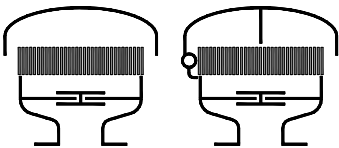


Type sheet

Deflagration and endurance burning proof pressure and vacuum relief valve

KITO® VD/KS-BEH-...-IIB1-...-A

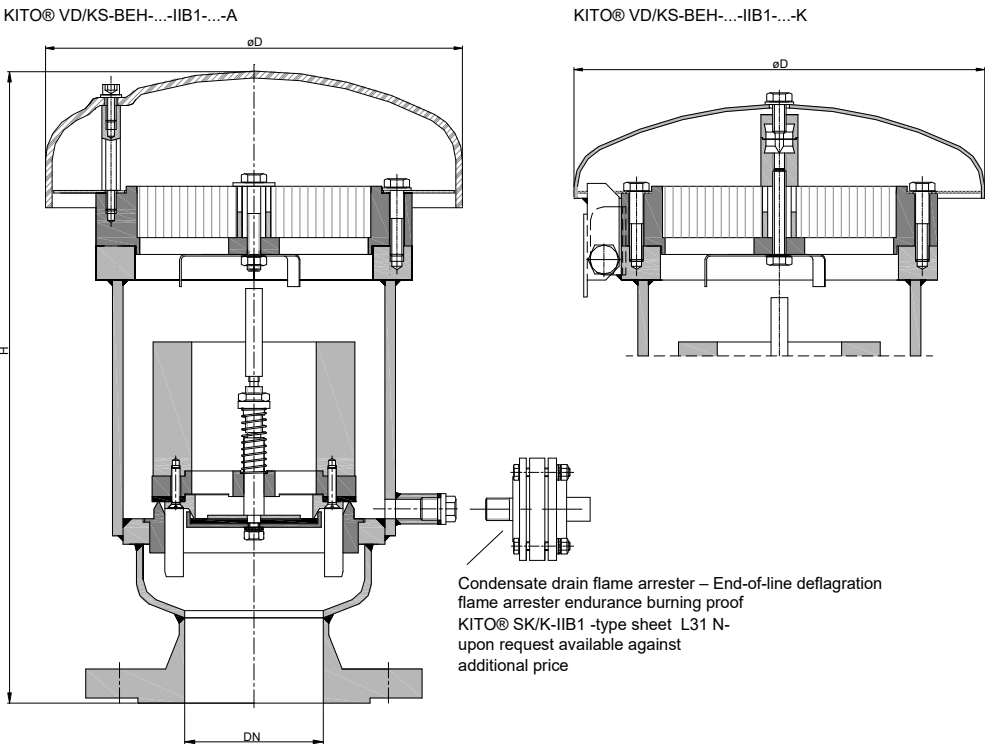
KITO® VD/KS-BEH-...-IIB1-...-K



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.

Dimensions (mm)



DN		used KITO®-flame arrester element	D	H		~kg
DIN	ASME			DIN	ASME	
50 PN 16	2"	KITO® BEH-4-IIB1-...	220	315	335	13,5
80 PN 16	3"	KITO® BEH-5-IIB1-...	245	372	390	20,5
100 PN 16	4"			370	395	22

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/KS-BEH-4-IIB1-50-A

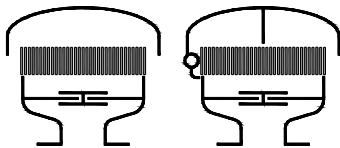
(design with KITO®-flame arrester element BEH-4-IIB1-..., with weather hood from PMMA and flange connection DN 50 PN 16)

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

Type sheet

Deflagration and endurance burning
proof pressure and vacuum relief valve

KITO® VD/KS-BEH-...-IIB1-...-A
KITO® VD/KS-BEH-...-IIB1-...-K



Design

	standard	optionally
housing	steel	stainless steel mat. no. 1.4571
valve seat, valve spindle	stainless steel mat. no. 1.4571	
load weight	stainless steel mat. no. 1.4571	
valve sealing	NBR	Viton, PTFE, EPDM, metal sealing
	≥ 100 mbar only PTFE or metal sealing (valve pallet for pressure)	
valve pallet (vacuum)	spring loaded	
valve pallet (pressure)	weight loaded	
KITO®-flame arrester element	completely interchangeable	
KITO®-casing / KITO®-grid	stainless steel mat. no. 1.4308 / 1.4310	stainless steel mat. no. 1.4408 / 1.4571
weather hood KITO® VD/KS-BEH-...IIB1-...-A	PMMA	
weather hood KITO® VD/KS-BEH-...IIB1-...-K	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

