

## 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:  $\leq 0,76 \mu\text{m Ra} - \text{SF3}$ .
- 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 version.

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

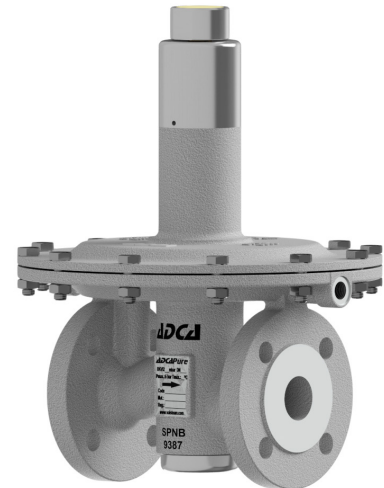
- AVAILABLE MODELS:
- BKVi2 – low pressure venting valve.

- 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)	
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PN 16	Category
1/2" and 1" – DN 15 and 25	SEP

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

LIMITING CONDITIONS *	
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Maximum allowable pressure	6 bar
Maximum upstream pressure **	500 mbar
Minimum upstream 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.

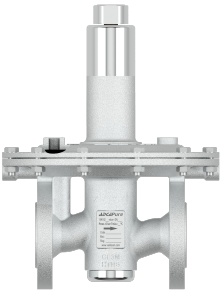
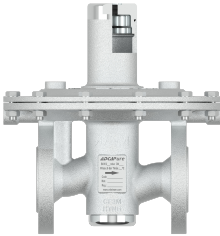
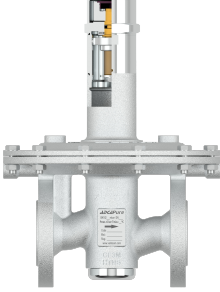
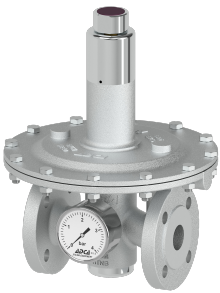
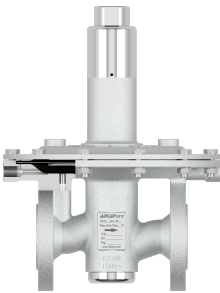
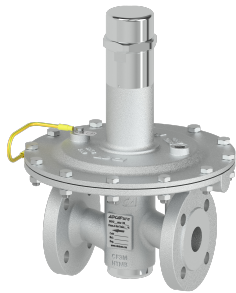
\*\* 4000 mbar with dome-loading.

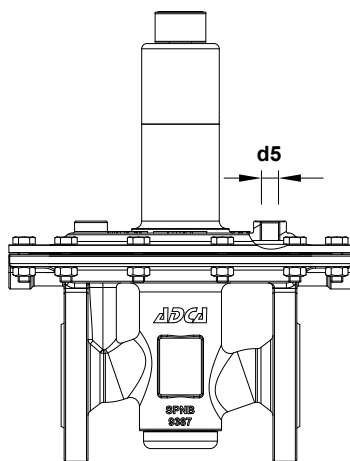
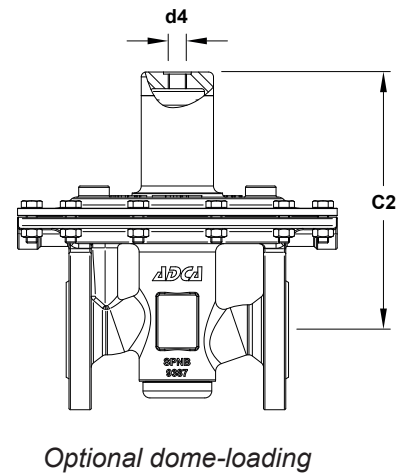
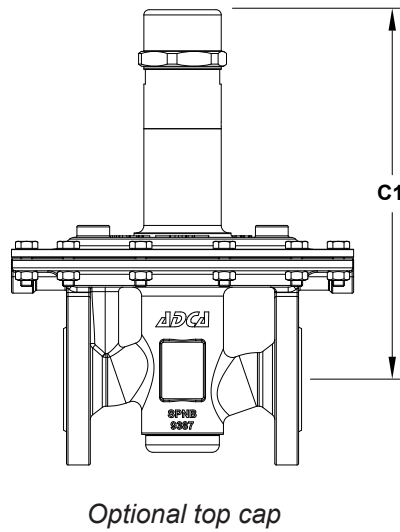
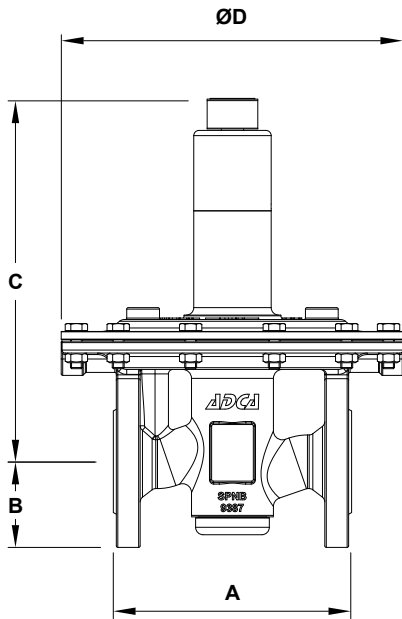
**Warning: Blanketing valves are no substitute for safety valves or vacuum relief valves.**

