

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

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.
- Dome-loading.
- Top cap (adjustment screw with cover).
- Gauge connection on body.
- External sensing line connection.
- Blanketing with vacuum.
- Hastelloy wetted parts.
- ATEX  version.

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

AVAILABLE MODELS: BKV2 – low pressure venting valve.

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

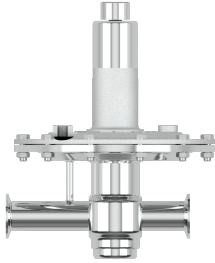
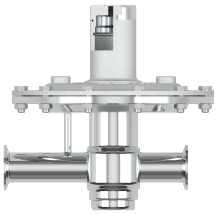
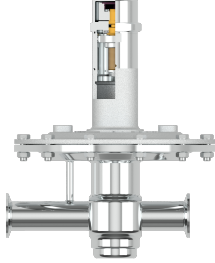
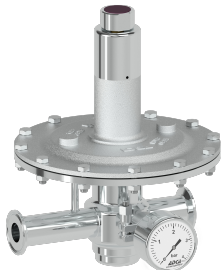
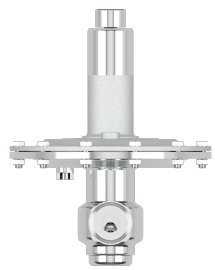
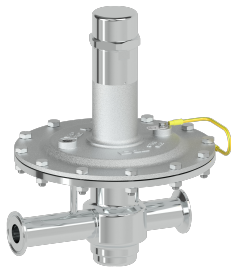
LIMITING CONDITIONS	
Valve model	BKV2
Body design conditions	PN 16
Maximum operating pressure	6 bar
Maximum upstream pressure *	500 mbar
Minimum upstream pressure	5 mbar
Maximum design temperature **	130 °C

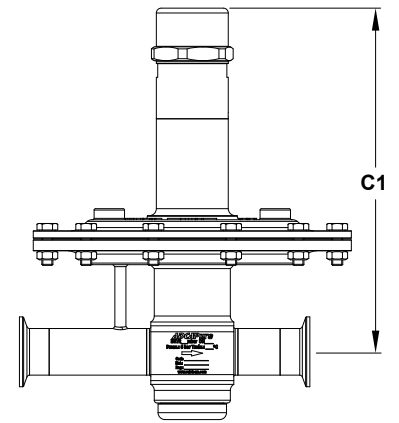
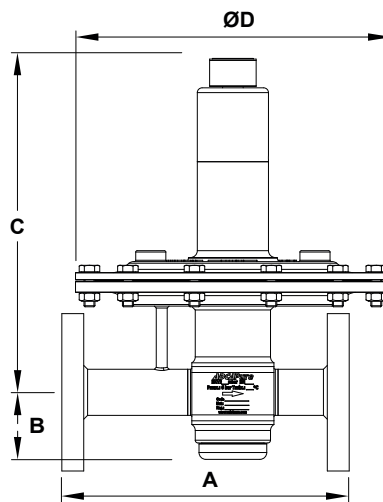
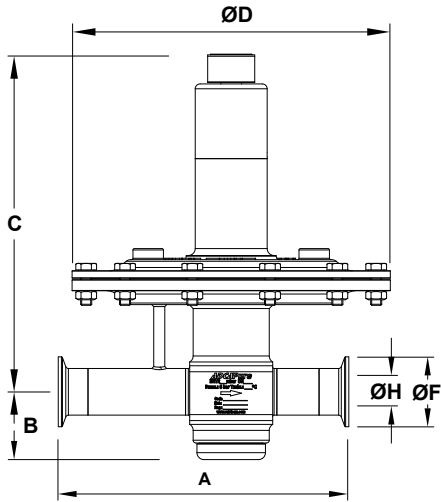
* 4000 mbar with dome load; ** Others on request.
Warning: Blanketing valves are no substitute for safety valves or vacuum relief valves.

