

SANITARY TANK BLANKETING REGULATORS BKR2 (Low pressure regulator)

DESCRIPTION

Tank blanketing valves are commonly used in tank storage systems to prevent and protect against explosions (avoiding flammable liquids being vented from vessel), to control product contamination against external air that may fill the vapour space, to reduce evaporation losses (consequently product 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.

Completely machined from barstock material, no castings or forgings are used on the standard version.

No rising stem, except when supplied with top cap.

STANDARD SURFACE FINISH

Body and internal wetted parts: ≤ 0,51 micron Ra – SF1.

Body external: ≤ 0,76 micron Ra – SF3.

Cover: internal machined; external as casted.

Other surface conditions see IS PV20.00-Technical information. Ultrasonic cleaning.

OPTIONS:

Diaphragm leakage line connection.

Gauge connection on body.

External pulse line (recommended for low set pressures < 10 mbar or high flow).

Dome loaded (for higher pressure control).

Blanketing with vacuum.

Top cap (adjusting screw sealing).

Hastelloy wetted parts.

USE:

Compressed air, nitrogen and other gases compatible with the construction.

AVAILABLE

MODELS:

BKR2 – Low pressure regulator.

SIZES:

1" – DN25.

OUTLET SPRING

RANGES:

5 to 500 mbar (4000mbar with dome load).

CONNECTIONS:

Clamp ends or others on request.

PACKAGING:

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

The product is end capped and vacuum sealed with recyclable plastic film to avoid contamination.

INSTALLATION:

Vertical installation recommended (to allow draining) or horizontal as close to process as possible in order to prevent long pipe sections and flow restrictions.

For an economical consumption of blanketing gas, the pressure must be adjusted to remain slightly above the atmospheric pressure, while filling and emptying the vessel. See IMI.

ORDER

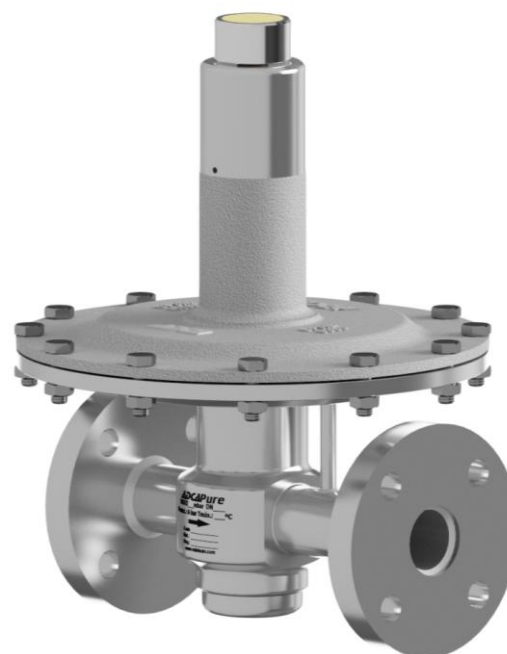
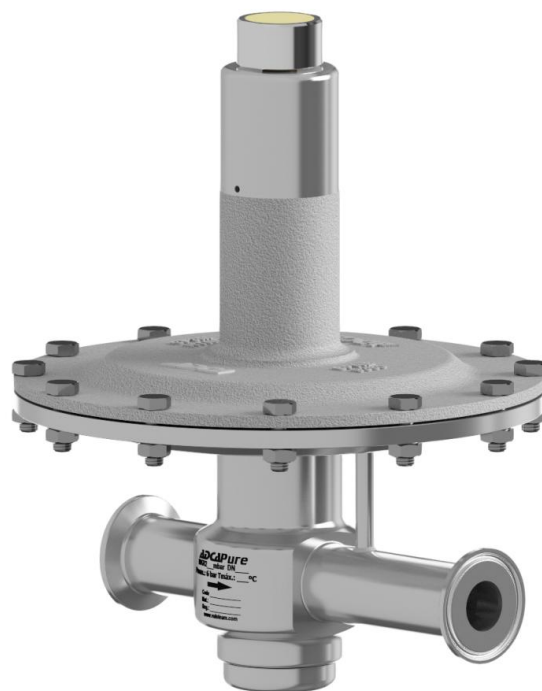
REQUIREMENTS:

Type of fluid.

Maximum operating temperature.

Inlet pressure and required outlet pressure.

Capacity (maximum and minimum).