Settings (mbar)

DN		vacuum min. - max.	setting		pressure min. - max. (with housing extension)
DIN	ASME		min. - max.		
50 PN 16	2"	3 - 100	10 - 50		> 50 - 200
80 PN 16	3"	3 - 50	12 - 63		> 63 - 200
100 PN 16	4"	3 - 50	10 - 60		> 60 - 200



page 2 of 3

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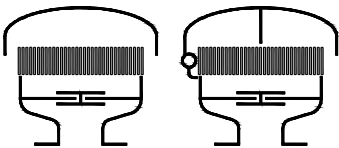
Design subject to change

Type sheet

Deflagration and endurance burning
proof pressure and vacuum relief valve

KITO® VD/KS-BEH-...-IIB1-...-A

KITO® VD/KS-BEH-...-IIB1-...-K

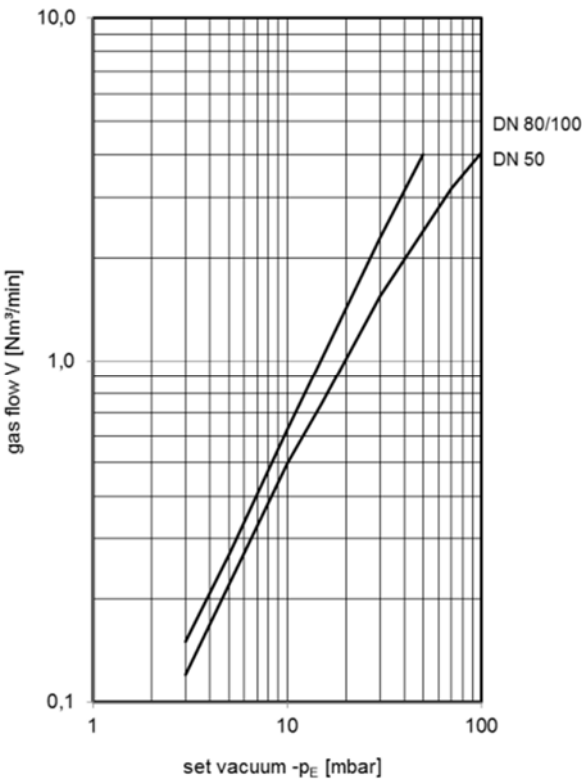
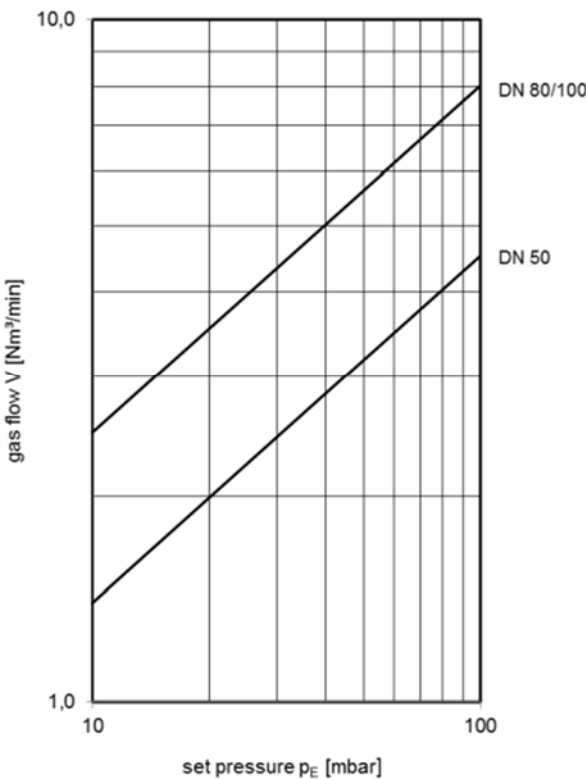


Performance curves

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⁻¹)

substance	KITO® BEH-5-IIB1-...
Methanol	5,0 V _c Δ 47,40 m³/h ⁻¹
Ethanol	4,0 V _c Δ 37,92 m³/h ⁻¹
2-Propanol	4,0 V _c Δ 37,92 m³/h ⁻¹