CERTIFIED ISO 9001

Valsteam ADCA is an EHEDG Member

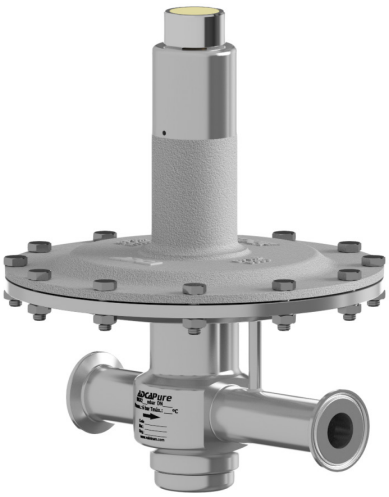
ADCA

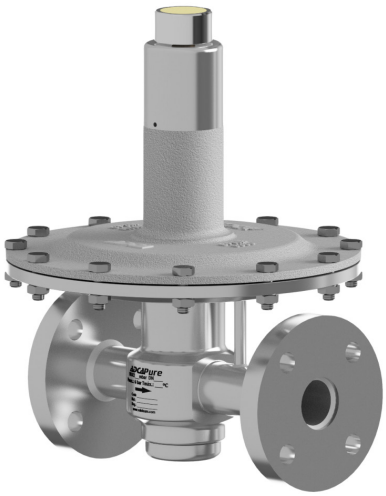
ADCA Pure

SANITARY
TANK BLANKETING REGULATORS
BKR2

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

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 E – Technical information.
Ultrasonic cleaning.

OPTIONS:	Leakage line connection 1/4”. Gauge connection on body. External pulse line (recommended for low set pressures < 10 mbar or high flow). Dome-loaded version. Blanketing with vacuum. Top cap (adjustment screw with cover). Hastelloy wetted parts. ATEX Ex version.
USE:	Compressed air, nitrogen and other gases compatible with the construction.
AVAILABLE MODELS:	BKR2 – low pressure regulator.
SIZES:	1”; 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-loaded).
CONNECTIONS:	ASME BPE, DIN and ISO clamp ferrules. Flanged EN 1092-1 PN 16. 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 25	SEP

CE MARKING – ATEX VERSION (ATEX – European Directive)	
PN 16	**Category**
1” – DN 25	Ex h IIB T6...T3 Gb

CERTIFIED ISO 9001

AIR CAPACITIES (Nm³/h)
Maximum inlet pressure 6 bar – Seat Ø 8 mm

SIZE	OUTLET PRESS. (mbar)	INLET PRESSURE (barg)								
		0,1	0,5	0,8	1	2	3	4	5	6
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 Ø 5 mm

SIZE	OUTLET PRESS. (mbar)	INLET PRESSURE (barg)				
		2	4	6	8	12
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.

DIMENSIONS (mm) ASME BPE

SIZE	A	B	C	D	F	H	d1	d2	WEIGHT (kg)
1"	210	49	244	230	50,5	22,1	25	15,75	8,5

DIMENSIONS (mm) DIN

SIZE	A	B	C	D	F	H	d1	d2	WEIGHT (kg)
DN 25	210	49	244	230	50,5	26	25	15,75	8,5

Remark: Clamp ferrules according to DIN 32676-A.

DIMENSIONS (mm) ISO

SIZE	A	B	C	D	F	H	d1	d2	WEIGHT (kg)
DN 25	210	49	244	230	50,5	29,7	25	15,75	8,5

Remark: Clamp ferrules according to DIN 32676-B.

DIMENSIONS (mm) FLANGED

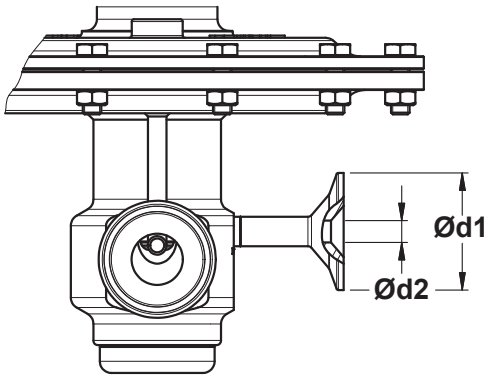
SIZE	A	B	C	D	d1	d2	WEIGHT (kg)
DN 25	210	49	244	230	25	15,75	10,6

