

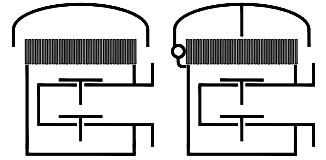


## Type sheet

Deflagration and endurance burning proof pressure and vacuum relief valve

**KITO® VD/KL-BEH-5-IIB1-.../...-A**

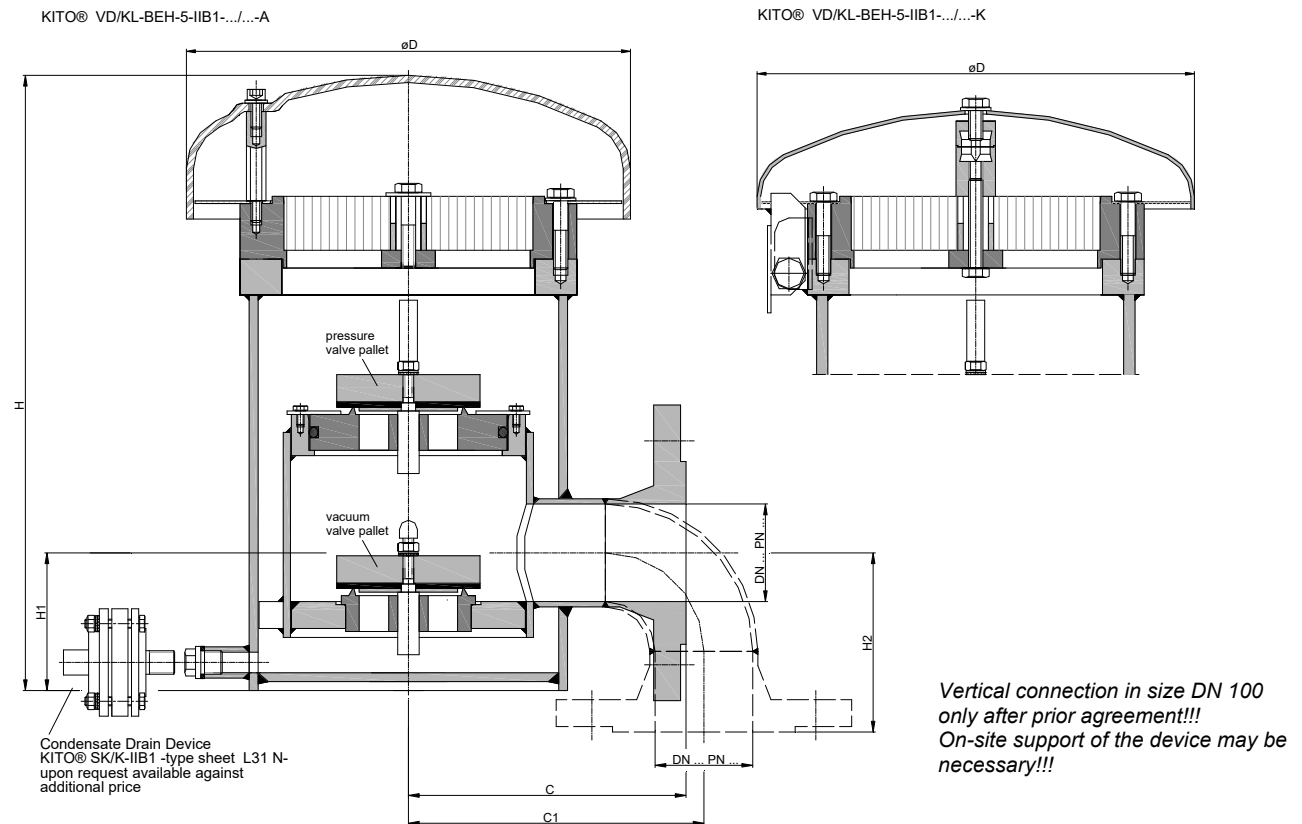
**KITO® VD/KL-BEH-5-IIB1-.../...-K**



### Application

Deflagration and endurance-proof pressure and vacuum relief valve for flammable media of explosion group IIA with a maximum experimental safe gap (MESG) > 0.9 mm for a maximum operational temperature of 60 °C. It can also be used as deflagration- and endurance-proof end of line device with specific operating conditions for methanol, ethanol (IIB1) and 2-propanol on underground and insulated tank systems. The minimum volume flows during outflow must be observed. Can also be used as a device against atmospheric deflagration of gas-air and vapor-air mixtures of explosion group IIB1 with a maximum experimental safe gap (MESG) ≥ 0.85 mm. On demand the valve can be equipped with an explosion-proof condensate drain device.

