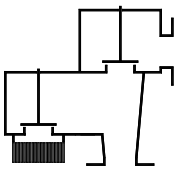
KITO Armaturen GmbH

Type sheet

Pressure and deflagration proof vacuum relief valve

KITO® VD/KGV-PA-IIB3-…

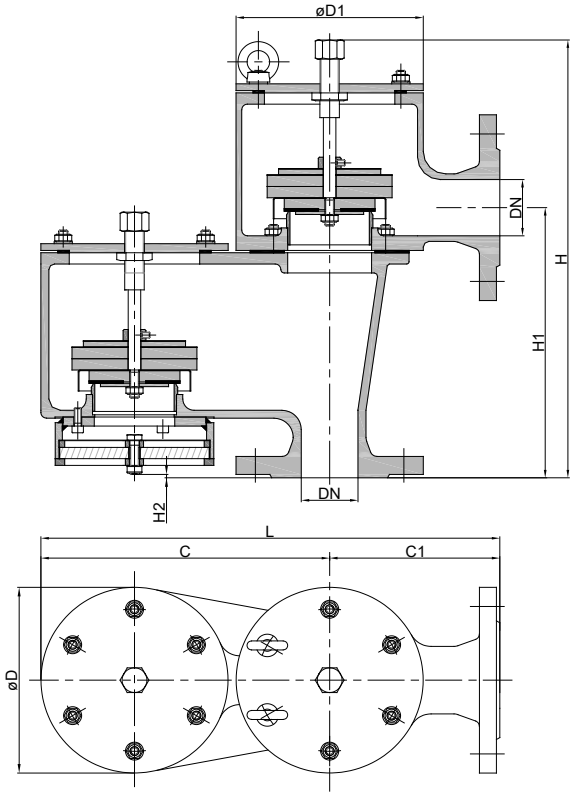
-End of line device for use in pipeline-

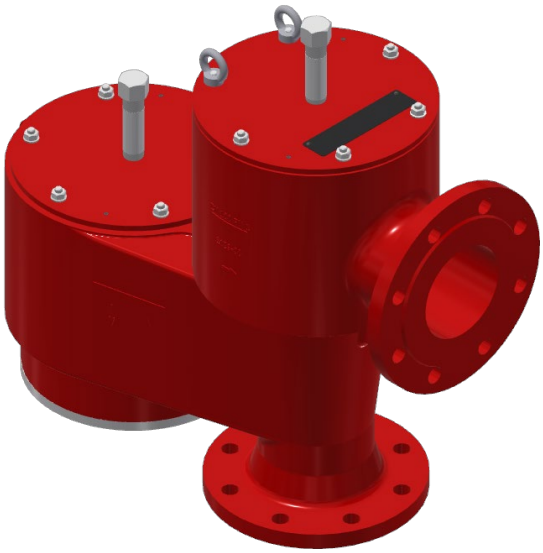


Application

As end-of-line armature, for venting apertures on tank installations. Tested and approved against atmospheric deflagrations for all materials of the explosion group IIB3 with a maximum experimental safe gap (MESG) ≥ 0.65 mm and an maximum operating temperature of 60 °C. Used mainly as venting and breather device for fixed roof tanks. Used to prevent inadmissible pressure and vacuum and to minimize unwelcome gas losses or inadmissible emissions respectively. The housing is mounted perpendicularly on a tank roof. **The product vapours can be discharged through a collective line into the atmosphere connected to the line flange on the pressure side**. This pipeline must be secured individually.

Dimensions (mm) and settings (mbar)





DN DIN	DN ASME	C	C1	D	D1	H	H1	H2	L	kg	setting vacuum	setting pressure
50 PN 16	2“	255	150	165	165	389	240	3	405	26	2-60	2-60
80 PN 16	3“	300	180	200	192	487	300		480	38		
100 PN 16	4“	400	200	250	240	547	330		600	56		
150 PN 16	6“	555	250	350	350	655	390		805	119		
200 PN 10	8“	625	300	400	390	775	480	12	925	171		
250 PN 10	10“	705	305	460	460	875	555		1010	224		
300 PN 10	12“	705	305	460	460	875	582		1010	323		

Indicated weights are understood without weight load and refer to the standard design

Example for order

KITO® VD/KGV-PA-IIB3-50
(design DN 50 with flange connection DN 50 PN 16)

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

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F 80 N
Date: 04-2024
Created: Abt. Doku KITO
Design subject to change

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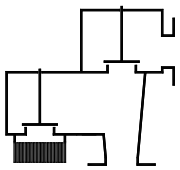


Design

	standard	optionally
housing upper part (PN 1)	cast steel mat. no. 1.0619	stainless cast steel mat. no. 1.4408
housing lower part	cast steel mat. no. 1.0619 / steel	stainless cast steel mat. no. 1.4408 / 1.4571
cover	steel	stainless steel mat. no. 1.4301
gasket	PTFE	
valve seat	stainless steel mat. no. 1.4571	
KITO®-flame arrester element	interchangeable	
KITO®-casing / KITO®-grid	stainless steel mat. no. 1.4571 / 1.4310	stainless steel mat. no. 1.4571 / 1.4571
flange connection	EN 1092-1 type B1	ASME B16.5 Class 150 RF