AIR CAPACITIES (Nm³/h)
Seat Ø 21 mm

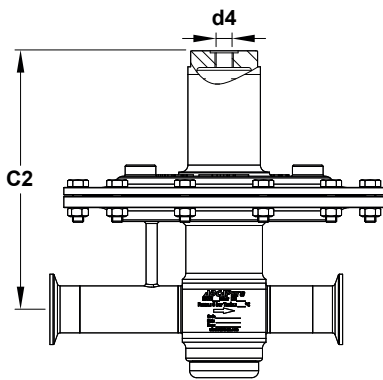
SIZE	SET PRESSURE	INLET PRESSURE (mbar)					
		10	20	40	100	200	500
1" – DN 25	25% Overpressure	5,3	11,8	18	31	52	105
	50% Overpressure	7,2	14,5	26	40	66	125
	75% Overpressure	8,3	17	30	47	82	136
	100% Overpressure	9,8	18	36	52	91	148

OPTIONS

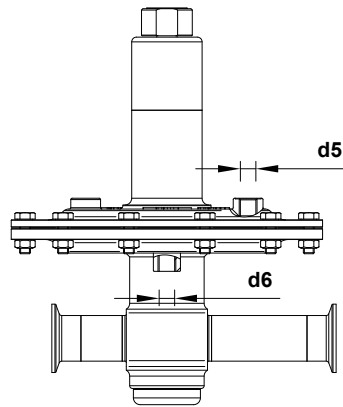
LEAKAGE LINE CONNECTION	DOME-LOADING	TOP CAP
		
PRESSURE GAUGE CONNECTION	EXTERNAL SENSING LINE CONNECTION	ATEX COMPLIANT
		



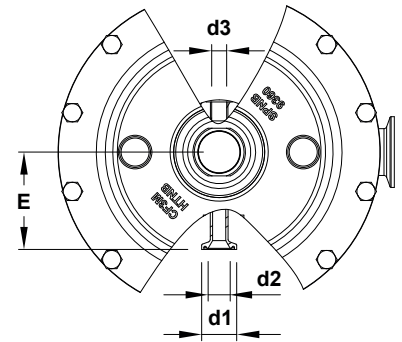
Optional top cap



Optional dome loading



Optional external sensing and leakage line connections



Optional gauge connection

DIMENSIONS ASME BPE (mm)

SIZE	A	B	C	C1	C2	ØD	E	ØF	ØH	d1	d2	d3	d4	d5	d6	WEIGHT (kg)
1"	210	49	244	249	186	230	70	50,5	22,1	25	15,75	1/4"	1/4"	1/4"	1/4"	8,5

DIMENSIONS DIN (mm)

SIZE	A	B	C	C1	C2	ØD	E	ØF	ØH	d1	d2	d3	d4	d5	d6	WEIGHT (kg)
DN 25	210	49	244	249	186	230	70	50,5	26	25	15,75	1/4"	1/4"	1/4"	1/4"	8,5

Remark: Clamp ferrules according to DIN 32676-A.

DIMENSIONS ISO (mm)

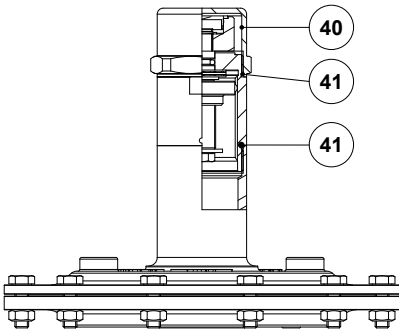
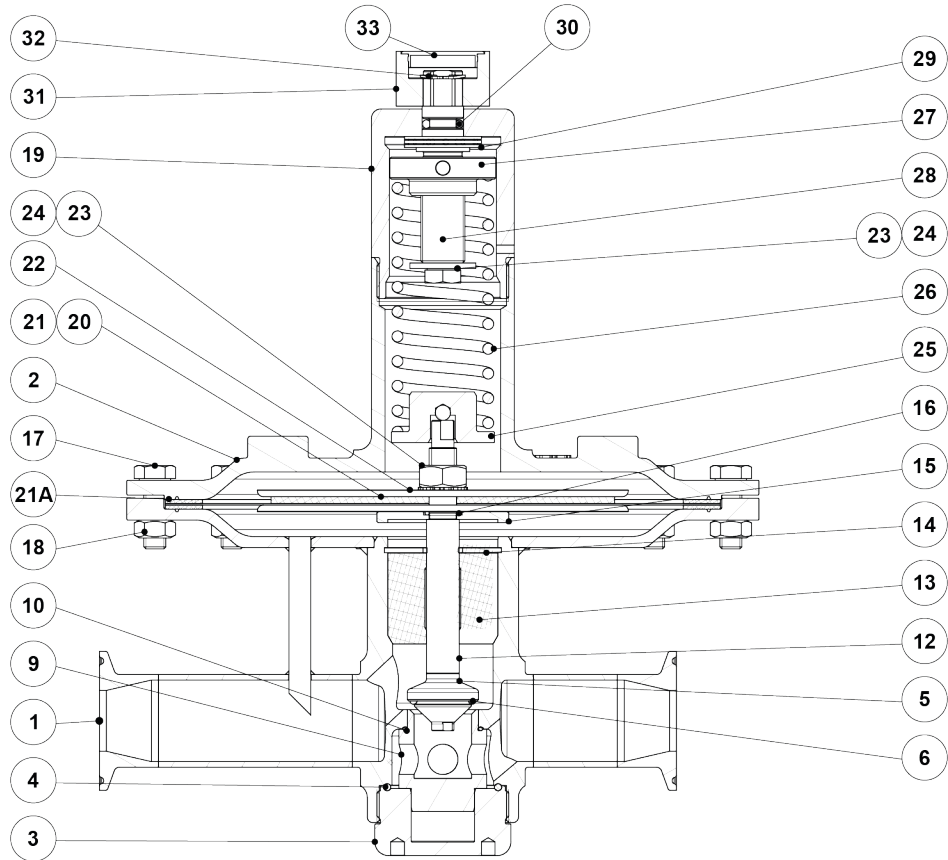
SIZE	A	B	C	C1	C2	ØD	E	ØF	ØH	d1	d2	d3	d4	d5	d6	WEIGHT (kg)
DN 25	210	49	244	249	186	230	70	50,5	29,7	25	15,75	1/4"	1/4"	1/4"	1/4"	8,5

