)			**P**				
Electropolished internal wetted parts (SF5)			**E**				
Electropolished internal wetted parts (SF4)			**Q**				
SPECIAL FEATURES							
None				**X**			
PIPE CONNECTIONS							
Clamp ferrule DIN (DIN 32676-A)					**FX**		
SIZE							
DN 15 x 50						**15**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS							
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.

VALSTEAM ADCA
We reserve the right to change the design and material of this product without notice.
IS SSI115.015 E 01.23

MUSHROOM STYLE AIR VENTS
MSAV

DESCRIPTION

The ADCAPure MSAV series of mushroom style air vents are used in atmospheric tanks to prevent contamination from foreign matter via the vent connection. The device is fully manufactured from 316L stainless steel with a rounded mushroom cover, perforated barrier and clamped connections.

MAIN FEATURES

Complete 316L stainless steel construction.

STANDARD SURFACE FINISH

Internal wetted parts: ≤ 0,76 µm Ra – SF3.
External: Satin bead blast finish – 1,6 µm Ra.
Other surface conditions see TIS.GIA – General information ADCAPure.

USE: Contamination prevention in atmospheric tanks and others.

AVAILABLE MODELS: MSAV.

SIZES: 11/2" to 6"; DN 40 to DN 150.

CONNECTIONS: ASME BPE and DIN 32676-A clamp ferrules. 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.

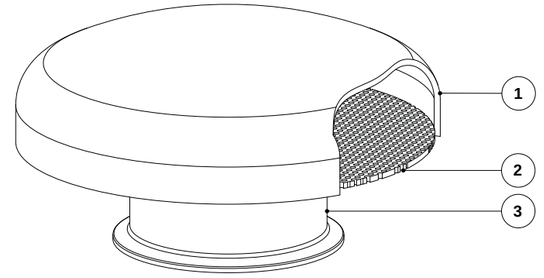
INSTALLATION: Vertical installation.

MATERIAL: AISI 316L / 1.4404.

CE MARKING – GROUP 2 (PED – EUROPEAN DIRECTIVE)	
PN 10	**CATEGORY**
11/2" to 6" – DN 40 to 150	SEP

LIMITING CONDITIONS *	
Maximum operating pressure	0,5 bar
Maximum operating temperature	180 ºC

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



MATERIALS		
POS. No.	**DESIGNATION**	**MATERIAL**
1	Cover	AISI 316L / 1.4404
2	Perforated plate	AISI 316L / 1.4404
3	Body	AISI 316L / 1.4404

ORDERING CODES MSAV							
MODEL	**MSAV**	**X**	**X**	**X**	**DX**	**040**	
MSAV – Mushroom style air vent	**MSAV**						
MATERIAL							
AISI 316L / 1.4404		**X**					
SURFACE FINISH (a)							
Standard surface finish			**X**				
SPECIAL FEATURES							
None				**X**			
PIPE CONNECTIONS							
Clamp ferrule ASME BPE					**DX**		
Clamp ferrule DIN (DIN 32676-A)					**FX**		
SIZE							
11/2" or DN 40						**040**	
2" or DN 50						**050**	
21/2" or DN 65						**065**	
3" or DN 80						**080**	
4" or DN 100						**100**	
5" or DN 125						**125**	
6" or DN 150						**150**	
SPECIAL CONSTRUCTION / ADDITIONAL OPTIONS							
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.

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IS MSAV.040 E 01.23

$$Kv = Q1\sqrt{\frac{d1}{Dp \times 1000}}$$

$$P2 < \frac{P1}{2}$$

$$Kv = \frac{Q2}{2,4\ \sqrt{Dp \times P2}}$$

$$Kv = \frac{Q3}{257 \times P1}\sqrt{d2 \times T}$$

$$Kv = Q2\sqrt{\frac{d3}{Dp \times 587}}$$

$$T(^{o}F) = (2,4 \times T(^{o}C)) + 25$$

N.m3/h (0 ºC – 1013 mbar)

$$Kv = \frac{Q1}{195 \times P1}\sqrt{d1 \times T}$$

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Technical Information

CALCULATION OF Kv FLOW COEFFICIENTS

Sizing of control valves and pressure regulators can be performed through calculation of flow coefficient, analysis of flow characteristic curves, nomographs or other empirical methods. The IEC 60534-2-1 is typically used for such tasks, most commonly for control valve sizing.

This section provides a simplified method for sizing which is based on the valve flow coefficient. This method is sufficiently accurate for most simple industrial applications.

In cases where:

- Flow rate and/or upstream pressure varies significantly - high turndown ratios.
- Safety valve set pressure is too close to PRV set pressure.
- Critical applications where events such as high noise emissions, erosion, cavitation or flashing may occur.

Contact our technical department for selection using our software.

Kv: Flow rate coefficient which represents the quantity of water, expressed in m^3 at a temperature between 5 and 40 °C, that flows through the valve at a specified travel H with a differential pressure of 1 bar, in a one-hour period. Unit is m3/h.

Cv: Flow rate coefficient, similar to Kv, but in imperial units. The relationship is given by Kv = 0,865 · Cv. Unit is gpm.

Kvs: Flow coefficient Kv value of the valve at rated stroke H_{100}. This value is indicated and published on the valve Information sheet (IS). Unit is m3/h.

Kv_{100}: Actual Kv flow coefficient of the valve at rated stroke H_{100}. This value may deviate ±10 % from the indicated Kvs.

PRESSURE DROP	MEDIUM		
	LIQUIDS	SATURATED STEAM	GASES
$p_2 > \frac{p_1}{2}$	$Kv = \dot{V}_L \sqrt{\frac{\rho_L}{\Delta p \cdot 1000}}$	$Kv = \frac{\dot{m}_s}{22{,}4 \cdot \sqrt{\Delta p \cdot p_2}}$	$Kv = \frac{\dot{V}_G}{514} \sqrt{\frac{\rho_G \cdot T}{\Delta p \cdot p_2}}$
$p_2 < \frac{p_1}{2}$		$Kv = \frac{\dot{m}_s}{11{,}2 \cdot p_1}$	$Kv = \frac{\dot{V}_G}{257 \cdot p_1} \sqrt{\rho_G \cdot T}$

Kv – Flow coefficient [m^3/h]
p_1 – Upstream absolute pressure [bar]
p_2 – Downstream absolute pressure [bar]
Δp – Pressure drop (p1-p2) [bar]
$\dot{V}_L$ – Volumetric flow rate of liquid [m^3/h]
$\dot{V}_G$ – Volumetric flow rate of gas at 0 °C and 1013 mbar [Nm^3/h]
$\dot{m}_s$ – Mass flow rate of steam [kg/h]
ρ_L – Density of liquid [kg/m^3]
ρ_G – Density of gas [kg/m^3]
T – Absolute temperature (T = 273 + t [°C]) [K]

The formulas shown in the previous table allow Kv calculation in accordance with the type of fluid and its operating conditions. The valve Kvs can be retrieved from its respective Information sheet (IS).

Control valves: If realistic operating conditions have been considered, as a rule, the calculated Kv should be around 70% to 80% of the selected valve Kvs, hence Kvs ≥ 1,3 · Kv.

Pressure regulators: In theory the ideal pressure regulator working range is between 10% to 70% of its rated Kvs value. Thus, if realistic operating conditions have been considered the calculated Kv should be at a maximum of 70% of the selected regulator's Kvs, hence Kvs ≥ 1,3 · Kv.

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CONTROL VALVE SEAT LEAKAGE

SEAT LEAKAGE RATES		
VALVE SEALING	LEAKAGE CLASS ACC. TO IEC 60534-4	MAXIMUM SEAT LEAKAGE
Metal to metal *	III	≤ 0,1% of Kvs
Metal to metal Pressure balanced trim	IV	≤ 0,01% of Kvs
Metal to metal (lapped)	V	$1{,}8 \cdot 10^{-5} \cdot \Delta p \cdot D$ (l/h) $10{,}8 \cdot 10^{-6} \cdot D$ (Nm^3/h)
Soft sealing	VI	$0{,}3 \cdot \Delta p \cdot f_L$

D – seat diameter in mm. **Δp** – differential pressure in bar. **f_L** – leakage rate factor. Refer to Table 3 in IEC 60534-4 section 5.5 for further details.
***** Uncommon.

PIPE SIZING AND FLOW VELOCITY

Pipelines should be calculated considering flowrates and pressure drops, and various known methodologies are known and may be used for this purpose. To simplify and especially in cases where pipe lengths are small, sizing can be performed based exclusively on flow and velocity.

The values shown in the following table refer to recommended flow velocities in accordance with the type of fluid.

RECOMMENDED FLOW VELOCITIES [m/s]	
Flash and exhaust steam	15 to 25
Saturated steam	20 to 30
Superheated steam	35 to 65
Feedwater suction	0,5 to 1
Feedwater pressure	1,5 to 3,5
Drinking and service water	1 to 2
Compressed air and most other gases	15 to 20

The pipe inner diameter D in mm is given by

$$D = 18{,}8 \sqrt{\frac{\dot{V}}{u}}$$

where $\dot{V}$ is the volumetric flow rate in m^3/h and u is the pipe flow velocity in m/s.

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TIS.GIA E 01.23

ADCAPURE STAINLESS STEELS AND SPECIAL ALLOYS

The raw stainless steels and special alloys used in ADCAPure products are acquired according to the ASME BPE specifications and comply with the relevant standards.

Internally, these materials are subject to a strict quality control that involves, not only documentation and dimensions verification, but also, spectrographic chemical composition analysis in our facilities.

All materials are internally traceable, by means of quality system procedures.

STAINLESS STEELS AND SPECIAL ALLOYS *		
MATERIAL	**STANDARD**	**CHARACTERISTICS**
AISI304 (1.4301)	ASTM A276	Applied only to non-wetted parts.
AISI316L (1.4404)	ASTM A276	Intercrystalline corrosion resistant according to ISO 3651-2 Method A and ASTM A262 Practice E.
AISI316L (1.4435)	ASTM A276	Improved corrosion resistance compared to other CrNi steels due to its increased content of molybdenum.
AISI316Ti (1.4571)	ASTM A276	Intercrystalline corrosion resistant according to ISO 3651-2 Method A and ASTM A262 Practice E.
HASTELLOY® C22 (2.4602)	ASTM B574	Resistance to both oxidizing and non-oxidizing chemicals, protection from corrosion, pitting, crevice attack and stress corrosion cracking.
CF3M (1.4409)	ASTM A351	Ferrite content of less than 2% and low sulphur between 0,005% and 0,017%.

* For other high corrosion resistance steels, please consult factory.

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ADCAPURE NON-METALLIC MATERIALS

It is crucial that non-metallic parts are selected to maintain the purity and integrity of the process fluid.

In order to achieve this, they should be compatible with stated process conditions, cleaning solutions and sterilization conditions, defined by the customer.

The following table features an overview of the non-metallic materials applied in the ADCAPure range and their respective approvals.

WETTED NON-METALLIC MATERIALS		
MATERIAL	**STANDARD APPROVALS**	**ON REQUEST**
GYLON® (modified PTFE)	FDA 21CFR177.1550 USP Class VI Ch. 87 & 88 USP Ch. 31, 281 & 661 EC1935/2004 EC2023/2006 ADI Free BAM NSF ROHS	3A Sanitary
EPDM	FDA 21 CFR 177.2600 USP Class VI Ch. 87 and/or 88 EC1935/2004 3A Sanitary ADI Free	ACS BAM NSF ROHS WRAS
FPM (VITON®)	FDA 21 CFR 177.2600 EC1935/2004 ADI Free	USP Class VI Ch. 87 or 88 ACS 3A Sanitary BAM
PTFE	FDA 21CFR 177.1550 & 177.2600 USP Class VI Ch. 88 EC1935/2004 EC2023/2006 ADI Free BAM ROHS	3A Sanitary DVGW W270
EPM	FDA 21 CFR 177.2600 EC1935/2004 EC2023/2006 ADI Free	–
FEPM (Fluoraz®)	FDA 21 CFR 177.2400 & 177.2600 USP Class VI Ch. 87 & 88 EC1935/2004 3A Sanitary ADI Free	–
FFKM (Kalrez®)	FDA 21CFR 177.2600 USP Class VI Ch. 87 & 88 EC1935/2004 EC2023/2006 3A Sanitary ADI Free	–
FEP/Silicone	FDA 21 CFR 177.1550 & 177.2600 USP Class VI Ch. 87 & 88 EC1935/2004 ADI Free 3A Sanitary ROHS	–
VMQ (Silicone)	FDA 21 CFR 177.2600 ADI Free BPE Free	–

ADCAPURE SURFACE FINISH

The surface quality, especially the area in contact with the fluid, greatly influences the cleanability of the equipment. All the products from the ADCAPure range are supplied with a standard internal surface finish that allows an efficient cleanability. Apart from the standard conditions, several combinations of roughnesses can be provided both internally and externally, for optimized performance according to customer requirements.