### Abmessungen (mm)



DN		D	H	H1	H2		DIN	C	C1	kg
DIN	ASME				DIN	ASME				
50	PN 16	248	345	77	121	140	155	174	186	22
80	PN 16	248	400	105	165	184	180	200	247	30
100	PN 16	248	478	124	204	228	190	190	310	47

Indicated weights are understood without weight load and refer to the standard design  
Attention !!! Dimension H for design with a weather hood from stainless steel 1.4571 ca. 10-15 mm lower

### Example for order

**KITO® VD/KL-BEH-5-IIB1-80/50-A (lateral)**

(design with lateral flange connection DN 80 PN 16, weather hood from PMMA, vacuum valve pallet DN 80 and pressure valve pallet DN 50)

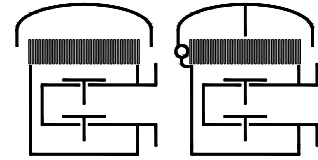
**Type examination certificate to EN ISO 16852 and CE-marking in accordance to ATEX-Directive 2014/34/EU**

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Deflagration and endurance burning  
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### Design

	standard	optionally
housing	steel	stainless steel mat. no. 1.4571
valve seat, valve spindle	stainless steel mat. no. 1.4571	
valve seat seal (o-ring)	VMQ-FEP	Viton, NBR, VMQ-PFA
load weight	stainless steel mat. no. 1.4571	PE
valve sealing	NBR	Viton, PTFE, EPDM, metal sealing
	≥ 100 mbar only PTFE or metal sealing	
KITO®-flame arrester element <b>KITO® BEH-5-IIB1</b>	completely interchangeable	
KITO®-casing / KITO®-grid	stainless steel mat. no. 1.4308 / 1.4310	stainless steel mat. no. 1.4408 / 1.4571
weather hood <b>KITO® VD/KL-BEH-5-IIB1-.../...-A</b>	PMMA	
weather hood <b>KITO® VD/KL-BEH-5-IIB1-.../...-K</b>	stainless steel mat. no. 1.4571, hood can fold automatically as a result of folding mechanism and fusing element	
protective screen	PA6	
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF
connection	lateral	vertical

### Settings (mbar)

DN	size	vacuum valve pallet		pressure valve pallet			
		min. - max. (load weight from PE)	min. - max.	size	min. - max. (load weight from PE)	min. - max.	min. - max. (with housing extension)
50 PN 16	50/...	1.9 - 10.4	10.5 - 65	50/25	-	15 - 200	-
				50/50	-	15 - 145	> 145 - 200
80 PN 16	80/...	1.9 - 7.8	7.9 - 63	80/50	9 - 10.5	10.6 - 200	-
				80/80	6 - 7.8	7.9 - 73	> 73 - 200
100 PN 16	100/...	1.8 - 7.6	7.7 - 90	100/50	9 - 11.3	11.4 - 200	-
				100/80	6 - 8.0	8.1 - 90	> 90 - 200
				100/100	6 - 7.7	7.8 - 67	> 67 - 200

The size of the vacuum valve pallet is always identical to the size of the flange connection.

The size of pressure valve pallet can be selected in accordance with required capacity!

Higher settings see KITO® VD/KL-1-IIA-...-... (type sheet E 14.1 N).