**AIR CAPACITIES (Nm<sup>3</sup>/h)**  
Seat Ø21 mm

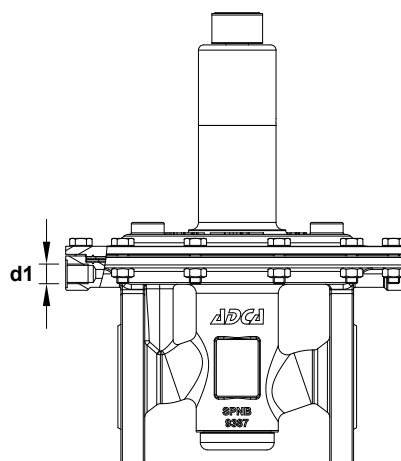
SIZE	SET PRESSURE	INLET PRESSURE (mbar)					
		10	20	40	100	200	500
1/2" – DN 15	25% Overpressure	4,5	10,5	16	27	45	95
	50% Overpressure	4,5	10,5	16	27	45	95
	75% Overpressure	4,5	10,5	16	27	45	95
	100% Overpressure	4,5	10,5	16	27	45	95
1" – DN 25	25% Overpressure	5,3	11,8	18	31	52	105
	50% Overpressure	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**

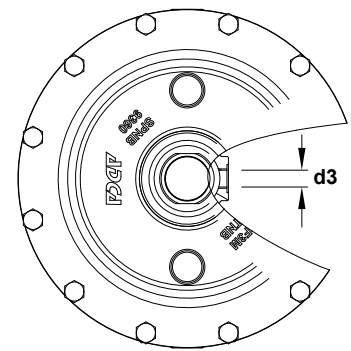
LEAKAGE LINE CONNECTION	DOME-LOADING	TOP CAP
		
GAUGE CONNECTION	EXTERNAL SENSING LINE CONNECTION	ATEX COMPLIANT
		



Optional leakage  
line connection



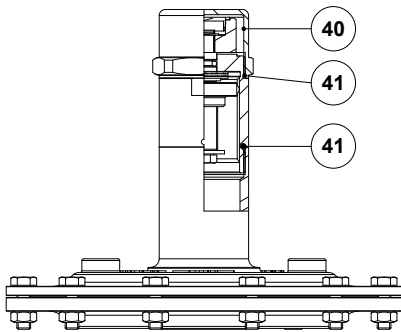
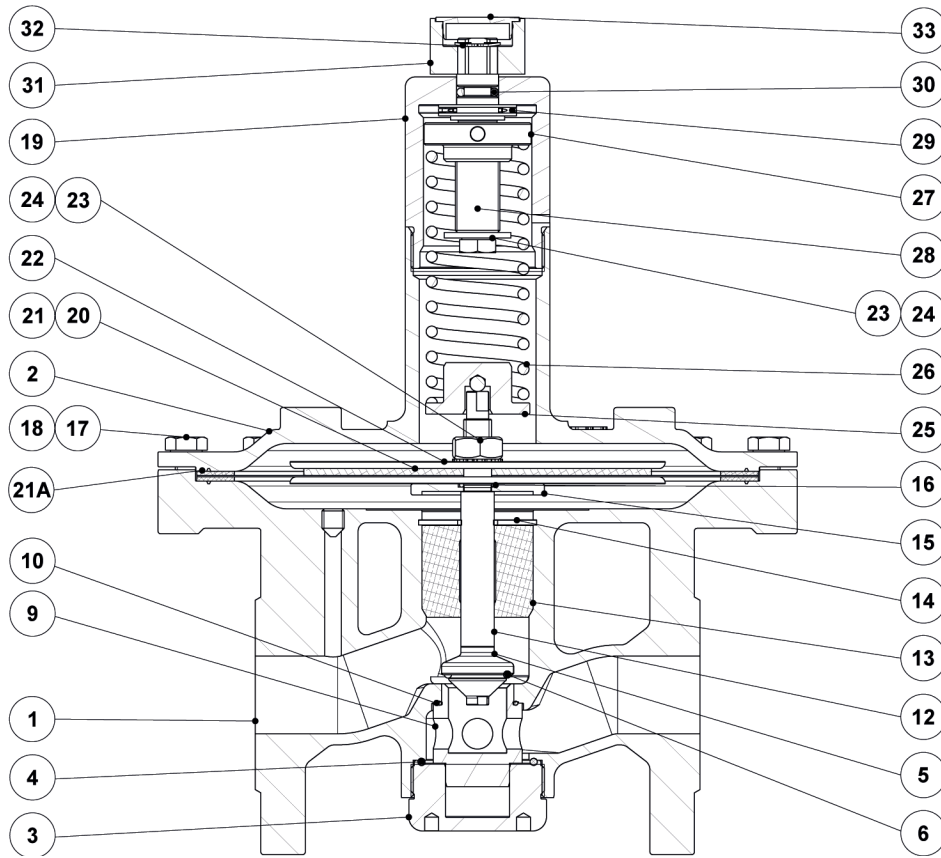
Optional external sensing  
line connection