ASME BPE acceptance criteria are applied and achieved by internally controlled procedures, which in term apply visual inspection and carefull roughness measurements.

All metallic parts are produced on the factory with dedicated high end, high precision machines with tool wear control. This allows guaranteed controlled surface conditions directly from the machine.

Explanation of surface finishes

- Fine machining: Obtained with high performance turning and milling machines.
- Mechanical polishing: Polished surface, not necessary with a shiny finish.
- Electropolishing: Satin surface finish typical from electropolishing process.
- Mirror: Shiny "mirror like" finish obtained by mechanical polishing.
- As casted: Standard raw finish of a casted part.
- Satin bead blast: Obtained by sand blasting process, applicable as standard to parts such as pneumatic actuator covers, external surfaces of humidity separators and culinary filters.

SURFACE FINISH OPTIONS

Ra Max. [µm]	Ra Max. [µin]	MECHANICAL POLISHED *		ELECTROPOLISHED	
		ASME BPE SURFACE DESIGNATION	DIN 11866 HYGIENE CLASS	ASME BPE SURFACE DESIGNATION	DIN 11866 HYGIENE CLASS
0,25	10	-	H5	-	HE5
0,38	15	-	H4	SF4	HE4
0,51	20	SF1	-	SF5	-
0,64	25	SF2	-	SF6	-
0,76	30	SF3	-	-	HE3

* Or any other finishing method that meets the specified Ra values (according to ASME BPE).

SURFACE FINISH COMBINATIONS [a]

INTERNAL WETTED PARTS [b]	EXTERNAL SURFACES		ORDERING CODE LETTER [c]
	BAR STOCK	INVESTMENT CASTING	
SF1	SF3	"As casted"	**X**
	SF1	–	**C**
	SF1 incl. mirror finish	–	**D**
H4	SF3	"As casted"	**G**
	SF1	–	**I**
	SF1 incl. mirror finish	–	**J**
H5	SF3	"As casted"	**L**
	SF1	–	**N**
	SF1 incl. mirror finish	–	**O**
SF4	HE3	"As casted"	**Q**
	SF5	–	**S**
SF5	HE3	"As casted"	**E**
	SF5	–	**V**

a) In case of discrepancy, the information on the product Information sheet (IS) shall prevail. Other surface finishes and combinations on request.
b) Not applicable to regulating elements. Consult for certified roughness values.
c) The letter should be placed on the "Surface finish" field of the product ordering code. Refer to the product Information sheet (IS). If the product IS does not include a ordering code table, the required surface finish combination should be indicated in writing, in case it defers from the standard one.

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ADCAPURE WELDING

The design of equipment which is part of the ADCAPure range is in accordance with the latest specifications of ASME BPE and EHDGE standards and guidelines. The welding procedures are performed by approved welders and according to welding specifications. The process is done manually or via mechanized and orbital machines in strictly controlled environment to avoid any contamination with external particles.

The welding is subject to a detailed visual inspection according to ASME BPE to guarantee its conformity with high demanding industries.

FROM CLEANING TO PACKING

After welding and surface finishing operations, the parts enter a certified clean room, to start the process of cleaning and passivation. A fully automatic ultra-sound cleaning machine allows efficient control of the cleaning procedure in all surfaces.

It is also possible to prepare the product parts for oxygen applications, by performing additional degreasing processes.

The parts follow to an ISO 14644 certified clean room, where they are assembled by trained personnel, according to internal procedures. In the final stage, still inside the clean room, and after all the necessary testing and quality verifications, the products are end capped and vacuum sealed with recyclable plastic film to avoid contamination.

ADCAPURE CERTIFICATES

Our quality system is certified by ISO 9001:2015 and guarantees the control of all the processes involved in the project, manufacturing and supply of our products. Various certificates and declarations can be supplied to attest the conformity of the products.

CERTIFICATES

TYPE	INFORMATION
CE Conformity declaration	According to directive 2014/68/EU (PED)
ADCAPure specific inspection certificate	Include chemical composition, final testing records, elastomer specifications and approvals, surface finish report.
Hydrostatic test report	According to directive 2014/68/EU (PED)
Pneumatic test report	According to EN12266-1
Degreasing report	Includes treatment information
Ultra-sound cleaning report	Includes treatment information

VALSTEAM ADCA
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TIS.GIA E 01.23

MASS FLOW RATES OF SATURATED STEAM IN PIPES ACC. TO DIN 2448

p_m [bar]	u [m/s]	FLOW RATE [kg/h]													
		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	DN 250	DN 300
0,4	15	10	17	28	48	64	103	171	236	397	600	878	1476	2346	3319
	25	17	29	47	80	107	171	285	393	662	1000	1464	2459	3911	5532
	40	28	46	75	128	171	274	456	628	1058	1601	2342	3935	6257	8851
0,6	15	12	20	33	56	76	121	202	278	468	708	1036	1741	2769	3917
	25	20	34	55	94	126	202	336	463	781	1181	1727	2902	4615	6528
	40	33	54	89	151	202	324	538	741	1249	1889	2764	4644	7384	10445
0,8	15	13	22	35	60	81	130	216	297	501	757	1108	1862	2960	4187
	25	22	36	59	101	135	216	360	495	835	1262	1846	3103	4934	6979
	40	35	58	95	161	216	346	575	792	1335	2019	2954	4964	7894	11166
1	15	14	24	39	67	89	143	238	327	552	835	1221	2052	3263	4615
	25	24	40	65	111	149	238	396	546	920	1391	2035	3420	5438	7692
	40	38	64	104	178	238	381	634	873	1472	2226	3256	5471	8700	12307
1,5	15	18	29	48	82	110	176	293	404	681	1030	1507	2532	4026	5694
	25	30	49	80	137	184	294	489	673	1135	1716	2511	4219	6710	9491
	40	47	79	129	219	294	470	783	1078/	1816	2746	4018	6751	10735	15185
2	15	21	35	57	97	131	209	347	478	806	1219	1784	2998	4767	6743
	25	35	58	95	162	218	348	579	797	1344	2032	2973	4996	7945	11238
	40	56	93	152	259	348	557	927	1276	2150	3252	4757	7994	12711	17980
2,5	15	24	40	66	112	151	241	401	553	931	1409	2061	3463	5506	7789
	25	41	67	110	187	251	402	669	921	1552	2348	3435	5771	9177	12982
	40	65	108	176	300	402	643	1070	1474	2484	3756	5495	9234	14684	20770
3	15	28	46	75	127	171	273	454	626	1055	1595	2333	3921	6235	8820
	25	46	76	125	212	285	455	757	1043	1758	2658	3889	6535	10392	14699
	40	73	122	199	339	455	728	1212	1669	2813	4253	6223	10456	16627	23519
4	15	34	56	92	157	211	337	560	771	1300	1966	2876	4833	7685	10871
	25	57	94	154	261	351	561	934	1286	2167	3277	4794	8055	12809	18119
	40	90	150	246	418	561	898	1494	2057	3467	5243	7670	12888	20495	28990
5	15	40	67	109	186	250	400	665	916	1544	2334	3415	5738	9125	12907
	25	67	111	182	310	417	666	1109	1527	2573	3890	5692	9564	15208	21512
	40	107	178	292	496	667	1066	1774	2443	4116	6224	9107	15302	24333	34420
6	15	47	77	127	216	289	463	770	1061	1788	2703	3955	6646	10568	14948
	25	78	129	211	359	482	772	1284	1768	2979	4505	6592	11076	17613	24913
	40	124	206	338	575	772	1235	2054	2829	4767	7208	10546	17722	28180	39861
7	15	53	88	144	244	328	525	873	1202	2026	3064	4482	7532	11977	16941
	25	88	146	239	407	547	875	1455	2004	3377	5106	7470	12553	19961	28235
	40	141	234	383	652	875	1399	2328	3206	5402	8170	11953	20084	31937	45176
8	15	59	98	160	273	366	586	975	1342	2261	3420	5003	8407	13369	18911
	25	98	163	267	455	610	976	1624	2237	3769	5700	8339	14012	22282	31518
	40	157	261	427	727	977	1562	2599	3579	6031	9120	13342	22420	35651	50429
9	15	65	109	178	302	406	649	1080	1487	2506	3790	5545	9318	14816	20958
	25	109	181	296	504	676	1082	1800	2479	4177	6317	9242	15529	24694	34930
	40	174	289	474	806	1082	1731	2880	3966	6683	10107	14787	24847	39510	55888
10	15	72	119	195	331	445	711	1184	1630	2747	4154	6078	10212	16239	22971
	25	119	198	324	552	741	1186	1973	2717	4578/	6923	10129	17021	27066	38285
	40	191	317	519	884	1186	1897	3157	4347	7325	11077	16207	27233	43305	61255
12	15	84	139	228	388	521	834	1388	1911	3220	4869	7124	11971	19036	26926
	25	140	232	380	647	869	1390	2313	3185	5367	8115	11873	19951	31726	44877
	40	224	372	608	1036	1390	2224	3700	5095	8587	12985	18998	31922	50761	71803
14	15	96	160	261	444	596	954	1587	2186	3683	5570	8150	13694	21776	30802
	25	160	266	435	740	994	1590	2645	3643	6139	9284	13583	22823	36293	51336
	40	256	425	696	1185	1591	2544	4233	5829	9823	14854	21732	36517	58068	82138
16	15	108	180	294	501	673	1076	1791	2466	4156	6284	9194	15450	24567	34751
	25	181	300	491	835	1122	1794	2985	4110	6926	10474	15324	25749	40945	57918
	40	289	480	785	1337	1794	2870	4775	6576	11082	16758	24518	41199	65513	92668
18	15	121	201	328	559	750	1199	1995	2748	4631	7003	10245	17215	27375	38722
	25	201	334	547	931	1250	1999	3326	4580	7718	11671	17075	28692	45625	64537
	40	322	535	875	1489	2000	3198	5321	7328	12348	18673	27320	45907	73000	103259
20	15	134	222	363	617	829	1326	2205	3037	5118	7740	11324	19027	30256	42798
	25	223	369	604	1029	1381	2209	3676	5062	8530	12899	18873	31712	50427	71330
	40	356	591	967	1646	2210	3535	5881	8099	13648	20639	30196	50740	80684	114128

p_m – gauge pressure. **u** – flow velocity.

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MASS FLOW RATES OF SATURATED STEAM IN PIPES ACC. TO DIN 11866-A (DIN 11850-2)

bar(g)	m/s	FLOW RATE [kg/h]														
		6	8	10	15	20	25	32	40	50	65	80	100	125	150	200
0,4	15	1	2	3	9	14	23	35	50	87	151	227	346	541	779	1384
	25	2	4	6	15	23	39	59	83	144	251	378	577	901	1298	2307
	40	3	6	9	24	37	62	94	133	231	402	605	923	1442	2076	3691
0,6	15	1	3	4	10	16	26	40	57	98	171	257	392	612	881	1566
	25	2	4	7	17	26	44	67	94	163	284	428	653	1020	1469	2611
	40	4	7	10	27	42	71	107	151	261	455	685	1044	1632	2350	4177
0,8	15	2	3	4	11	17	30	45	63	109	190	287	437	683	983	1748
	25	3	5	7	19	29	49	75	105	182	317	478	728	1138	1638	2913
	40	4	7	12	30	47	79	119	168	291	507	764	1165	1820	2621	4660
1	15	2	3	5	12	19	33	49	70	120	210	316	482	753	1084	1927
	25	3	5	8	21	32	54	82	116	201	350	527	803	1255	1807	3212
	40	5	8	13	33	51	87	132	186	321	560	843	1285	2008	2891	5139
1,5	15	2	4	6	15	24	40	61	86	148	258	389	593	927	1334	2372
	25	4	6	10	25	40	67	101	143	247	431	649	988	1544	2224	3954
	40	6	10	16	40	63	107	162	228	395	689	1038	1582	2471	3558	6326
2	15	3	4	7	18	28	48	72	102	176	306	461	703	1098	1582	2812
	25	4	7	12	30	47	79	120	169	293	510	769	1172	1831	2636	4687
	40	7	12	19	48	75	127	192	271	469	817	1230	1875	2929	4218	7499
2,5	15	3	5	8	21	32	55	83	117	203	354	533	812	1269	1827	3248
	25	5	9	14	35	54	91	139	195	338	589	888	1353	2115	3045	5413
	40	8	14	22	55	87	146	222	313	541	943	1421	2165	3383	4872	8661
3	15	3	6	9	24	37	62	94	133	230	401	604	920	1438	2070	3680
	25	6	10	15	39	61	104	157	221	383	668	1006	1533	2396	3450	6134
	40	9	16	25	63	98	166	251	354	613	1069	1610	2454	3834	5521	9814
4	15	4	7	11	29	45	77	116	164	284	494	744	1134	1772	2552	4538
	25	7	12	19	48	76	128	194	273	473	824	1240	1891	2954	4254	7563
	40	11	19	30	77	121	204	310	437	756	1318	1985	3025	4727	6806	12100
5	15	5	9	13	34	54	91	138	194	337	587	884	1347	2104	3030	5387
	25	8	14	22	57	90	152	230	324	561	978	1473	2245	3507	5050	8978
	40	13	23	36	92	144	243	368	519	898	1564	2356	3591	5611	8080	14365
6	15	6	10	16	40	62	105	159	225	389	678	1022	1558	2434	3505	6230
	25	9	17	26	66	104	175	266	375	649	1131	1703	2596	4056	5841	10384
	40	15	27	42	106	166	281	425	600	1038	1809	2725	4154	6490	9346	16614
7	15	6	11	18	45	71	119	181	255	442	770	1160	1767	2762	3977	7070
	25	11	19	29	75	118	199	302	425	736	1283	1933	2946	4603	6628	11783
	40	17	30	47	121	189	319	483	681	1178	2053	3092	4713	7364	10605	18852
8	15	7	13	20	51	79	134	202	285	494	861	1297	1976	3088	4447	7906
	25	12	21	33	84	132	223	337	476	824	1435	2161	3294	5147	7412	13176
	40	19	34	53	135	211	356	540	761	1318	2296	3458	5270	8235	11859	21082
9	15	8	14	22	56	87	148	224	315	546	952	1433	2185	3414	4916	8739
	25	13	23	36	93	146	246	373	526	910	1586	2389	3641	5690	8193	14566
	40	21	37	58	149	233	394	597	841	1457	2538	3823	5826	9104	13109	23305
10	15	9	15	24	61	96	162	245	346	598	1042	1570	2393	3739	5384	9571
	25	14	26	40	102	160	270	408	576	997	1737	2617	3988	6231	8973	15952
	40	23	41	64	163	255	431	653	921	1595	2780	4186	6381	9970	14357	25524

p_m – gauge pressure. **u** – flow velocity.