LIMITING CONDITIONS

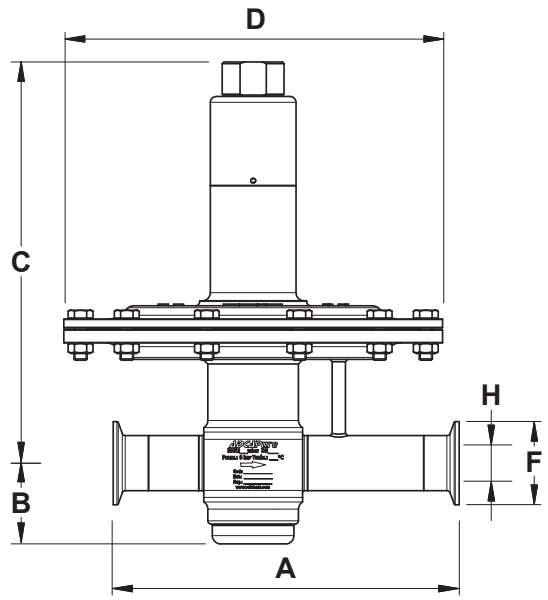
Valve model		BKR2
Body design conditions		PN 16
Max. upstream pressure	Seat Ø 5 mm	12 bar
	Seat Ø 8 mm	6 bar
Maximum downstream pressure *		500 mbar
Minimum downstream pressure		5 mbar
Maximum design temperature **		130 ºC

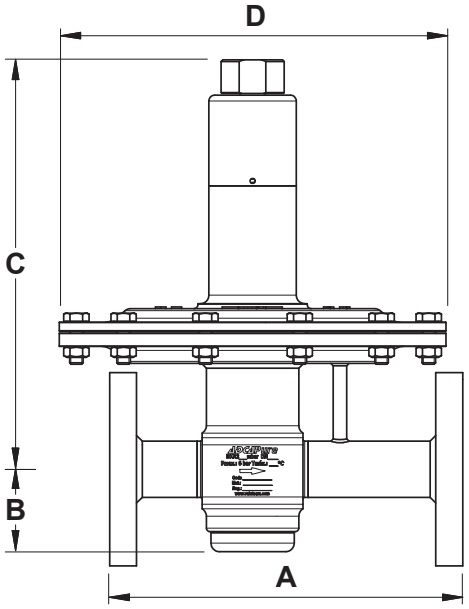
* 4000 mbar with dome load;
** Others on request.

Warning: Blanketing valves are not substitute for safety valves or vacuum relief valves.