Design valve pallet

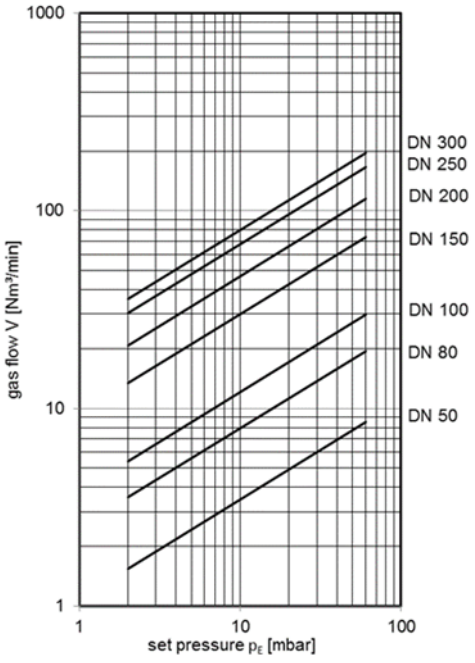
design	pressure range I 2 - < 3.5 mbar	pressure range II ≥ 3.5 - 14 mbar	pressure range III > 14 - 35 mbar	pressure range IV > 35 - 60 mbar
pallet	aluminum	stainless steel mat. no. 1.4571	stainless steel mat. no. 1.4571	stainless steel mat. no. 1.4571
valve spindle	aluminum / stainless steel mat. no. 1.4571	stainless steel mat. no. 1.4571	stainless steel mat. no. 1.4571	stainless steel mat. no. 1.4571
valve sealing	FEP & HD3822	FEP & HD3822	PTFE	PTFE

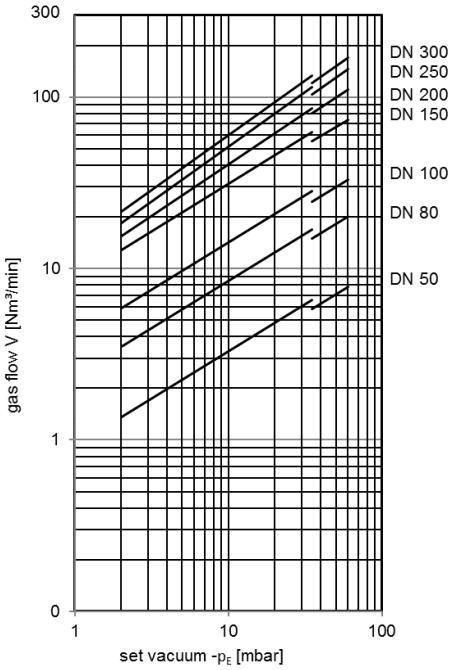
Performance curves

Flow capacity V based on air of a density ρ = 1.29 kg/m³ at T = 273 K and atmospheric pressure p = 1.013 mbar. For other gases the flow can be approximately calculated by

$$\dot{V}_{20\%} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \quad \text{or} \quad \dot{V}_b = \dot{V}_{20\%} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

The indicated flow rates will be reached by an accumulation of 20 % above valve's setting (see DIN 4119).





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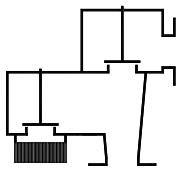
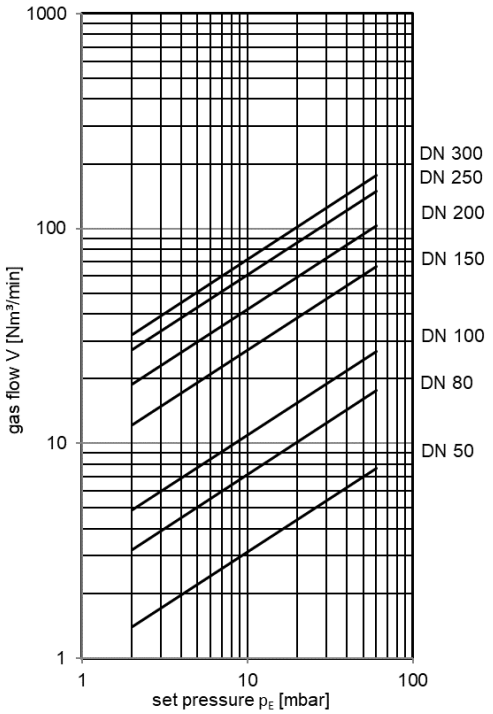
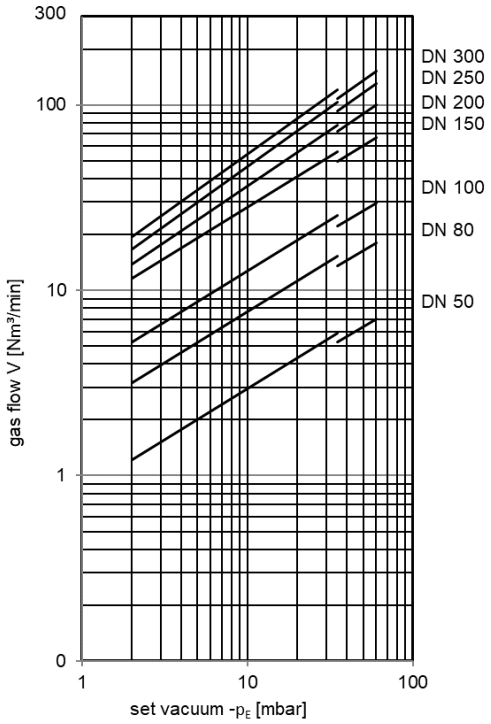


$$\dot{V}_{10\%} = \dot{V}_b \cdot \sqrt{\frac{\rho_b}{1.29}} \text{ or } \dot{V}_b = \dot{V}_{10\%} \cdot \sqrt{\frac{1.29}{\rho_b}}$$

The volume flow at reduced lift will be reached by an accumulation of 10 % above valve's setting (see DIN 4119).





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