CE MARKING (PED - European Directive)

PN 16

Category

1" - DN25

SEP

CAPACITIES in Nm ³ /h (air) Max. inlet pressure 6 bar - Seat ø 8 mm										
Size	Out. Press. mbar	Inlet Pressure barg								
		0,1	0,5	0,8	1	2	3	4	5	6
1"-25	5 to 10	4	20	32	40	63	85	102	125	140
1"-25	10 to 50	4	20	32	40	63	85	102	125	140
1"-25	20 to 200	/	20	32	40	63	85	102	125	140
1"-25	50 to 500	/	/	/	40	63	85	102	125	140

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

DIMENSIONS (mm) CLAMP FERRULES ASME BPE									
SIZE	A	B	C	D	F	H	d1	d2 *	WGT. Kg
1"	210	49	244	230	50,5	22,1	50,5	22,1	8,5

DIMENSIONS (mm) CLAMP FERRULES DIN									
SIZE DN	A	B	C	D	F	H	d1	d2 *	WGT. Kg
25	210	49	244	230	50,5	26	50,5	22,1	8,5

Clamp ferrules DIN 32676 Series A;
Tube weld DIN 11866 Series A (DIN 11850 Series 2).

DIMENSIONS (mm) CLAMP FERRULES ISO									
SIZE DN	A	B	C	D	F	H	d1	d2 *	WGT. Kg
25	210	49	244	230	50,5	29,7	50,5	22,1	8,5

Clamp ferrules DIN 32676 Series B;
Tube weld DIN 11866 Series B (ISO 1127 Series 1).

DIMENSIONS (mm) FLANGES DIN EN PN 16								
SIZE DN	A	B	C	D	d1	d2 *	WGT. Kg	
25	210	49	244	230	50,5	22,1	10,6	

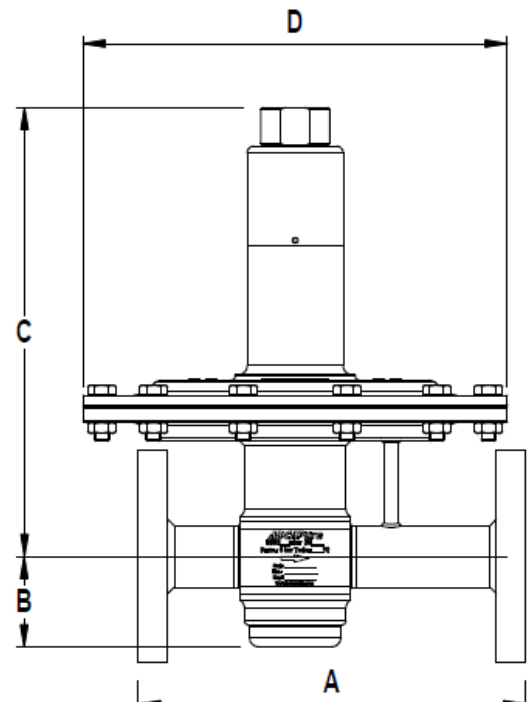
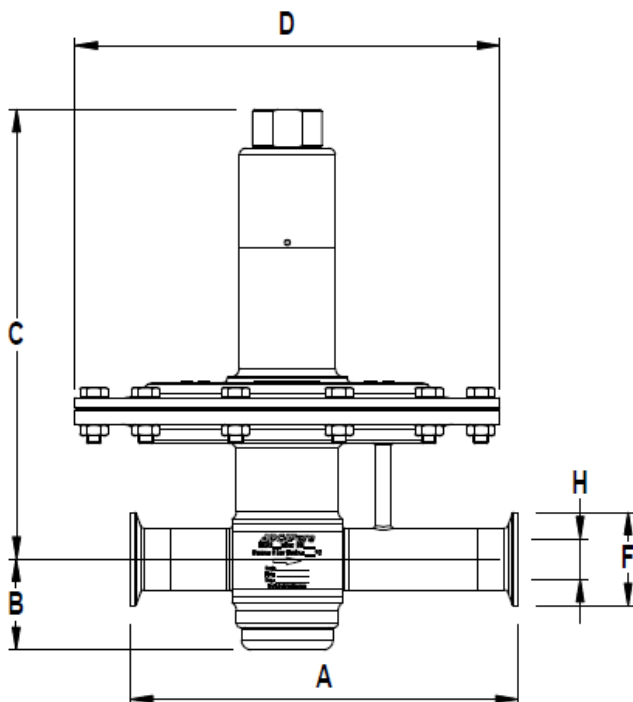
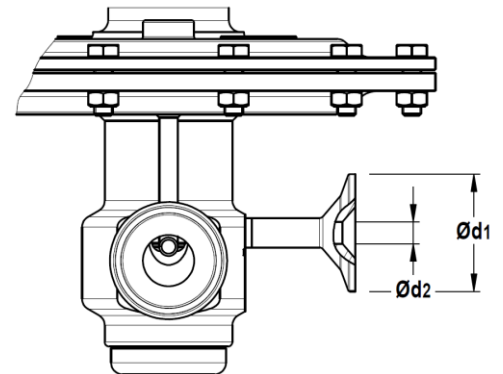
* Special versions or non-standard sanitary clamp ferrules are
available on request. DN 1/4" also available for the flanged version.