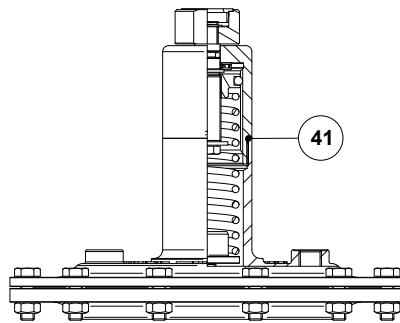
Optional gauge  
connection

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

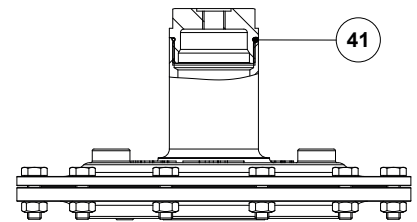
MATERIALS



*Optional top cap*



*Optional leakage line connection*



*Optional dome-loading*

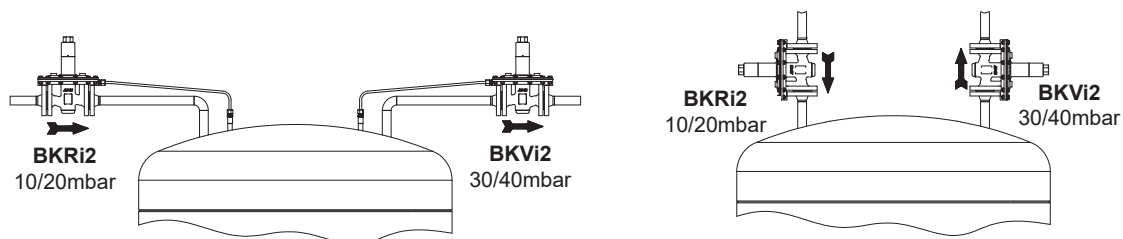
MATERIALS		
POS. N°	DESIGNATION	MATERIAL
1	Valve body	A351 CF3M / 1.4409
2	Cover	A351 CF3M / 1.4409
3	Bottom cover	AISI 316L / 1.4404
4	* O-ring	** EPDM
5	* Plug disc	AISI 316L / 1.4404
6	* Valve seal	** EPDM; FPM
9	* Seat	AISI 316L / 1.4404
10	* O-ring	** EPDM
12	Stem	AISI 316L / 1.4404
13	Stem guide	** PTFE
14	Retaining ring	Stainless steel A2-70
15	Diaphragm support plate	AISI 316L / 1.4404
16	* O-ring	** EPDM
17	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
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*



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												
<b>Regulating range</b>													
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											
<b>Valve seat orifice</b>													
Seat diameter 21 mm			2										
<b>Diaphragm</b>													
PTFE (Gylon)				T									
<b>Valve sealing</b>													
EPDM					E								
FPM / Viton (USP Class VI on request)					V								
<b>Adjustment knob, top cap and leakage line connection</b>													
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 <b>a)</b>						U							
Top cap (adjustment screw with cover) w/ 1/4" NPT leakage line connection <b>a)</b>						V							
Dome-loading – ISO 228 G 1/4" <b>b)</b>						X							
Dome-loading – 1/4" NPT <b>b)</b>						C							
<b>Gauge connections</b>													
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
<b>Surface finish c)</b>													
Standard surface finish												X	
Mirror mechanical polished external surfaces (SF1)													P
Electropolished internal wetted parts (SF5)													E
<b>Special features</b>													
None													X
<b>External sensing line connection</b>													
Internal sensing line (standard)													0
External sensing line connection – ISO 228 G 1/4"													1
External sensing line connection – 1/4" NPT													2
<b>Pipe connection</b>													
Flanged EN 1092-1 PN 16													L
Flanged ASME B16.5 Class 150													U
<b>Size</b>													
1/2" or DN 15													15
1" or DN 25													25
<b>Special construction / Additional options</b>													
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.