Remark: Clamp ferrules according to DIN 32676-B.

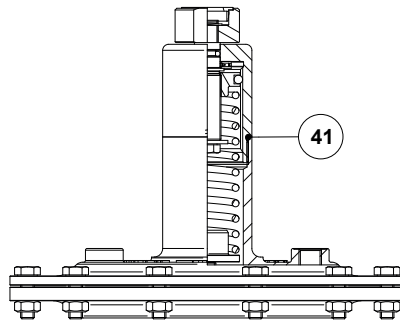
DIMENSIONS FLANGED EN1092-1 (mm)

SIZE	A	B	C	C1	C2	ØD	E	d1	d2	d3	d4	d5	d6	WEIGHT (kg)
DN 25	210	49	244	249	186	230	70	25	15,75	1/4"	1/4"	1/4"	1/4"	10,6

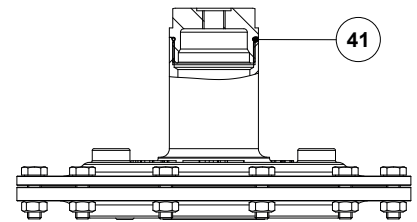
MATERIALS



Optional top cap



Optional leakage line connection



Optional dome-loading

MATERIALS

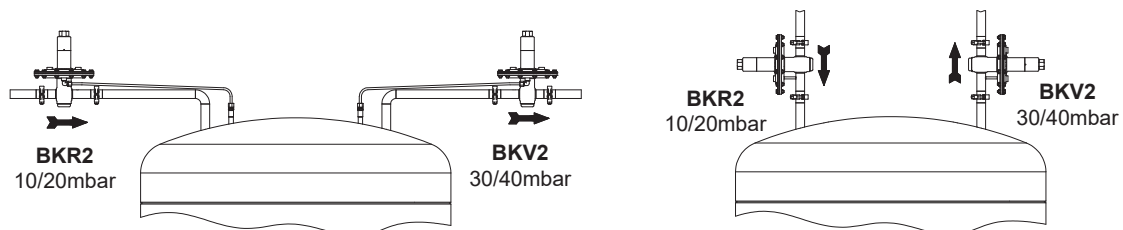
POS. N°	DESIGNATION	MATERIAL
1	Valve body	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
2	Cover	A351 CF3M / 1.4409
3	Bottom cover	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
4	* O-ring	** EPDM
5	* Plug disc	AISI 316L / 1.4404
		Hastelloy C22 / 2.4602
6	* Valve head	* EPDM; FPM
9	* Seat	AISI 316L / 1.4404
		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	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
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

ORDERING CODES BKV2													
Valve model	BV	A	2	T	E	I	X	X	X	0	D	25	E
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-loaded)	A												
Valve seat orifice													
Seat diameter 21 mm		2											
Diaphragm													
PTFE (Gylon)				T									
EPDM (non-standard)				E									
Valve head													
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 ports													
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 228 G 1/4"							4						
Threaded gauge port on the right side (rel. to the flow direction) – downstream pressure – ISO 228 G 1/4"							3						
Threaded gauge port on both sides – downstream pressure – ISO 228 G 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 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													
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) Mandatory in case of ATEX compliant version. b) Mandatory in case of dome-loading. c) Consult IS PV20.00 for further details and other surface finish options.