VALSTEAM ADCA
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We accept no liability for the information provided in this page.
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MASS FLOW RATES OF SATURATED STEAM IN PIPES ACC. TO DIN 11866-B (ISO 1127)

bar(g)	m/s	FLOW RATE [kg/h]														
		6	8	10	15	20	25	32	40	50	65	80	100	125	150	200
0,4	15	2	4	7	11	19	31	51	68	110	180	246	416	626	920	1583
	25	3	6	11	19	32	51	85	113	183	300	410	694	1043	1534	2639
	40	5	10	18	30	52	81	136	181	292	480	656	1110	1669	2455	4222
0,6	15	2	4	8	13	22	35	58	77	124	204	278	471	708	1042	1792
	25	3	7	13	21	37	58	96	128	207	339	464	785	1181	1736	2986
	40	5	11	20	34	59	92	154	205	331	543	742	1257	1889	2778	4778
0,8	15	2	5	9	14	25	39	64	86	138	227	310	526	790	1162	1999
	25	4	8	14	24	41	64	107	143	231	379	517	876	1317	1937	3331
	40	6	12	23	38	65	103	172	229	369	606	828	1402	2108	3099	5330
1	15	2	5	9	16	27	43	71	95	153	250	342	580	872	1282	2205
	25	4	9	16	26	45	71	118	158	255	417	571	966	1453	2136	3674
	40	6	14	25	42	72	113	189	252	407	668	913	1546	2324	3418	5879
1,5	15	3	6	12	19	33	52	87	116	188	308	421	714	1073	1578	2714
	25	5	10	19	32	56	87	146	194	313	514	702	1190	1788	2629	4523
	40	8	17	31	51	89	140	233	310	501	822	1124	1903	2861	4207	7236
2	15	3	7	14	23	39	62	104	138	223	365	500	846	1272	1870	3217
	25	6	12	23	38	66	103	173	230	371	609	833	1410	2120	3117	5361
	40	9	20	37	61	105	165	276	368	594	975	1332	2256	3391	4987	8578
2,5	15	4	9	16	26	46	72	120	159	257	422	577	977	1469	2160	3715
	25	7	14	27	44	76	119	200	266	429	703	962	1629	2448	3600	6192
	40	11	23	42	70	122	191	319	425	686	1126	1539	2606	3917	5760	9907
3	15	5	10	18	30	52	81	136	181	292	478	654	1107	1664	2448	4210
	25	8	16	30	50	86	135	226	301	486	797	1090	1845	2774	4079	7016
	40	12	26	48	79	138	216	362	482	778	1275	1744	2953	4439	6527	11226
4	15	6	12	22	37	64	100	167	223	360	590	806	1365	2052	3018	5190
	25	9	20	37	61	106	167	279	371	599	983	1344	2275	3420	5029	8650
	40	15	32	59	98	170	267	446	594	959	1573	2150	3640	5472	8047	13840
5	15	7	14	26	44	76	119	199	264	427	700	957	1621	2436	3582	6162
	25	11	24	44	73	126	198	331	440	711	1167	1595	2701	4060	5971	10269
	40	18	38	70	116	202	317	530	705	1138	1867	2552	4322	6497	9553	16431
6	15	8	17	31	50	87	137	230	306	494	810	1107	1874	2818	4143	7127
	25	13	28	51	84	146	229	383	509	823	1350	1845	3124	4696	6906	11878
	40	20	44	81	135	233	366	612	815	1317	2159	2952	4998	7514	11049	19004
7	15	9	19	35	57	99	156	261	347	560	919	1256	2127	3197	4702	8087
	25	14	31	58	95	165	260	434	578	934	1531	2093	3545	5329	7836	13478
	40	23	50	92	153	265	416	695	925	1494	2450	3349	5672	8526	12538	21564
8	15	10	21	39	64	111	174	291	388	626	1027	1405	2378	3575	5258	9043
	25	16	35	65	107	185	291	486	646	1044	1712	2341	3964	5959	8763	15071
	40	26	56	103	171	296	465	777	1034	1671	2740	3745	6343	9534	14020	24114
9	15	11	23	43	71	123	193	322	429	693	1136	1553	2629	3952	5812	9996
	25	18	39	71	118	205	321	537	715	1154	1893	2588	4382	6587	9687	16661
	40	29	62	114	189	327	514	859	1143	1847	3029	4140	7011	10540	15499	26657
10	15	12	25	47	78	134	211	353	470	758	1244	1700	2880	4329	6365	10948
	25	20	42	78	129	224	352	588	783	1264	2073	2834	4799	7214	10609	18247
	40	31	68	125	207	358	563	941	1252	2023	3317	4535	7679	11543	16974	29195

p_m – gauge pressure. **u** – flow velocity.

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MASS FLOW RATES OF SATURATED STEAM IN PIPES ACC. TO DIN 11866-C (ASME BPE)

p_m [bar]	u [m/s]	FLOW RATE [kg/h]								
		1/2"	3/4"	1"	11/2"	2"	21/2"	3"	4"	6"
0,4	15	3	9	17	42	78	125	184	328	746
	25	5	14	28	70	130	209	306	547	1244
	40	8	23	45	112	208	334	490	875	1990
0,6	15	3	10	19	47	88	142	208	371	845
	25	6	16	32	79	147	237	347	619	1408
	40	9	26	51	126	236	378	555	990	2252
0,8	15	4	11	21	53	99	158	232	414	942
	25	6	18	36	88	164	264	387	690	1570
	40	10	29	57	141	263	422	619	1105	2513
1	15	4	12	24	58	109	175	256	457	1039
	25	7	20	39	97	181	291	427	762	1732
	40	11	32	63	156	290	466	683	1218	2771
1,5	15	5	15	29	72	134	215	315	562	1279
	25	9	25	48	120	223	358	525	937	2132
	40	14	39	77	192	357	573	840	1500	3411
2	15	6	17	34	85	159	255	374	667	1516
	25	10	29	57	142	264	425	623	1111	2527
	40	17	47	92	227	423	679	996	1778	4043
2,5	15	7	20	40	98	183	294	432	770	1751
	25	12	34	66	164	305	490	719	1283	2919
	40	19	54	106	262	489	785	1151	2053	4670
3	15	8	23	45	111	208	333	489	873	1984
	25	14	38	75	186	346	556	815	1454	3307
	40	22	61	120	297	554	889	1304	2327	5292
4	15	10	28	55	137	256	411	603	1076	2447
	25	17	47	92	229	427	685	1005	1793	4078
	40	27	75	148	366	683	1096	1608	2869	6524
5	15	12	33	66	163	304	488	716	1277	2905
	25	20	56	110	272	506	813	1193	2128	4841
	40	32	89	175	435	810	1301	1909	3406	7746
6	15	14	39	76	189	351	564	828	1477	3359
	25	23	64	127	314	586	941	1380	2462	5599
	40	37	103	203	503	937	1505	2207	3939	8958
7	15	16	44	86	214	399	641	939	1676	3812
	25	26	73	144	357	665	1068	1565	2793	6353
	40	42	117	230	571	1063	1708	2505	4469	10165
8	15	17	49	97	239	446	716	1050	1874	4263
	25	29	82	161	399	743	1194	1751	3124	7105
	40	47	131	257	638	1189	1910	2801	4998	11367
9	15	19	54	107	265	493	792	1161	2072	4712
	25	32	90	178	441	822	1320	1935	3453	7854
	40	51	145	285	706	1315	2111	3096	5525	12566
10	15	21	59	117	290	540	867	1272	2269	5161
	25	35	99	195	483	900	1445	2119	3782	8601
	40	56	158	312	773	1440	2312	3391	6051	13762

p_m – gauge pressure. **u** – flow velocity.

VALSTEAM ADCA
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TIS.GIA E 01.23