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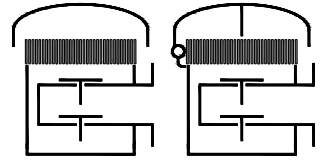


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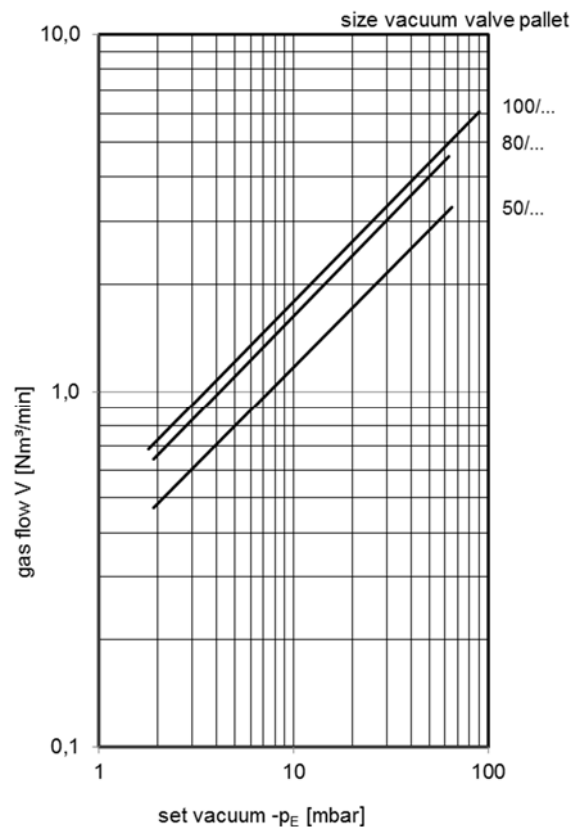
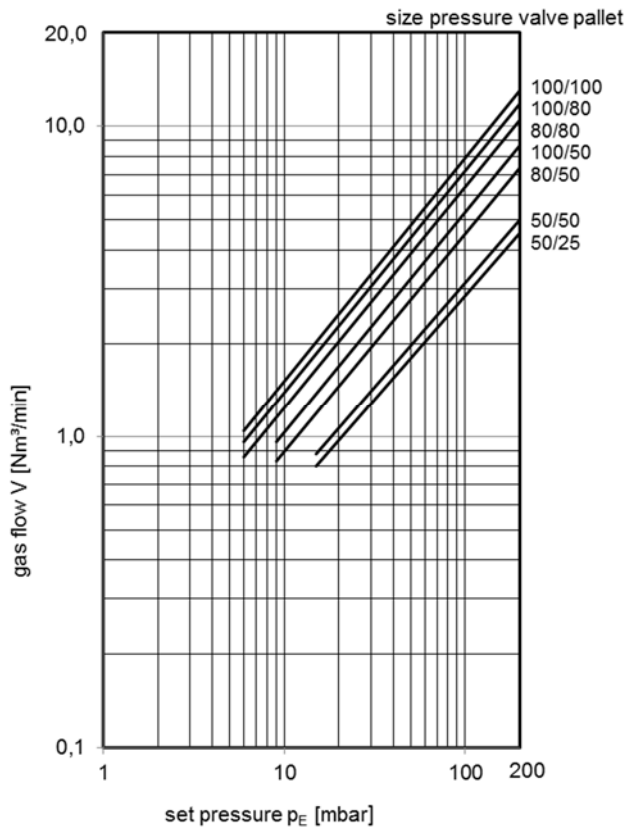


### Performance curves

Flow capacity V based on air of a density  $\rho = 1.29 \text{ kg/m}^3$  at  $T = 273 \text{ K}$  and atmospheric pressure  $p = 1.013 \text{ mbar}$ . For other gases the flow can be approximately calculated by

$$\dot{V}_{40\%} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V}_{40\%} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

The indicated flow rates will be reached by an accumulation of 40% above valve's setting (see DIN 4119). If the allowable overpressure is less 40%, please consult der factory for the corrected volume flow.



### Minimum volume flows Vc during outflow (m³/h<sup>-1</sup>)

substance	KITO® BEH-5-IIB1-...
Methanol	5,0 V <sub>c</sub> $\Delta$ 47,40 m³/h <sup>-1</sup>
Ethanol	4,0 V <sub>c</sub> $\Delta$ 37,92 m³/h <sup>-1</sup>
2-Propanol	4,0 V <sub>c</sub> $\Delta$ 37,92 m³/h <sup>-1</sup>