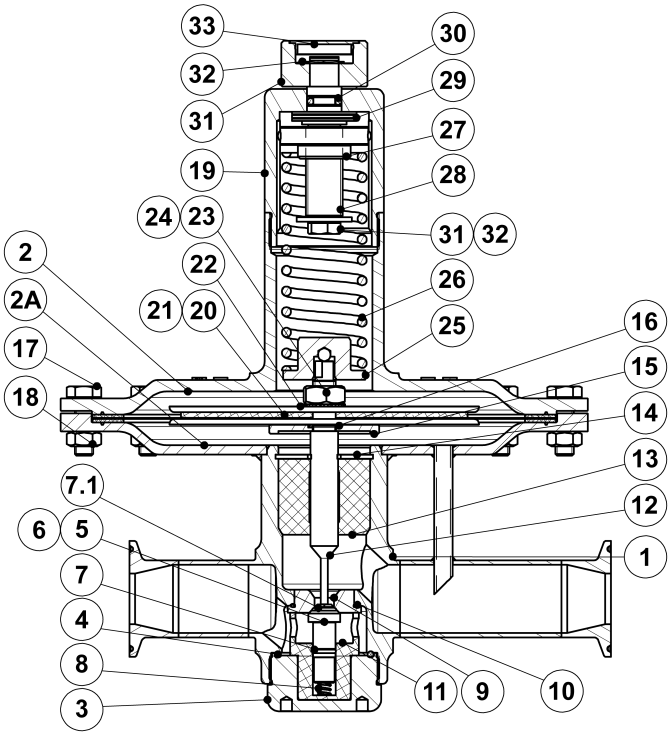
Optional pressure gauge connections

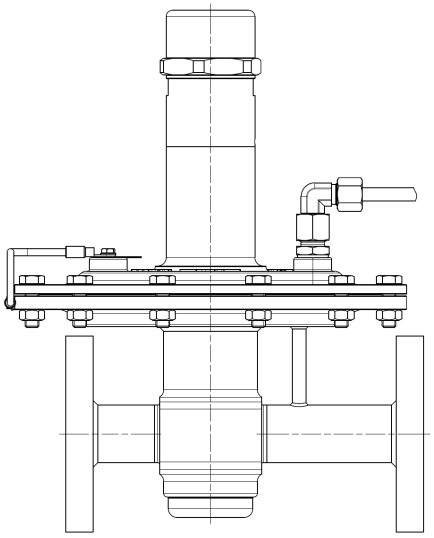




CERTIFIED ISO 9001

MATERIALS		
POS. Nº	**DESIGNATION**	**MATERIAL**
1	Valve body	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
2	Diaphragm top cover	A351 CF3M / 1.4409
2A	Diaphragm bottom cover	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
3	Seat 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 head	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
7	* O-ring	EPDM; FPM
7.1	* O-ring	EPDM; FPM
8	* Valve spring	AISI 302 / 1.4300 (polished)
		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 plate	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
16	* O-ring	EPDM
17	Bolts	Stainless steel A2-70
18	Nuts	Stainless steel A2-70
19	Spring cover	AISI 316L / 1.4404
20	* Lower diaphragm	PTFE (Gylon)
21	* Upper diaphragm	EPDM
22	Diaphragm plate	AISI 316L / 1.4404
23	Nut	Stainless steel A2-70
24	Washer	AISI 316 / 1.4401
25	Lower spring guide	AISI 316L / 1.4404
26	* Adjustment spring	AISI 302 / 1.4300
27	Top spring plate	AISI 316L / 1.4404
28	Adjustment screw	Brass
29	Bearing	Corrosion resistant steel
30	* O-ring	NBR
31	Adjustment nut	AISI 316L / 1.4404
32	Shaft ring	Stainless steel
33	Cover nut	Plastic

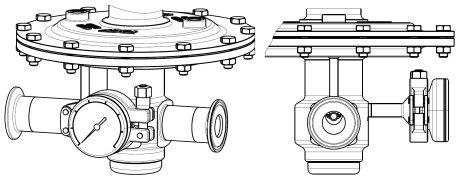
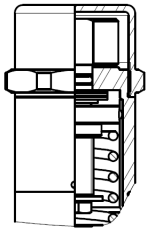
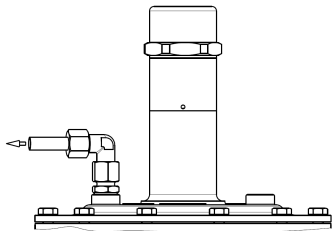




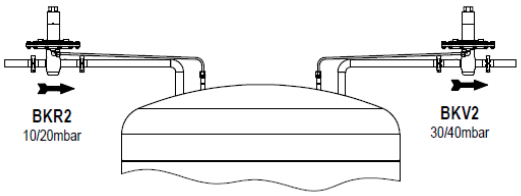
ATEX compliant version

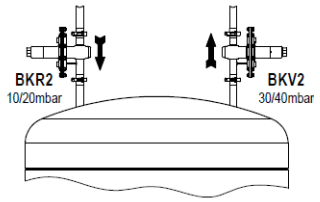
* Available spare parts;
FDA / USP Class VI seals certificate on request.
All valves have a serial number. In case of non standard valves, this number must be supplied if spare parts are ordered.

OPTIONS

PRESSURE GAUGE CONNECTION	ADJUSTMENT SCREW WITH COVER	LEAKAGE LINE CONNECTION (1/4")
		

TYPICAL INSTALLATION





Blanketing with overpressure

ORDERING CODES BKR2

Valve model	BR	A	5	T	E	I	X	X	X	0	D	25	E
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-loaded)		**A**											
Valve seat orifice													
Seat diameter 5 mm			**5**										
Seat diameter 8 mm			**8**										
Diaphragm													
PTFE (Gylon)				**T**									
EPDM (non-standard)				**E**									
Valve head													
EPDM					**E**								
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/ diaphragm cover leakage connection in case of diaphragm failure						**L**							
Top cap (adjustment screw with cover) w/ diaphragm cover leakage connection in case of diaphragm failure **a)**						**U**							
Dome-loaded top **b)**						**X**							
Gauge port options													
Without gauge ports							**X**						
Tri-clamp gauge port on the left side (rel. to the flow direction) – downstream pressure							**7**						
Tri-clamp gauge port on the right side (rel. to the flow direction) – downstream pressure							**6**						
Tri-clamp gauge port on both sides – downstream pressure							**5**						
Threaded gauge port on the left side (rel. to the flow direction) – downstream pressure – ISO 7 Rp 1/4”							**4**						
Threaded gauge port on the right side (rel. to the flow direction) – downstream pressure – ISO 7 Rp 1/4”							**3**						
Threaded gauge port on both sides – downstream pressure – ISO 7 Rp 1/4”							**2**						
Threaded gauge port on the left side (rel. to the flow direction) – downstream pressure – 1/4” NPT							**W**						
Threaded gauge port on the right side (rel. to the flow direction) – downstream pressure – 1/4” NPT							**Y**						
Threaded gauge port on 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 pulse line													
Internal pulse orifice (standard)										**0**			
External pulse line connection 1/4"										**1**			
Pipe connection													
Clamp ferrule ASME BPE											**D**		
Clamp ferrule DIN (DIN 32676-A)											**F**		
Clamp ferrule ISO (DIN 32676-B)											**E**		
Flanged EN 1092-1 PN 16											**L**		
Size													
1” or DN 25												**25**	
Special valves / Extras													
ATEX compliant version													**EX**
Full description or additional codes have to be added in case of non-standard combination													**E**

a) This option must be chosen in case of ATEX compliant version; **b)** This option must be chosen in case of dome-loaded version**; c)** Consult IS PV20.00 for further details and other surface finish options.