PROPERTIES OF SATURATED STEAM

p_m [bar]	p [bar]	t_s [°C]	v [m^3/kg]	h_f [kcal/kg]	h_f [kJ/kg]	h_{fg} [kcal/kg]	h_{fg} [kJ/kg]	h_g [kcal/kg]	h_g [kJ/kg]
0	1,013	100,0	1,673	100,1	419,1	539,4	2258,4	639,5	2677,5
0,05	1,063	101,4	1,601	101,5	425,0	538,4	2254,2	639,9	2679,1
0,1	1,113	102,6	1,533	102,8	430,4	537,7	2251,2	640,5	2681,6
0,15	1,163	105,1	1,471	104,1	435,8	536,9	2247,9	641,0	2683,7
0,2	1,213	106,2	1,414	105,3	440,9	536,2	2245,0	641,5	2685,8
0,3	1,313	107,4	1,312	107,6	450,5	534,7	2238,7	642,3	2689,2
0,4	1,413	109,5	1,225	109,8	459,7	533,3	2232,8	643,1	2692,5
0,5	1,513	111,6	1,149	111,9	468,5	531,9	2227,0	643,8	2695,5
0,6	1,613	113,5	1,038	113,8	476,5	530,6	2221,5	644,4	2698,0
0,7	1,713	115,4	1,024	115,7	484,4	529,5	2216,9	645,2	2701,3
0,8	1,813	117,1	0,971	117,5	491,9	528,3	2211,9	645,8	2703,8
0,9	1,913	118,8	0,923	119,2	499,1	527,1	2206,9	646,3	2705,9
1	2,013	120,4	0,881	120,8	505,8	526,0	2202,3	646,8	2708,0
1,1	2,113	121,9	0,841	122,4	512,5	525,1	2198,5	647,5	2711,0
1,2	2,213	123,4	0,806	124,0	519,2	524,1	2194,3	648,1	2713,5
1,3	2,313	124,9	0,773	125,4	525,0	523,1	2190,1	648,5	2715,1
1,4	2,413	126,3	0,743	126,8	530,9	522,2	2186,3	649,0	2717,2
1,5	2,513	127,6	0,714	128,1	536,3	521,1	2181,7	649,2	2718,1
1,6	2,613	128,9	0,689	129,5	542,2	520,4	2178,8	649,9	2721,0
1,7	2,713	130,1	0,665	130,7	547,2	519,5	2175,0	650,2	2722,3
1,8	2,813	131,4	0,643	132,0	552,7	518,6	2171,3	650,6	2723,9
1,9	2,913	132,5	0,622	133,2	557,7	517,8	2167,9	651,0	2725,6
2	3,013	133,7	0,603	134,4	562,7	517,0	2164,6	651,4	2727,3
2,2	3,213	135,9	0,568	136,6	571,9	515,5	2158,3	652,1	2730,2
2,4	3,413	138,0	0,536	138,8	581,1	514,0	2152,0	652,8	2733,1
2,6	3,613	140,0	0,509	140,8	589,5	512,6	2146,2	653,4	2735,7
2,8	3,813	141,9	0,483	142,8	597,9	511,2	2140,3	654,0	2738,2
3	4,013	143,7	0,461	144,7	605,8	509,9	2134,8	654,6	2740,7
3,2	4,213	145,4	0,440	146,4	612,9	508,6	2129,4	655,0	2742,4
3,4	4,413	147,2	0,422	148,2	620,5	507,4	2124,4	655,6	2744,9
3,6	4,613	148,8	0,405	149,9	627,6	506,1	2118,9	656,0	2746,5
3,8	4,813	150,4	0,389	151,5	634,3	505,0	2114,3	656,5	2748,6
4	5,013	152,0	0,374	153,1	641,0	503,8	2109,3	656,9	2750,3
4,2	5,213	153,4	0,361	154,6	647,3	502,7	2104,7	657,3	2752,0
4,4	5,413	154,8	0,348	156,1	653,6	501,6	2100,1	657,7	2753,7
4,6	5,613	156,2	0,336	157,6	659,8	500,6	2095,9	658,2	2755,8
4,8	5,813	157,6	0,325	159,0	665,7	499,5	2091,3	658,5	2757,0
5	6,013	158,9	0,315	160,3	671,1	498,5	2087,1	658,8	2758,3
5,5	6,513	162,1	0,292	163,6	685,0	496,1	2077,1	659,7	2762,0
6	7,013	165,0	0,272	166,7	697,9	493,8	2067,4	660,5	2765,4
6,5	7,513	167,8	0,255	169,6	710,1	491,6	2058,2	661,2	2768,3
7	8,013	170,5	0,240	172,4	721,8	489,4	2049,0	661,8	2770,8
7,5	8,513	173,0	0,227	175,1	733,1	487,4	2040,6	662,5	2773,8
8	9,013	175,4	0,215	177,6	743,6	485,4	2032,3	663,0	2775,8
8,5	9,513	177,7	0,204	180,0	753,6	483,5	2024,3	663,5	2777,9
9	10,013	180,0	0,194	182,3	763,3	481,6	2016,4	663,9	2779,6
9,5	10,513	182,1	0,185	184,6	772,9	479,8	2008,8	664,4	2781,7
10	11,013	184,1	0,177	186,8	782,1	478,0	2001,3	664,8	2783,4
11	12,013	188,0	0,163	190,9	799,3	474,6	1987,1	665,5	2786,3
12	13,013	191,7	0,151	194,8	815,6	471,4	1973,7	666,2	2789,2
13	14,013	195,1	0,141	198,5	831,1	468,3	1960,7	666,8	2791,8
14	15,013	198,3	0,132	202,0	845,7	465,3	1948,1	667,3	2793,9
15	16,013	201,4	0,124	205,3	859,6	462,5	1936,4	667,8	2795,9
16	17,013	204,4	0,117	208,5	872,9	459,7	1924,7	668,2	2797,6
17	18,013	207,2	0,110	211,5	885,5	457,0	1913,4	668,5	2798,9
18	19,013	209,9	0,105	214,4	897,8	454,4	1902,5	668,8	2800,1
19	20,013	212,5	0,100	217,2	909,4	451,8	1891,6	669,0	2801,0
20	21,013	215,0	0,095	220,0	921,1	449,4	1881,5	669,4	2802,6
21	22,013	217,3	0,090	222,6	932,0	447,0	1871,5	669,6	2803,5
22	23,013	219,6	0,087	225,1	942,4	444,6	1861,5	669,7	2803,9
23	24,013	221,8	0,083	227,6	952,9	442,2	1851,4	669,8	2804,3
24	25,013	224,0	0,080	230,0	963,0	440,0	1842,2	670,0	2805,2
25	26,013	226,1	0,077	232,3	972,6	437,7	1832,6	670,0	2805,2

p_m – gauge pressure. **p** – absolute pressure. **t_s** – saturation temperature. **v** – specific volume. **h_f** – specific enthalpy of liquid. **h_{fg}** – specific enthalpy of vaporization (r). **h_g** – specific enthalpy of saturated steam.

LRQA CERTIFIED ISO 9001
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ADCAPure

PROPERTIES OF SUPERHEATED STEAM

p [bar]		TOTAL TEMPERATURE [ºC]																
		200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500
1	v	2,172	2,266	2,359	2,453	2,546	2,639	2,732	2,824	2,917	3,010	3,102	3,195	3,288	3,380	3,473	3,565
	h	2875,4	2915,0	2954,6	2994,4	3034,4	3074,5	3114,8	3155,3	3196,0	3237,0	3278,2	3319,7	3361,4	3403,4	3445,6	3488,1
2	v	1,0804	1,1280	1,1753	1,2224	1,2693	1,3162	1,3629	1,4095	1,4561	1,5027	1,5492	1,5956	1,6421	1,6885	1,7349	1,7812
	h	2870,5	2910,8	2951,1	2991,4	3031,7	3072,1	3112,6	3153,3	3194,2	3235,4	3276,7	3318,3	3360,1	3402,1	3444,5	3487,0
3	v	0,7164	0,7486	0,7805	0,8123	0,8438	0,8753	0,9066	0,9379	0,9691	1,0003	1,0314	1,0625	1,0935	1,1245	1,1556	1,1865
	h	2865,5	2906,6	2947,5	2988,2	3028,9	3069,7	3110,5	3151,4	3192,4	3233,7	3275,2	3316,8	3358,8	3400,9	3443,3	3486,0
4	v	0,5343	0,5589	0,5831	0,6072	0,6311	0,6549	0,6785	0,7021	0,7256	0,7491	0,7725	0,7959	0,8192	0,8426	0,8659	0,8892
	h	2860,4	2902,3	2943,9	2985,1	3026,2	3067,2	3108,3	3149,4	3190,6	3232,1	3273,6	3315,4	3557,4	3399,7	3442,1	3484,9
5	v	0,4250	0,4450	0,4647	0,4841	0,5034	0,5226	0,5416	0,5606	0,5795	0,5984	0,6172	0,6359	0,6547	0,6734	0,6921	0,7108
	h	2855,1	2898,0	2940,1	2981,9	3023,4	3064,8	3106,1	3147,4	3188,8	3230,4	3272,1	3314,0	3356,1	3398,4	3441,0	3483,8
6	v	0,3520	0,3690	0,3857	0,4021	0,4183	0,4344	0,4504	0,4663	0,4821	0,4979	0,5136	0,5293	0,5450	0,5606	0,5762	0,5918
	h	2849,7	2893,5	2936,4	2978,7	3020,6	3062,3	3103,9	3145,4	3187,0	3228,7	3270,6	3312,6	3354,8	3397,2	3439,8	3482,7
7	v	0,2929	0,3147	0,3292	0,3435	0,3575	0,3714	0,3852	0,3989	0,4125	0,4261	0,4396	0,4531	0,4666	0,4801	0,4935	0,5069
	h	2844,2	2888,9	2932,5	2975,4	3017,7	3059,8	3101,6	3143,4	3185,2	3227,1	3269,0	3311,2	3353,4	3395,9	3439,6	3481,6
8	v	0,2608	0,2740	0,2869	0,1995	0,3119	0,3241	0,3363	0,3483	0,3603	0,3723	0,3842	0,3960	0,4078	0,4196	0,4314	0,4432
	h	2838,6	2884,2	2928,6	2972,1	3014,9	3057,3	3099,4	3141,4	3183,4	3225,4	3267,5	3309,7	3352,1	3394,7	3437,5	3480,5
9	v	0,2303	0,2423	0,2539	0,2653	0,2764	0,2874	0,2983	0,3090	0,3197	0,3304	0,3410	0,3516	0,3621	0,3726	0,3831	0,3936
	h	2832,7	2879,5	2924,6	2968,7	3012,0	3054,7	3097,1	3139,4	3181,6	3223,7	3266,0	3308,3	3350,8	3393,5	3436,3	3479,4
10	v	0,2059	0,2169	0,2276	0,2379	0,2480	0,2580	0,2678	0,2776	0,2873	0,2969	0,3065	0,3160	0,3256	0,3350	0,3445	0,3540
	h	2826,8	2874,6	2920,6	2965,2	3009,0	3052,1	3094,9	3137,4	3179,7	3222,0	3264,4	3306,9	3349,5	3392,2	3435,1	3478,3
11	v	0,1859	0,1961	0,2060	0,2155	0,2248	0,2339	0,2429	0,2518	0,2607	0,2695	0,2782	0,2870	0,2956	0,3043	0,3129	0,3215
	h	2820,7	2869,6	2916,4	2961,8	3006,0	3049,6	3092,6	3135,3	3177,9	3220,3	3262,9	3305,4	3348,1	3391,0	3434,0	3477,2
12	v	0,1692	0,1788	0,1879	0,1968	0,2054	0,2139	0,2222	0,2304	0,2386	0,2467	0,2547	0,2627	0,2707	0,2787	0,2866	0,2945
	h	2814,4	2864,5	2912,2	2958,2	3003,0	3046,9	3090,3	3133,2	3176,0	3218,7	3261,3	3304,0	3346,8	3389,7	3432,8	3476,1
13	v	0,1551	0,1641	0,1727	0,1810	0,1890	0,1969	0,2046	0,2123	0,2198	0,2273	0,2348	0,2422	0,2496	0,2570	0,2643	0,2716
	h	2808,0	2859,3	2908,0	2954,7	3000,0	3044,3	3088,0	3131,2	3174,1	3217,0	3259,2	3302,5	3345,4	3388,5	3431,6	3475,0
14	v	0,1429	0,1515	0,1596	0,1674	0,1749	0,1823	0,1896	0,1967	0,2038	0,2108	0,2177	0,2246	0,2315	0,2384	0,2452	0,2520
	h	2801,4	2854,0	2903,6	2951,0	2996,9	3041,6	3085,6	3129,1	3172,3	3215,3	3258,2	3301,1	3344,1	3387,2	3430,5	3473,9
15	v	0,1324	0,1406	0,1483	0,1556	0,1628	0,1697	0,1765	0,1832	0,1898	0,1964	0,2029	0,2094	0,2158	0,2223	0,2287	0,2350
	h	2794,7	2848,6	2899,2	2947,3	2993,7	3038,9	3083,3	3127,0	3170,4	3213,5	3256,6	3299,7	3342,8	3386,0	3429,3	3472,8
16	v	–	0,1310	0,1383	0,1453	0,1521	0,1587	0,1651	0,1714	0,1777	0,1838	0,1900	0,1961	0,2021	0,2082	0,2142	0,2202
	h	–	2843,1	2894,7	2943,6	2990,6	3036,2	3080,9	3124,9	3168,5	3211,8	3255,0	3298,2	3341,4	3384,7	3428,1	3471,7
18	v	–	0,1150	0,1217	0,1282	0,1343	0,1402	0,1460	0,1517	0,1573	0,1629	0,1684	0,1738	0,1793	0,1847	0,1900	0,1954
	h	–	2831,7	2885,4	2935,9	2984,1	3030,7	3076,1	3120,6	3164,7	3208,4	3251,9	3295,3	3338,7	3382,2	3425,8	3469,5
20	v	–	0,1021	0,1084	0,1144	0,1200	0,1255	0,1308	0,1360	0,1411	0,1461	0,1511	0,1561	0,1610	0,1659	0,1707	0,1756
	h	–	2819,9	2875,9	2928,1	2977,5	3025,0	3071,2	3116,3	3160,8	3204,9	3248,7	3292,4	3336,0	3379,7	3423,4	3467,3
22	v	–	0,09152	0,09752	0,10309	0,10837	0,11343	0,11833	0,12311	0,12780	0,13243	0,13700	0,14152	0,14602	0,15048	0,15492	0,15934
	h	–	2807,5	2866,0	2920,0	2970,8	3019,3	3066,2	3112,0	3156,9	3201,4	3245,5	3289,4	3333,3	3377,1	3421,1	3465,1
24	v	–	–	0,08839	0,09367	0,09863	0,10336	0,10793	0,11237	0,11672	0,12100	0,12522	0,12940	0,13355	0,13766	0,14175	0,14582
	h	–	–	2855,7	2911,6	2963,8	3013,4	3061,1	3107,5	3153,0	3197,8	3242,3	3386,5	3330,6	3374,6	3418,7	3462,9
26	v	–	–	0,08064	0,08567	0,09037	0,09483	0,09912	0,10328	0,10734	0,11133	0,11526	0,11914	0,12299	0,12681	0,13061	0,13438
	h	–	–	2845,2	2903,0	2956,7	3007,4	3056,0	3103,0	3149,0	3194,3	3239,0	3283,5	3327,8	3372,1	3416,3	3460,6
28	v	–	–	0,07397	0,07880	0,08328	0,08751	0,09156	0,09548	0,09929	0,10303	0,10671	0,11035	0,11395	0,11752	0,12106	0,12458
	h	–	–	2834,2	2894,2	2949,5	3001,3	3050,8	3098,5	3145,0	3190,7	3235,8	3280,5	3325,1	3369,5	3413,9	3458,4
30	v	–	–	0,06816	0,07283	0,07712	0,08116	0,08500	0,08871	0,09232	0,09584	0,09931	0,10273	0,10611	0,10946	0,11278	0,11608
	h	–	–	2822,9	2885,1	2942,0	2995,1	3045,4	3093,9	3140,9	3187,0	3232,5	3277,5	3322,3	3367,0	3411,6	3456,2
32	v	–	–	0,06305	0,06759	0,07173	0,07559	0,07926	0,08279	0,08621	0,08955	0,09283	0,09606	0,09925	0,10241	0,10554	0,10865
	h	–	–	2811,2	2875,8	2934,4	2988,7	3040,0	3089,2	3136,8	3183,4	3229,2	3274,5	3319,5	3364,4	3409,2	3454,0
34	v	–	–	–	0,06295	0,06695	0,07068	0,07419	0,07756	0,08082	0,08400	0,08711	0,09017	0,09319	0,09618	0,09915	0,10209
	h	–	–	–	2866,2	2926,6	2982,2	3034,5	3084,4	3132,7	3179,7	3225,9	3271,5	3316,8	3361,8	3406,8	3451,7
36	v	–	–	–	0,05880	0,06270	0,06630	0,06968	0,07291	0,07603	0,07906	0,08202	0,08494	0,08781	0,09065	0,09347	0,09626
	h	–	–	–	2856,3	2918,6	2975,6	3028,9	3079,6	3128,4	3175,9	3222,5	3268,4	3314,0	3359,2	3404,4	3449,5
38	v	–	–	–	0,05508	0,05888	0,06237	0,06564	0,06875	0,07174	0,07464	0,07747	0,08025	0,08300	0,08570	0,08838	0,09104
	h	–	–	–	2846,1	2910,4	2968,9	3023,3	3074,8	3124,2	3172,2	3219,1	3265,4	3311,2	3356,6	3402,0	3447,2
40	v	–	–	–	0,05172	0,05544	0,05883	0,06200	0,06499	0,06787	0,07066	0,07338	0,07604	0,07866	0,08125	0,08381	0,08634
	h	–	–	–	2835,6	2902,0	2962,0	3017,5	3069,8	3119,9	3168,4	3215,7	3262,3	3308,3	3354,0	3399,6	3445,0