CAPACITIES in Nm ³ /h (air) Max. Inlet pressure 16 bar - Seat ø 5 mm							
DN	Out. Press. mbar	Inlet Pressure barg					
		2	4	6	8	12	16
25	5 to 10	21	35	49	62	90	118
25	10 to 50	21	35	49	62	90	118
25	20 to 200	21	35	49	62	90	118
25	50 to 500	21	35	49	62	90	118

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

LIMITING CONDITIONS		
Valve model	BKR2	
Body design conditions	PN 16	
Max.upstream pressure	Seat ø 5	16 bar
	Seat ø 8	6 bar
Max.downstream pressure	500 mbar	
Min.downstream pressure	5 mbar	
Max.design temperature *	130 °C	

*Other on request.

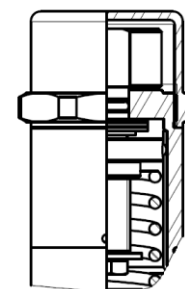
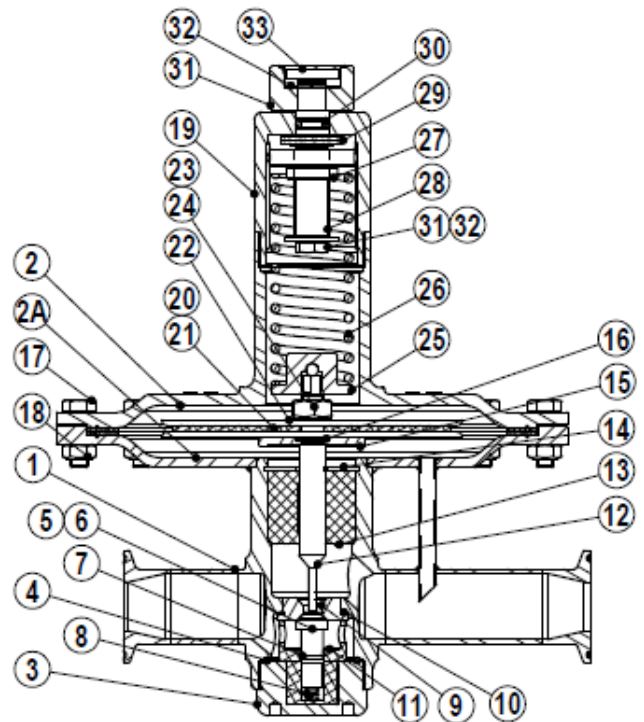


MATERIALS		
POS.	DESIGNATION	MATERIAL
1	Valve body	AISI316L / 1.4404
		Hastelloy C22 / 2.4602
2	Diaphragm top cover	CF3M / 1.4409
2A	Diaphragm low er cover	AISI316L / 1.4404
		Hastelloy C22 / 2.4602
3	Seat cover	AISI316L / 1.4404
		Hastelloy C22 / 2.4602
4	* O-ring	EPDM
5	*Piston	AISI316L / 1.4404
		Hastelloy C22 / 2.4602
6	* Valve head	AISI316L / 1.4404
		Hastelloy C22 / 2.4602
7	* O-ring	EPDM
8	*Valve spring	AISI302 / 1.4300 (Polished)
		Hastelloy C22 / 2.4602
9	Seat	AISI316L / 1.4404
		Hastelloy C22 / 2.4602
10	* O-ring	EPDM
11	Piston guide	PTFE
12	Stem	AISI316L / 1.4404
		Hastelloy C22 / 2.4602
13	Stem guide	PTFE
14	Retaining ring	St. steel A2
		Hastelloy C22 / 2.4602
15	Diaphragm plate	AISI316L / 1.4404
		Hastelloy C22 / 2.4602
16	* O-ring	EPDM
17	Bolts	St. steel A2-70
18	Nuts	St. steel A2-70
19	Spring cover	AISI316L / 1.4404
20	* Low er diaphragm	PTFE
21	* Upper diaphragm	VITON
22	Diaphragm plate	AISI316L / 1.4404
23	Nut	St. steel A2-70
24	Washer	AISI316 / 1.4401
25	Low er spring guide	AISI316L / 1.4404
26	* Regulating spring	AISI302 / 1.4300
27	Top spring plate	AISI316L / 1.4404
28	Adjustment screw	AISI304 / 1.4301
29	Bearing	Corrosion res. Steel
30	* O-ring	EPDM
31	Regulating nut	AISI316L / 1.4404
32	Ext. bow ed shaft ring	Stainless steel
33	Cover nut	Plastic