p – absolute pressure. **v** – specific volume in m^3/kg. **h** – specific enthalpy of superheated steam (total heat) in kJ/kg.

VALSTEAM ADCA
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TIS.GIA E 01.23

PROPERTIES OF SUPERHEATED STEAM (CONTINUED)

p [bar]		TOTAL TEMPERATURE [ºC]												
		260	280	300	320	340	360	380	400	420	440	460	480	500
42	v	0,04865	0,05231	0,05562	0,05870	0,06160	0,06437	0,06706	0,06967	0,07222	0,07474	0,07722	0,07967	0,08209
	h	2824,8	2893,5	2955,0	3011,6	3064,8	3115,5	3164,5	3212,3	3259,2	3305,5	3351,4	3397,7	3442,7
44	v	0,04585	0,04946	0,05270	0,05569	0,05850	0,06119	0,06378	0,06630	0,06876	0,07117	0,07355	0,07590	0,07823
	h	2813,6	2884,7	2947,8	3005,7	3059,7	3111,1	3160,6	3208,8	3256,0	3302,6	3348,8	3394,7	3440,5
46	v	0,04328	0,04685	0,05003	0,05294	0,05568	0,05828	0,06079	0,06321	0,06559	0,06791	0,07020	0,07247	0,07470
	h	2802,0	2875,6	2940,5	2999,6	3054,6	3106,7	3156,7	3205,3	3252,9	3299,8	3346,2	3392,3	3438,2
48	v	–	0,04444	0,04757	0,05042	0,05309	0,05561	0,05604	0,06039	0,06268	0,06493	0,06714	0,06931	0,07147
	h	–	2866,4	2933,1	2993,4	3049,4	3102,2	3152,8	3201,8	3249,7	3296,9	3343,5	3389,8	3435,9
50	v	–	0,04222	0,04530	0,04810	0,05070	0,05316	0,05551	0,05779	0,06001	0,06218	0,06431	0,06642	0,06849
	h	–	2856,9	2925,5	2987,2	3044,1	3097,6	3148,8	3198,3	3246,6	3294,0	3340,9	3387,4	3433,7
55	v	–	0,03733	0,04034	0,04302	0,04549	0,04780	0,05001	0,05213	0,05419	0,05620	0,05817	0,06011	0,06202
	h	–	2831,8	2905,7	2971,0	3030,5	3085,9	3138,6	3189,3	3238,5	3286,7	3334,2	3381,2	3427,9
60	v	–	0,03317	0,03614	0,03874	0,04111	0,04330	0,04539	0,04738	0,04931	0,05118	0,05302	0,05482	0,05659
	h	–	2804,9	2885,0	2954,2	3016,5	3074,0	3128,3	3180,1	3230,3	3279,3	3327,4	3375,0	3422,2
70	v	–	–	0,02946	0,03198	0,03420	0,03623	0,03812	0,03992	0,04165	0,04331	0,04494	0,04653	0,04809
	h	–	–	2839,4	2918,3	2987,0	3049,1	3106,7	3161,2	3213,5	3264,2	3313,7	3362,4	3410,6
80	v	–	–	0,02426	0,02681	0,02896	0,03088	0,03265	0,03431	0,03589	0,03740	0,03887	0,04030	0,04170
	h	–	–	2786,8	2878,7	2955,3	3022,7	3084,2	3141,6	3196,2	3248,7	3299,7	3349,6	3398,8
90	v	–	–	–	0,02269	0,02484	0,02669	0,02837	0,02993	0,03140	0,03280	0,03415	0,03546	0,03674
	h	–	–	–	2834,3	2920,9	2994,8	3060,5	3121,2	3178,2	3232,7	3285,3	3336,5	3386,8
100	v	–	–	–	0,01926	0,02147	0,02331	0,02493	0,02641	0,02779	0,02911	0,03036	0,03158	0,03276
	h	–	–	–	2783,5	2883,4	2964,8	3035,7	3099,9	3159,7	3216,2	3270,5	3323,2	3374,6
110	v	–	–	–	0,01628	0,01864	0,02049	0,02208	0,02351	0,02483	0,02608	0,02726	0,02840	0,02950
	h	–	–	–	2723,5	2841,7	2932,8	3009,6	3077,8	3140,5	3199,4	3255,5	3309,6	3362,2
120	v	–	–	–	–	0,01619	0,01811	0,01969	0,02108	0,02236	0,02355	0,02467	0,02575	0,02679
	h	–	–	–	–	2794,7	2898,1	2982,0	3054,8	3120,7	3182,0	3240,0	3295,7	3349,6
130	v	–	–	–	–	0,01401	0,01604	0,01764	0,01902	0,02025	0,02140	0,02247	0,02350	0,02440
	h	–	–	–	–	2740,6	2860,2	2952,7	3030,7	3100,2	3164,1	3224,2	3281,6	3336,8
140	v	–	–	–	–	0,01200	0,01421	0,01586	0,01723	0,01844	0,01955	0,02059	0,02157	0,02251
	h	–	–	–	–	2675,7	2818,1	2921,4	3005,6	3079,0	3145,8	3208,1	3267,1	3323,8
150	v	–	–	–	–	–	0,01256	0,01428	0,01566	0,01686	0,01794	0,01895	0,01989	0,02080
	h	–	–	–	–	–	2770,8	2887,7	2979,1	3057,0	3126,9	3191,5	3252,4	3310,6
160	v	–	–	–	–	–	0,01104	0,01287	0,01427	0,01546	0,01653	0,01751	0,01842	0,01929
	h	–	–	–	–	–	2716,5	2851,1	2951,3	3034,2	3107,5	3174,5	3237,4	3297,1
180	v	–	–	–	–	–	0,008104	0,01040	0,01191	0,01311	0,01416	0,01510	0,01597	0,01678
	h	–	–	–	–	–	2569,1	2766,6	2890,3	2985,8	3066,9	3139,4	3206,5	3269,6
200	v	–	–	–	–	–	–	0,008246	0,009947	0,01120	0,01224	0,01315	0,01399	0,01477
	h	–	–	–	–	–	–	2660,2	2820,5	2932,9	3023,7	3102,7	3174,4	3241,1
250	v	–	–	–	–	–	–	–	0,006014	0,007580	0,008696	0,009609	0,01041	0,01113
	h	–	–	–	–	–	–	–	2582,0	2774,1	2901,7	3002,3	3088,5	3165,9

p – absolute pressure. **v** – specific volume in m^3/kg. **h** – specific enthalpy of superheated steam (total heat) in kJ/kg.

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PROPERTIES OF WATER

t [ºC]	ρ [kg/m³]	v [dm³/kg]	Ca [kcal/kg ºC]	λ [kcal/m h ºC]	t [ºC]	ρ [kg/m³]	v [dm³/kg]	Ca [kcal/kg ºC]	λ [kcal/m h ºC]
0	999,87	1,00013	–	–	70	977,81	1,02269	1,0002	0,57
4	999,99	1,00001	–	–	71	977,23	1,0233	–	–
6	999,97	1,00003	–	–	72	976,66	1,0239	–	–
8	999,89	1,00011	–	–	73	976,07	1,02452	–	–
10	999,75	1,00025	1	0,493	74	975,48	1,02514	–	–
12	999,55	1,00045	–	–	75	974,89	1,02576	1,0013	0,574
14	999,3	1,0007	–	–	76	974,29	1,02639	–	–
16	999	1,001	–	–	77	973,68	1,02703	–	–
18	998,65	1,00135	–	–	78	973,07	1,02768	–	–
20	998,2	1,0018	1	0,51	79	972,45	1,02833	–	–
22	997,83	1,00217	–	–	80	971,83	1,02899	1,0025	0,577
24	997,37	1,00264	–	–	81	971,21	1,02964	–	–
26	996,87	1,00314	–	–	82	970,57	1,03032	–	–
28	996,33	1,00368	–	–	83	969,94	1,03099	–	–
30	995,76	1,00426	1	0,526	84	969,3	1,03167	–	–
32	995,12	1,0049	–	–	85	968,65	1,03236	1,0037	0,58
34	994,49	1,00554	–	–	86	968	1,03306	–	–
36	993,74	1,0063	–	–	87	967,34	1,03376	–	–
38	993,02	1,00703	–	–	88	966,68	1,03447	–	–
40	992,24	1,00782	1	0,539	89	966,01	1,03519	–	–
41	991,86	1,00821	–	–	90	965,34	1,0359	1,0049	0,582
42	991,47	1,0086	–	–	91	964,67	1,03662	–	–
43	991,07	1,00901	–	–	92	963,99	1,03736	–	–
44	990,66	1,00943	–	–	93	963,3	1,0381	–	–
45	990,25	1,00985	–	–	94	962,61	1,03884	–	–
46	989,82	1,01028	–	–	95	961,92	1,03959	1,006	0,584
47	989,4	1,01071	–	–	96	961,22	1,04034	–	–
48	988,96	1,01116	–	–	97	960,51	1,04111	–	–
49	988,52	1,01161	–	–	98	959,81	1,04187	–	–
50	988,07	1,01207	1	0,551	99	959,09	1,04266	–	–
51	987,62	1,01254	–	–	100	958,38	1,04343	1,0061	0,586
52	987,15	1,01302	–	–	105	–	–	1,0071	0,588
53	986,69	1,01349	–	–	110	951	1,0515	1,0084	0,589
54	986,21	1,01398	–	–	115	–	–	1,0098	0,59
55	985,73	1,01448	1	0,556	120	943,1	1,0603	1,0114	0,591
56	985,25	1,01497	–	–	125	–	–	1,0132	0,591
57	984,75	1,01549	–	–	130	934,8	1,0697	1,0152	0,592
58	984,25	1,016	–	–	135	–	–	1,0175	0,592
59	983,75	1,01652	–	–	140	926,1	1,0798	1,02	0,592
60	983,24	1,01705	1	0,561	145	–	–	1,0228	0,591
61	982,72	1,01758	–	–	150	916,9	1,0906	1,0258	0,591
62	982,2	1,01812	–	–	160	907,4	1,1021	1,0328	0,589
63	981,67	1,01867	–	–	170	897,3	1,1144	1,0411	0,586
64	981,13	1,01923	–	–	180	886,9	1,1275	1,0507	0,582
65	980,59	1,01979	1	0,566	190	876	1,1415	1,0619	0,578
66	980,05	1,02036	–	–	200	864,7	1,1565	1,0746	0,572
67	979,5	1,02093	–	–	210	–	–	1,089	0,565
68	978,94	1,02151	–	–	220	–	–	1,1052	0,558
69	978,38	1,0221	–	–	230	–	–	1,1234	0,55

t – temperature. **ρ** – density. **v** – specific volume. **Ca** – actual specific heat capacity at t. **λ** – thermal conductivity at t.
Remark: To convert specific volume from cubic decimeters per kilogram (dm^3/kg) to cubic meters per kilogragm (m^3/kg) devide values by 10^3.

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PROPERTIES OF GASES

Gas	Formula	ρ [kg/m³]	t_f [°C]	t_e [°C]	$ρ_e$ [kg/m³]	v [m³/kg]	Cp [kcal/kg h °C]	λ [kcal/m h °C]
Acetone	C_3H_6O	2,591	-94,8	56,2	749	0,386	0,296	0,0083
Acetylene	C_2H_2	1,162	-83,3	-83,6	613	0,861	0,386	0,0158
Ammonia	NH_3	0,76	-77,9	-33,4	680	1,316	0,491	0,0187
Argon	Ar	1,782	189,2	-185,7	1820	0,561	0,125	0,014
Benzole	C6H6	3,485	–	–	–	0,287	0,227	0,0076
Butane	C_4H_{10}	2,593	-138,4	-0,5	602	0,386	0,382	0,0119
Carbon dioxide	CO_2	1,964	-56,6	-78,2	1219	0,509	0,195	0,0122
Carbon disulphide	CS2	3,397	–	–	–	0,294	0,139	0,0058
Carbon monoxide	CO	1,25	-205	-191,6	801	0,8	0,248	0,0191
Chlorine	Cl_2	3,164	-101	-34,6	1512	0,316	0,116	0,0073
Diethyl ether	C4H10O	3,307	–	–	–	0,302	0,345	0,0108
Dry air	–	1,293	-213	-192,3	875	0,773	0,24	0,0209
Ethane	C_2H_6	1,342	-183,3	-88,6	546	0,745	0,394	0,0155
Ethyl alcohol	C_2H_6O	2,055	-114,2	78,3	747	0,487	0,364	0,0119
Ethylene	C_2H_4	1,251	-169,5	-103,7	568	0,799	0,349	0,0144
Helium	He	0,179	-272,2	-268,9	125	5,599	1,25	0,1233
Hydrochloric acid	HCl	1,627	-111,2	-84,8	1135	0,615	0,19	0,0072
Hydrogen	H_2	0,09	-259,1	-252,9	71	11,118	3,45	0,1508
Hydrogen sulphide	H_2S	1,52	-85,6	-60,4	957	0,658	0,237	0,0108
Methane	CH_4	0,716	-182,5	-161,5	415	1,397	0,517	0,0263
Methyl alcohol	CH_4O	1,429	-97,6	64,7	737	0,7	0,32	0,012
Nitrogen	N_2	1,25	-209,9	-195,8	810	0,8	0,247	0,0205
Oxygen	O_2	1,428	-218,4	-183	1131	0,7	0,218	0,0208
Propane	C_3H_8	1,968	-187,7	-42,1	585	0,508	0,37	0,013
Propylene	C_3H_6	1,877	-185	-47,8	686	0,533	0,34	–
Sulfur dioxide	SO2	2,858	–	–	–	0,35	0,14	0,0072

ρ – density. t_f – melting temperature. t_e – boiling temperature. $ρ_e$ – density of liquid at t_e. **v** – specific volume. **Cp** – specific heat capacity at constant pressure. **λ** – thermal conductivity of substance.
Remark: Values are referenced to 0 °C and 1013,25 mbar.

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DENSITY OF DRY AIR [kg/m³]

t [°C]	GAUGE PRESSURE [bar]										
	0	0,5	1	1,5	2	2,5	3	3,5	4	4,5	5
0	1,293	1,931	2,569	3,207	3,845	4,483	5,121	5,759	6,397	7,036	7,674
10	1,247	1,863	2,478	3,094	3,709	4,325	4,941	5,556	6,172	6,787	7,403
20	1,205	1,799	2,394	2,988	3,583	4,177	4,772	5,367	5,961	6,556	7,150
30	1,165	1,740	2,315	2,890	3,465	4,040	4,615	5,189	5,764	6,339	6,914
40	1,128	1,684	2,241	2,798	3,354	3,911	4,467	5,024	5,580	6,137	6,693
50	1,093	1,632	2,172	2,711	3,250	3,790	4,329	4,868	5,408	5,947	6,486
60	1,060	1,583	2,106	2,630	3,153	3,676	4,199	4,722	5,245	5,768	6,292
70	1,029	1,537	2,045	2,553	3,061	3,569	4,077	4,585	5,092	5,600	6,108
80	1,000	1,494	1,987	2,481	2,974	3,468	3,961	4,455	4,948	5,442	5,935
90	0,973	1,453	1,932	2,412	2,892	3,372	3,852	4,332	4,812	5,292	5,772
100	0,947	1,414	1,881	2,348	2,815	3,282	3,749	4,216	4,683	5,150	5,617
110	0,922	1,377	1,832	2,286	2,741	3,196	3,651	4,106	4,561	5,016	5,471
120	0,898	1,342	1,785	2,228	2,672	3,115	3,558	4,002	4,445	4,888	5,331
130	0,876	1,308	1,741	2,173	2,605	3,038	3,470	3,902	4,335	4,767	5,199
140	0,855	1,277	1,699	2,120	2,542	2,964	3,386	3,808	4,230	4,651	5,073
150	0,835	1,247	1,658	2,070	2,482	2,894	3,306	3,718	4,130	4,542	4,953
160	0,815	1,218	1,620	2,023	2,425	2,827	3,230	3,632	4,034	4,437	4,839
170	0,797	1,190	1,584	1,977	2,370	2,763	3,157	3,550	3,943	4,337	4,730
180	0,779	1,164	1,549	1,933	2,318	2,702	3,087	3,472	3,856	4,241	4,626
190	0,763	1,139	1,515	1,891	2,268	2,644	3,020	3,397	3,773	4,149	4,526
200	0,746	1,115	1,483	1,852	2,220	2,588	2,957	3,325	3,693	4,062	4,430
220	0,716	1,070	1,423	1,776	2,130	2,483	2,837	3,190	3,543	3,897	4,250
240	0,688	1,028	1,368	1,707	2,047	2,386	2,726	3,066	3,405	3,745	4,085
260	0,662	0,989	1,316	1,643	1,970	2,297	2,624	2,951	3,278	3,605	3,931
280	0,639	0,954	1,269	1,584	1,899	2,214	2,529	2,844	3,159	3,474	3,789
300	0,616	0,920	1,224	1,528	1,833	2,137	2,441	2,745	3,049	3,353	3,657

t [°C]	GAUGE PRESSURE [bar]										
	6	7	8	9	10	12	14	16	18	20	25
0	8,950	10,226	11,502	12,778	14,054	16,606	19,159	21,711	24,263	26,815	33,196
10	8,634	9,865	11,096	12,327	13,558	16,020	18,482	20,944	23,406	25,868	32,024
20	8,339	9,528	10,717	11,906	13,095	15,473	17,852	20,230	22,608	24,986	30,931
30	8,064	9,214	10,364	11,514	12,663	14,963	17,263	19,562	21,862	24,162	29,911
40	7,807	8,920	10,033	11,146	12,259	14,485	16,711	18,938	21,164	23,390	28,956
50	7,565	8,644	9,722	10,801	11,880	14,037	16,194	18,352	20,509	22,666	28,060
60	7,338	8,384	9,430	10,470	11,523	13,616	5,708	17,800	19,893	21,986	27,217
70	7,124	8,140	9,156	10,171	11,187	13,219	15,250	17,280	19,314	21,345	26,424
80	6,922	7,909	8,896	9,883	10,870	12,845	14,819	16,793	18,767	20,741	25,676
90	6,732	7,692	8,651	9,611	10,571	12,491	14,411	16,330	18,250	20,170	24,969
100	6,551	7,485	8,420	9,354	10,288	12,156	14,024	15,893	17,761	19,629	24,300
110	6,380	7,290	8,200	9,110	10,019	11,839	13,658	15,478	17,297	19,117	23,666
120	6,218	7,105	7,991	8,878	9,764	11,538	13,311	15,084	16,857	18,631	23,064
130	6,064	6,928	7,793	8,658	9,522	11,252	12,981	14,710	16,439	18,168	22,492
140	5,917	6,761	7,604	8,448	9,292	10,979	12,667	14,354	16,041	17,729	21,947
150	5,777	6,601	7,425	8,248	9,072	10,720	12,367	14,015	15,662	17,310	21,429
160	5,644	6,449	7,253	8,058	8,863	10,472	12,082	13,691	15,301	16,910	20,934
170	5,516	6,303	7,090	7,876	8,663	10,236	11,809	13,382	14,955	16,529	20,461
180	5,395	6,164	6,933	7,702	8,472	10,010	11,548	13,087	14,625	16,164	20,010
190	5,278	6,031	6,783	7,536	8,289	9,794	11,299	12,804	14,310	15,815	19,578
200	5,167	5,903	6,640	7,377	8,114	9,587	11,060	12,534	14,007	15,481	19,164
220	4,957	5,664	6,371	7,078	7,784	9,198	10,612	12,025	13,439	14,853	18,387
240	4,764	5,443	6,123	6,802	7,481	8,840	10,198	11,557	12,915	14,274	17,670
260	4,585	5,443	5,893	6,547	7,200	8,508	9,816	11,123	12,431	13,738	17,007
280	4,419	5,050	5,680	6,310	6,940	8,200	9,461	10,721	11,981	13,242	16,392
300	4,265	4,873	5,482	6,090	6,698	7,914	9,131	10,347	11,563	12,780	15,820

t – temperature.

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PROPERTIES OF LIQUIDS

LIQUID	t_{ref} [ºC]	ρ [kg/m³]	Ca [kcal/kg ºC]	λ [kcal/m h ºC]
Acetic acid	25	1049	0,51	0,166
Acetone	20	790	0,515	0,139
Ammonia solution (25%)	20	771	–	0,425
Apple juice	20	1356	0,446	–
Argon	-186	1430	–	–
Automobile oils	15	880 - 940	–	0,125
Beer	10	1010	–	–
Benzene	20	870	0,43	0,138
Benzole	20	879	0,43	0,132
	80	–	0,44	0,13
Butane	25	599	0,55	–
Butter	20	911	0,56 - 0,69	–
Carbon tetrachloride	25	1584	0,207	0,089
Carbon disulphide	20	1266	0,241	0,138
Chloride	25	1560	–	–
Chloroform	20	1489	0,251	0,11
Citric acid	25	1660	–	–
Crude oil	20	900	–	0,113
Diesel	20	800	–	–
Ethane (liquid)	-89	570	–	–
Ethyl acetate	20	901	–	–
Ethyl alcohol (95% vol.)	0	789	0,547	0,166
	40	-	0,648	0,144
Fuel oil	20	840 - 920	0,471	0,103
Gasoline	20	803	0,53	0,129
Glycerine	10	1260	0,576	0,25
Glycerol	25	1126	–	–
Helium	-271	147	–	–
Honey	20	1420	0,54 - 0,6	0,00648
Hydrazine	25	795	–	–
Hydrochloric acid (25%)	20	1150	0,75	0,404
Kerosene	16	820,1	0,48	0,125

LIQUID	t_{ref} [ºC]	ρ [kg/m³]	Ca [kcal/kg ºC]	λ [kcal/m h ºC]
Methane	-90	162	–	–
Methanol	20	791	0,33	–
Methyl alcohol (95% vol.)	20	792	0,596	0,174
Milk, cow, heavy cream	20	994	0,94	0,434
Naphta	15	665	0,92	–
Nitric acid	20	1520	0,411	0,456
Nitrogen	-201	808	–	–
Oil, coconut	20	924	–	–
Oil, corn	20	922	–	–
Oil, castor	25	956,1	0,43	0,155
Oil, cotton seed	15	926	–	–
Oil, olive	10	918	0,47	0,146
Oil, palm	20	915	–	–
Oil, soya	20	927	0,47	–
Oil, sunflower	20	920	–	–
Oil, peanut	20	914	–	–
Oil, whale	15	925	–	–
Oxygen (liquid)	-186	1155	–	–
Petrol	30	680 - 710	0,45	0,112
Phenol	25	1072	0,34	0,163
Propanol	25	804	–	–
Propyl alcohol	25	800	0,57	0,138
Sea water	25	1025	0,94	–
Sodium carbonate	20	2530	0,86	0,516
Sodium Hydroxide (caustic soda)	15	1250	0,77	0,37
Sulphuric acid	12	1853	0,33	0,28
Sulphurous acid (96%)	20	1840	0,351	0,43
Water	8	999,88	1	0,485
	41	991,66	1	0,538
	72	976,36	1	0,58
	100	958,38	1,006	0,586
	200	0 - 200	1,037	0,572

t_{ref} – reference temperature. **ρ** – density at 20 ºC. **v** – specific volume. **Ca** – actual specific heat capacity at t_{ref}. **λ** – thermal conductivity at t_{ref}.