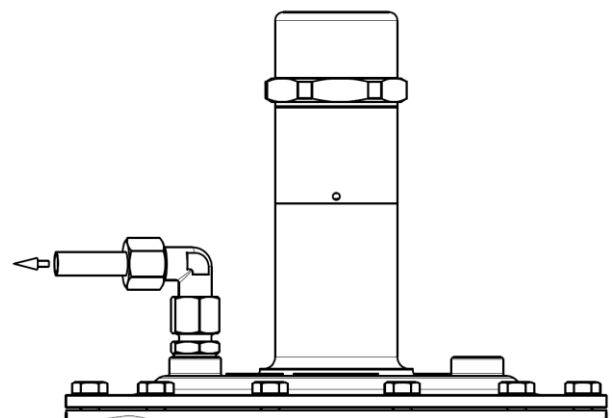
* Available spare parts.

Remarks: FDA/USP Class VI seals certificate on request.

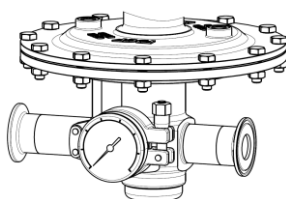
All valves have a serial number. In case of non-standard valves, this number must be supplied if spare parts are ordered.



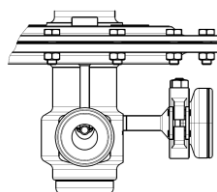
Optional top cap adjusting screw sealing



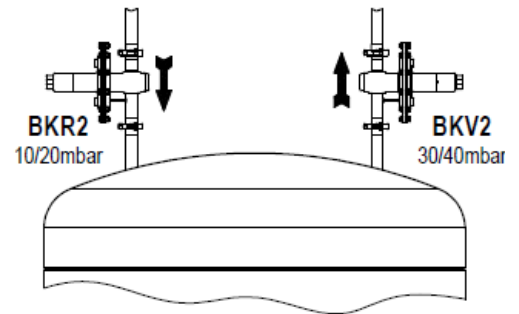
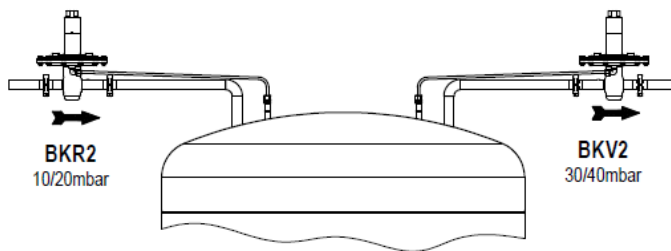
Optional 1/4" diaphragm leakage connection.



Optional pressure gauge connection.



Blanketing valves are not substitute of safety valves or vacuum relief valves.

Typical installation

Blanketing with overpressure

ORDERING CODES BKR2												
Valve Model	BR	0	5	E	E							D 25
BKR2 - Blanketing low pressure relulation valve	BR											
Body material												
AISI 316L - 1.4404	(*)											
Hastelloy C22 - 2.4602	H											
Outlet spring range												
5 to 10 mbar		0										
10 to 50 mbar		1										
20 to 200 mbar		2										
50 to 500 mbar		3										
Valve seat orifice												
Seat diameter 5mm			5									
Seat diameter 8 mm			8									
Top cap												
None				(*)								
Adjusting screw sealing				T								
Valve head												
EPDM					E							
Diaphragm material												
PTFE /EPDM						E						
Special services / options												
Standard surface finish							(*)					
Mechanical polish							1					
Electropolishing							2					
Gauge port												
Without gauge ports								(*)				
Tri-clamp gauge port on the left side (Rel. to the flow direction)								7				
Tri-clamp gauge port on the right side (Rel. to the flow direction)								6				
Tri-clamp gauge port on both sides								5				
Threaded gauge port on the left side (Rel. to the flow direction)								4				
Threaded gauge port on the right side (Rel. to the flow direction)								3				
Threaded gauge port on both sides								2				
Leakage connection												
None									(*)			
Diaphragm cover leakage connection in case of diaphragm failure										R		
Dome loaded												
None									(*)			
Dome loaded for higher pressure control										A		
External pulse line												
Internal pulse orifice									(*)			
External pulse line										1		
Pipe connection												
Clamp ferrule ASME BPE												D
Clamp ferrule DIN (DIN32676-A)												F
Clamp ferrule ISO (DIN32676-B)												E
Flanged EN1092-1 PN16												L
Size												
1" or DN 25												25
...												
Special valves / Extras a)												E

(*) Omitted if a standard valve is requested

a) Full description or additional codes have to be added in case of non-standard combination.