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PROPERTIES OF THE ELEMENTS

ELEMENT	SYMBOL	ATOMIC NUMBER	MASS NUMBER *	t_f [ºC]	t_e [ºC]
Actinium	Ac	89	(227)	1600	–
Aluminum	Al	13	27	659.7	2057
Americum	Am	95	(243)	–	–
Antimony	Sb	51	121	630.5	1380
Argon	Ar	18	40	-189.2	-185.7
Arsenic	As	33	75	–	–
Astatine	At	85	(210)	–	–
Barium	Ba	56	138	850	1140
Berkelium	Bk	97	(247)	–	–
Beryllium	Be	4	9	1278±5	2970
Bismuth	Bi	83	209	271.3	1560±5
Boron	B	5	11	2300	2550
Bromine	Br	35	79	-7.2	58.78
Cadmium	Cd	48	114	320.9	767±2
Calcium	Ca	20	40	842±8	1240
Californium	Cf	98	(249)	–	–
Carbon	C	6	12	>3550	4200
Cerium	Ce	58	140	804	1400
Cesium	Cs	55	133	-103±5	670
Chlorine	Cl	17	35	28.5	-34.6
Chromium	Cr	24	52	1890	2480
Cobalt	Co	27	59	1495	2900
Copper	Cu	29	63	1083	2336
Curium	Cm	96	(248)	–	–
Dysprosium	Dy	66	164	–	–
Einsteinium	Es	99	(254)	–	–
Erbium	Er	68	166	–	–
Europium	Eu	63	153	1150±50	–
Fermium	Fm	100	(252)	–	–
Fluourine	F	9	19	-223	-188
Francium	Fr	87	(223)	–	–
Gadolinium	Gd	64	158	–	–
Gallium	Ga	31	69	29.78	1983
Germanium	Ge	32	74	958.5	2700
Gold	Au	79	197	1063	2600
Hafnium	hf	72	180	–	–
Helium	he	2	4	-272	-268.9
Holmium	ho	67	165	–	–
Hydrogen	h	1	1	-259.14	-252.8
Indium	In	49	115	156.4	2000±10
Iodine	I	53	127	113.7	184.35
Iridium	Ir	77	193	2454	>4800
Iron	Fe	26	56	1535	3000
Krypton	Kr	36	84	-156.6	-152.9
Lanthanum	La	57	139	826	–
Lawrencium	Lw	103	(257)	–	–
Lead	Pb	82	208	327.43	1620
Lithium	Li	3	7	186	1336±5
Lutetium	Lu	71	175	–	–
Magnesium	Mg	12	24	651	1107
Manganese	Mn	25	55	1260	1900
–	–	–	–	–	–

ELEMENT	SYMBOL	ATOMIC NUMBER	MASS NUMBER *	t_f [ºC]	t_e [ºC]
Mendelevium	Mv	101	(256)	–	–
Mercury	hg	80	202	-38.87	356.58
Molybdenum	Mo	42	98	2620±10	4800
Neodymium	Nd	60	142	840	–
Neon	Ne	10	20	-248.67	-245.9
Neptunium	Np	93	(237)	–	–
Nickel	Ni	28	58	1455	2900
Niobium	Nb	41	93	2500±50	3700
Nitrogen	N	7	14	-209.86	-195.8
Nobelium	No	102	(253)	–	–
Osmium	Os	76	192	2700	>5300
Oxygen	O	8	16	-218.4	-182.86
Palladium	Pd	46	106	1549.4	2000
Phosphorus	P	15	31	–	–
Platinum	Pt	78	195	1773.5	4300
Plutonium	Pu	94	(242)	–	–
Polonium	Po	84	(209)	–	–
Potassium	K	19	39	53.3	760
Praseody-mium	Pr	59	141	940	–
Promethium	Pm	61	(145)	–	–
Protactinium	Pa	91	(231)	–	–
Radium	Ra	88	(226)	700	–
Radon	Rn	86	(222)	-71	1140
Rhenium	Re	75	187	3167±60	-61.8
Rhodium	Rh	45	103	1966±3	>2500
Rubidium	Rb	37	85	38.5	700
Ruthenium	Ru	44	102	2450	2700
Samarium	Sm	62	152	>1300	–
Scandium	Sc	21	45	1200	2400
Selenium	Se	34	80	217	688
Silicon	Si	14	28	1420	2355
Silver	Ag	47	107	960.8	1950
Sodium	Na	11	23	97.5	880
Strontium	Sr	38	88	800	1150
Sulfur	S	16	32	–	–
Tantalum	Ta	73	180	2996±50	–
Technetium	Tc	43	(99)	–	–
Tellurium	Te	52	130	452	1390
Terbium	Tb	65	159	327±5	–
Thallium	Tl	81	205	302	1457±10
Thorium	Th	90	232	1845	4500
Thulium	Tm	69	169	–	–
Tin	Sn	50	120	231.89	2270
Titanium	Ti	22	48	1800	>3000
Tungsten	W	74	184	3370	5900
Uranium	U	92	238	1133	–
Vanadium	V	23	51	1710	3000
Xenon	Xe	54	132	-112	-107.1
Ytterbium	Yb	70	174	1800	–
Yttrium	Y	39	89	1490	2500
Zinc	Zn	30	64	419.47	907
Zirconium	Zr	40	90	1857	>2900

t_f – melting temperature. **t_e** – boiling temperature.
***** From the most common and stable isotop. Values in parentheses refer to the isotope with the longest half-life for those elements having an unstable isotope.

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PROPERTIES AND COMPATIBILITY OF ELASTOMERS

ELASTOMER	NITRILE (NBR)	ETHYLENE-PROPYLENE (EPDM)	NEOPRENE (CR)	SILICONE (VMQ)	POLY-URETHANE (EU)	FLUORO-ELASTOMER (FPM)	PETROFLUORO ELASTOMER (FFKM)
Maximum temperature *	110 ºC	130 ºC	120 ºC	230 ºC	80 ºC	210 ºC	326 ºC
Minimum temperature *	-35 ºC	-55 ºC	-45 ºC	-55 ºC	-30 ºC	-15 ºC	-58 ºC
Compression set	B	C	C	A	E	C	B
Wear resistance	C	C	C	E	A	C	C
Gas permeability	C	C	C	E	B	C	C
Weather resistance	E	A	C	A	A	A	A
Ozone resistance	E	A	A	A	A	A	A
Air, Ambient	A	A	A	A	A	A	A
Air, Hot (90 ºC)	U	A	C	A	U	A	A
Alcohol	B	A	B	B	U	E	A
Aldehydes	U	B	U	C	U	U	B
Aliphatic Hydrocarbons	C	U	E	E	C	A	A
Alkalis	B	A	C	B	B	C	A
Amines	B	B	B	E	U	U	B
Animal Fats	B	U	C	C	C	B	A
Aromatic Hydrocarbons	D	U	D	U	D	A	A
Esters, Alkyl Phosphate	U	B	U	C	U	U	A
Esters, Aryl Phosphate	U	A	U	C	U	A	A
Esters, Silicate	C	U	E	U	U	A	A
Ethers	U	E	U	U	E	U	A
Halogenated hydrocarbons	U	U	U	U	E	A	A
Inorganic Acids	E	C	B	B	U	A	A
Ketones	U	A	A	C	U	U	B
Lacquer, Solvents	B	E	E	E	E	E	A
L.P. Gases & Fuel oils	A	E	A	C	B	A	A
Mineral Oil, high analine fats	B	U	C	C	A	A	A
Mineral Oil, low analine fats	B	U	U	E	B	A	A
Organic Acids	C	C	C	B	U	C	A
Petroleum	A	E	A	E	E	A	A
Silicone Oils	A	A1	A	E	A	A	A
Vegetable Oils	A	U	C	B	E	A	A
Water / Steam	C	A	E	E	U	B2	C2

* Reference values. Actual values are strongly dependent on the specific compound and operating medium.

A – good. **B** – satisfactory. **C** – fair. **D** – Doubtful. **E** – Poor. **U** – Unsatisfactory. **1** – EPDM may shrink. **2** – Depending on compound.
Remarks: This information is intended only as a guideline. Detailed chemical compatibility lists should be consulted.
Whenever possible the fluid compatibility of the O-ring compound should be rated “A". For a static seal application a rating “B" is usually acceptable, but it should be tested.
Where a “B" rated compound must be used, do not expect to re-use it after disassembly. It may have swollen enough that it cannot be reassembled.
When a compound rated “C" is to be tried, be sure it is first tested under the full range of operating conditions.
Common trade names: NBR - Perbunan N®, Buna N®. FPM - Viton®, Fluorel®. FFKM - Kalrez®, Chemraz®, Parafluor®.

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CONVERSION FACTORS

MASS					
UNIT	kg	lb	oz	ton (US)	ton (UK)
kg	1	2,2046	35,274	$1{,}1\times10^{-3}$	$9{,}8\times10^{-4}$
lb	0,4536	1	16	5×10^{-4}	$4{,}5\times10^{-4}$
oz	0,0283	0,0625	1	$3{,}125\times10^{-5}$	$2{,}79\times10^{-5}$
ton (US)	907,19	2 000	32 000	1	0,8929
ton (UK)	1 016,05	2 240	35 840	1,12	1

LENGTH					
UNIT	m	in	ft	yd	mi
m	1	39,37	3,2808	1,0936	0,00062
in	0,0254	1	0,0833	0,0278	$1{,}578\times10^{-5}$
ft	0,3048	12	1	0,3333	0,00019
yd	0,914	36	3	1	0,00057
mi	1 609	63 360	5 280	1 760	1

AREA					
UNIT	m^2	in^2	ft^2	yd^2	ac
m^2	1	1 550	10,764	10,764	$2{,}47\times10^{-4}$
in^2	$6{,}452\times10^{-4}$	1	$6{,}944\times10^{-3}$	$7{,}7\times10^{-4}$	1,594
ft^2	$9{,}29\times10^{-2}$	144	1	0,111	$2{,}296\times10^{-5}$
yd^2	0,836	1 296	9	1	2×10^{-4}
ac	4 046,86	6 272 640	43 560	4 840	1

VOLUME					
UNIT	dm^3	in^3	ft^3	gal (US)	gal (UK)
dm^3	1	61,024	0,353	0,264	0,22
in^3	0,016	1	$5{,}787\times10^{-4}$	0,0043	$3{,}605\times10^{-3}$
ft^3	28,317	1728	1	7,48	6,229
gal (US)	3,785	231	0,13	1	0,83
gal (UK)	4,546	277,419	0,161	1,2	1

VOLUMETRIC FLOW RATE					
UNIT	m^3/h	l/h	cfm	gpm (US)	gpm (UK)
m^3/h	1	1000	0,589	4,403	3,67
l/h	1×10^{-3}	1	$5{,}886\times10^{-4}$	$4{,}4\times10^{-3}$	$3{,}7\times10^{-3}$
cfm	1,699	1 699	1	7,481	6,229
gpm (US)	0,227	227,125	0,161	1	0,833
gpm (UK)	0,272	270,27	0,161	1,2	1

ENERGY					
UNIT	J	kcal	Wh	Btu	kgf m
J	1	$0{,}239\times10^{-3}$	$0{,}278\times10^{-3}$	$0{,}948\times10^{-3}$	0,102
kcal	4 186,8	1	1,162	3,966	426,92
Wh	3600	0,861	1	3,413	367,08
Btu	1055,06	0,252	0,293	1	107,58
kgf m	9,807	$2{,}342\times10^{-3}$	$2{,}724\times10^{-3}$	$9{,}295\times10^{-3}$	1

POWER					
UNIT	W	kcal/h	Btu/h	hp	ft lb/s
W	1	0,8598	3,412	$1{,}34\times10^{-3}$	0,7376
kcal/h	1,163	1	3,968	$1{,}6\times10^{-3}$	0,858
Btu/h	0,293	0,252	1	$3{,}93\times10^{-4}$	0,216
hp	745,7	641,19	2 545	1	550
ft lb/s	1,356	1,166	4,63	$1{,}818\times10^{-3}$	1

PRESSURE					
UNIT	Pa	bar	atm	psi	mm Hg
Pa	1	1×10^{-5}	$9{,}869\times10^{-6}$	$1{,}45\times10^{-4}$	$7{,}5\times10^{-3}$
bar	1×10^{5}	1	0,987	14,504	750,06
atm	101 325	1,01325	1	14,696	760
psi	6 894,76	0,06894	0,068	1	51,715
mm Hg	133,32	$1{,}333\times10^{-3}$	$1{,}316\times10^{-3}$	0,0193	1

VELOCITY				
UNIT	m/s	ft/s	km/h	mph
m/s	1	3,281	3,6	2,237
ft/s	0,305	1	1,097	0,682
km/h	0,278	0,911	1	0,621
mph	0,447	1,467	1,609	1

WATER HARDNESS					
UNIT	mg/L	ppm	gpg	ºfH	ºdH
mg/L	1	1	0,058	0,1	0,056
ppm	1	1	0,058	0,1	0,056
gpg	17,1	17,1	1	1,71	0,958
ºfH	10	10	0,583	1	0,56
ºdH	17,8	17,8	1,04	1,79	1

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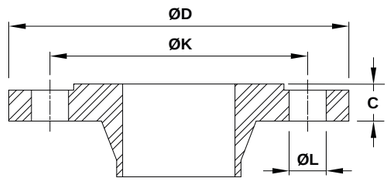
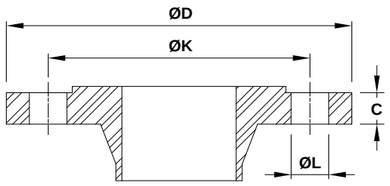
EN 1092-1 FLANGE DIMENSIONS



PN 16						
DN	ØD	ØK	C	ØL	BOLTING	
					Nº	SIZE
10	90	60	16	14	4	M12
15	95	65	16	14	4	M12
20	105	75	18	14	4	M12
25	115	85	18	14	4	M12
32	140	100	18	18	4	M16
40	150	110	18	18	4	M16
50	165	125	18	18	4	M16
65	185	145	18	18	8	M16
80	200	160	20	18	8	M16
100	220	180	20	18	8	M16
125	250	210	22	18	8	M16
150	285	240	22	22	8	M20
200	340	295	24	22	12	M20
250	405	355	26	26	12	M24
300	460	410	28	26	12	M24
350	520	470	30	26	16	M24
400	580	525	32	30	16	M27

PN 40						
DN	ØD	ØK	C	ØL	BOLTING	
					Nº	SIZE
10	90	60	16	14	4	M12
15	95	65	16	14	4	M12
20	105	75	18	14	4	M12
25	115	85	18	14	4	M12
32	140	100	18	18	4	M16
40	150	110	18	18	4	M16
50	165	125	20	18	4	M16
65	185	145	22	18	8	M16
80	200	160	24	18	8	M16
100	235	190	24	22	8	M20
125	270	220	26	26	8	M24
150	300	250	28	26	8	M24
200	375	320	34	30	12	M27
250	450	385	38	33	12	M30
300	515	450	42	33	16	M30
350	580	510	46	36	16	M33
400	660	585	50	39	16	M36

ASME B16.5 FLANGE DIMENSIONS



CLASS 150						
NPS	ØD	ØK	C	ØL	BOLTING	
					Nº	SIZE
1/2"	90	60,3	9,6	15,88	4	1/2"
3/4"	100	69,9	11,2	15,88	4	1/2"
1"	110	79,4	12,7	15,88	4	1/2"
1 1/4"	115	88,9	14,3	15,88	4	1/2"
1 1/2"	125	98,4	15,9	15,88	4	1/2"
2"	150	120,7	17,5	19,05	4	5/8"
2 1/2"	180	139,7	20,7	19,05	4	5/8"
3"	190	152,4	22,3	19,05	4	5/8"
3 1/2"	215	177,8	22,3	19,05	8	5/8"
4"	230	190,5	22,3	19,05	8	5/8"
5"	255	215,9	22,3	22,23	8	3/4"
6"	280	241,3	23,9	22,23	8	3/4"
8"	345	298,5	27	22,23	8	3/4"
10"	405	362	28,6	25,40	12	7/8"
12"	485	431,8	30,2	25,40	12	7/8"
14"	535	476,3	33,4	28,58	12	1"
16"	595	539,8	35	28,58	16	1"

CLASS 300						
NPS	ØD	ØK	C	ØL	BOLTING	
					Nº	SIZE
1/2"	95	66,7	12,7	15,88	4	1/2"
3/4"	115	82,6	14,3	19,05	4	5/8"
1"	125	88,9	15,9	19,05	4	5/8"
1 1/4"	135	98,4	17,5	19,05	4	5/8"
11/2"	155	114,3	19,1	22,23	4	3/4"
2"	165	127	20,7	19,05	8	5/8"
2 1/2"	190	149,2	23,9	22,23	8	3/4"
3"	210	168,3	27	22,23	8	3/4"
3 1/2"	230	184,2	28,6	22,23	8	3/4"
4"	255	200	30,2	22,23	8	3/4"
5"	280	235	33,4	22,23	8	3/4"
6"	320	269,9	35	22,23	12	3/4"
8"	380	330,2	39,7	25,4	12	7/8"
10"	445	387,4	46,1	28,58	16	1"
12"	520	450,8	49,3	31,75	16	1 1/8"
14"	585	514,4	52,4	31,75	20	1 1/8"
16"	650	571,5	55,6	34,93	20	1 1/4"

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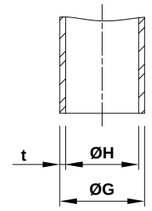
DIN 11866 SANITARY TUBE DIMENSIONS



DIN 11866

ASEPTIC STAINLESS STEEL TUBES ACC. TO DIN 11866-A															
DN	**6**	**8**	**10**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**	**200**
ØG	8	10	13	19	23	29	35	41	53	70	85	104	129	154	204
ØH	6	8	10	16	20	26	32	38	50	66	81	100	125	150	200
t	1	1	1,5	1,5	1,5	1,5	1,5	1,5	1,5	2	2	2	2	2	2

ASEPTIC STAINLESS STEEL TUBES ACC. TO DIN 11866-B															
OD	**10,2**	**13,5**	**17,2**	**21,3**	**26,9**	**33,7**	**42,4**	**48,3**	**60,3**	**76,1**	**88,9**	**114,3**	**139,7**	**168,3**	**219,1**
ØG	10,2	13,5	17,2	21,3	26,9	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1
ØH	7	10,3	14	18,1	23,7	29,7	38,4	44,3	56,3	72,1	84,3	109,7	134,5	163,1	213,9
t	1,6	1,6	1,6	1,6	1,6	2	2	2	2	2	2,3	2,3	2,6	2,6	2,6

ASEPTIC STAINLESS STEEL TUBES ACC. TO DIN 11866-C											
NPS	**1/4"**	**3/8"**	**1/2"**	**3/4"**	**1"**	**11/2"**	**2"**	**21/2"**	**3"**	**4"**	**6"**
ØG	6,35	9,53	12,7	19,05	25,4	38,1	50,8	63,5	76,2	101,6	152,4
ØH	4,57	7,75	9,4	15,75	22,1	34,8	47,5	60,2	72,9	97,38	146,86
t	0,89	0,89	1,65	1,65	1,65	1,65	1,65	1,65	1,65	2,11	2,77

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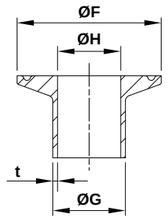
DIN 32676 SANITARY FERRULE DIMENSIONS



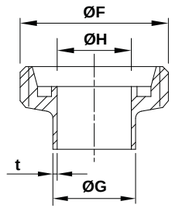
DIN 32676

ASEPTIC FERRULES ACC. TO DIN 32676-A FOR TUBES ACC. TO DIN 11866-A															
DN	**6**	**8**	**10**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**	**200**
ØF	25	25	34	34	34	50,5	50,5	50,5	64	91	106	119	155	183	233,5
ØG	8	10	13	19	23	29	35	41	53	70	85	104	129	154	204
ØH	6	8	10	16	20	26	32	38	50	66	81	100	125	150	200
t	1	1	1,5	1,5	1,5	1,5	1,5	1,5	1,5	2	2	2	2	2	2

ASEPTIC FERRULES ACC. TO DIN 32676-B FOR TUBES ACC. TO DIN 11866-B															
DN	**6**	**8**	**10**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**	**200**
ØF	25	25	25	50,5	50,5	50,5	64	64	77,5	91	106	130	155	183	233,5
ØG	10,2	13,5	17,2	21,3	26,9	33,7	42,4	48,3	60,3	76,1	88,9	114,3	139,7	168,3	219,1
ØH	7	10,3	14	18,1	23,7	29,7	38,4	44,3	56,3	72,1	84,3	109,7	134,5	163,1	213,9
t	1,6	1,6	1,6	1,6	1,6	2	2	2	2	2	2,3	2,3	2,6	2,6	2,6

ASEPTIC FERRULES ACC. TO ASME BPE (DIN 32676-C) FOR TUBES ACC. TO DIN 11866-C										
NPS	**1/4"**	**3/8"**	**1/2"**	**3/4"**	**1"**	**11/2"**	**2"**	**21/2"**	**3"**	**4"**	**6"**
ØF	25	25	25	25	50,4	50,4	63,9	77,4	90,9	118,9	168,9
ØG	6,4	9,4	12,7	19,1	25,4	38,1	50,8	63,5	76,2	101,6	152,4
ØH	4,6	7,8	9,4	15,8	22,1	34,8	47,5	60,2	72,9	97,4	146,9
t	0,89	0,89	1,65	1,65	1,65	1,65	1,65	1,65	1,65	2,11	2,77

DIN 11851 SANITARY FITTING DIMENSIONS



DIN 11851

HYGIENIC MALE THREADS ACC. TO DIN 11851 FORM A FOR TUBES ACC. TO DIN 11850												
DN	**10**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**	**125**	**150**
ØF	RD 28 x 1/8	RD 34 x 1/8	RD 44 x 1/6	RD 52 x 1/6	RD 58 x 1/6	RD 65 x 1/6	RD 78 x 1/6	RD 95 x 1/6	RD 110 x 1/4	RD 130 x 1/4	RD 160 x 1/4	RD 190 x 1/4
ØG	13	19	23	29	35	41	53	70	85	104	129	154
ØH	10	16	20	26	32	38	50	66	81	100	125	150
t	1,5	1,5	1,5	1,5	1,5	1,5	1,5	2	2	2	2	2

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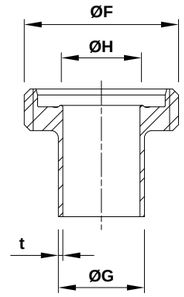
DIN 11864-1 SANITARY FITTING DIMENSIONS



DIN 11864-1

HYGIENIC MALE THREADS ACC. TO DIN 11864-1 FORM A FOR TUBES ACC. TO DIN 11866-A										
DN	**10**	**15**	**20**	**25**	**32**	**40**	**50**	**65**	**80**	**100**
ØF	RD 28 x 1/8	RD 34 x 1/8	RD 44 x 1/6	RD 52 x 1/6	RD 58 x 1/6	RD 65 x 1/6	RD 78 x 1/6	RD 95 x 1/6	RD 110 x 1/4	RD 130 x 1/4
ØG	13	19	23	29	35	41	53	70	85	104
ØH	10	16	20	26	32	38	50	66	81	100
t	1,5	1,5	1,5	1,5	1,5	1,5	1,5	2	2	2

HYGIENIC MALE THREADS ACC. TO DIN 11864-1 FORM A FOR TUBES ACC. TO DIN 11866-B										
OD	**13,5**	**17,2**	**21,3**	**26,9**	**33,7**	**42,4**	**48,3**	**60,3**	**76,1**	**88,9**
ØF	RD 28 x 1/8	RD 34 x 1/8	RD 44 x 1/6	RD 52 x 1/6	RD 58 x 1/6	RD 65 x 1/6	RD 78 x 1/6	RD 95 x 1/6	RD 110 x 1/4	RD 130 x 1/4
ØG	13,5	17,2	21,3	26,9	33,7	42,4	48,3	60,3	76,1	88,9
ØH	10,3	14	18,1	23,7	29,7	38,4	44,3	56,3	72,1	84,3
t	1,6	1,6	1,6	1,6	2	2	2	2	2	2,3

HYGIENIC MALE THREADS ACC. TO DIN 11864-1 FORM A FOR TUBES ACC. TO DIN 11866-C								
NPS	**1/2"**	**3/4"**	**1"**	**11/2"**	**2"**	**21/2"**	**3"**	**4"**
ØF	RD 28 x 1/8	RD 34 x 1/8	RD 52 x 1/6	RD 65 x 1/6	RD 78 x 1/6	RD 95 x 1/6	RD 110 x 1/4	RD 130 x 1/4
ØG	12,7	19,1	25,4	38,1	50,8	63,5	76,2	101,6
ØH	9,4	15,8	22,1	34,8	47,5	60,2	72,9	97,4
t	1,65	1,65	1,65	1,65	1,65	1,65	1,65	2,11

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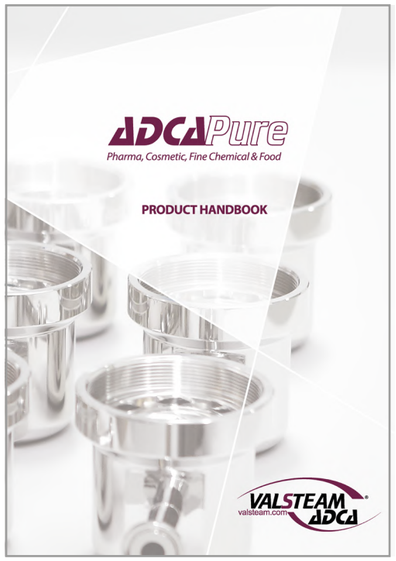

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