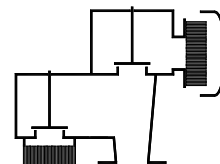


## Type sheet

Deflagration proof pressure and vacuum relief valve

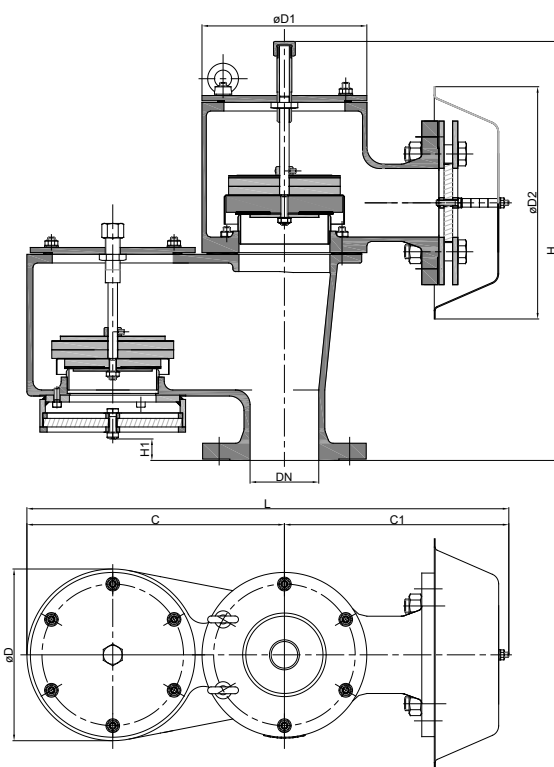
**KITO® VD/KG-PA-IIB3-...**



### 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)  $\geq 0.65$  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.

### Dimensions (mm) and settings (mbar)



| DN        | DIN | ASME | C   | C1  | D   | D1  | D2  | H   | H1 | L    | kg  | setting |          |
|-----------|-----|------|-----|-----|-----|-----|-----|-----|----|------|-----|---------|----------|
|           |     |      |     |     |     |     |     |     |    |      |     | vacuum  | pressure |
| 50 PN 16  | 2"  | 2"   | 255 | 230 | 165 | 165 | 245 | 389 | 3  | 485  | 32  | 2-60    | 2-60     |
| 80 PN 16  | 3"  | 3"   | 300 | 320 | 200 | 192 | 286 | 488 |    | 620  | 46  |         |          |
| 100 PN 16 | 4"  | 4"   | 400 | 340 | 250 | 240 | 331 | 548 |    | 740  | 70  |         |          |
| 150 PN 16 | 6"  | 6"   | 555 | 405 | 350 | 350 | 405 | 656 |    | 960  | 143 |         |          |
| 200 PN 10 | 8"  | 8"   | 625 | 455 | 400 | 390 | 465 | 776 | 12 | 1080 | 202 |         |          |
| 250 PN 10 | 10" | 10"  | 705 | 460 | 460 | 460 | 550 | 876 |    | 1165 | 270 |         |          |
| 300 PN 10 | 12" | 12"  | 705 | 460 | 460 | 460 | 600 | 882 |    | 1165 | 296 |         |          |

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

### Example for order

**KITO® VD/KG-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**

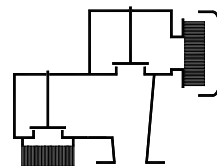
page 1 of 3

**KITO**

Armaturen GmbH

**Type sheet**

Deflagration proof pressure and vacuum relief valve

**KITO® VD/KG-PA-IIB3-...****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      |
| weather hood                 | stainless steel                              |                                               |
| protective screen            | stainless steel mat. no. 1.4301 (DN 200-300) |                                               |
| flange connection            | EN 1092-1 type B1                            | ASME B16.5 Class 150 RF                       |

## Design valve pallet

| design        | pressure range I<br>2 - < 3.5 mbar | pressure range II<br>≥ 3.5 - 14 mbar | pressure range III<br>> 14 - 35 mbar | pressure range IV<br>> 35 - 60 mbar | pressure range M-I<br>≥ 3.5 - < 10 mbar* | pressure range M-II<br>≥ 10 - 60 mbar |
|---------------|------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|------------------------------------------|---------------------------------------|
| pallet        | aluminum                           | stainless steel                      | stainless steel                      | stainless steel                     | aluminum*                                | stainless steel                       |
| valve spindle | aluminum / stainless steel         | stainless steel                      | stainless steel                      | stainless steel                     | aluminum                                 | stainless steel                       |
| valve sealing | FEP & HD3822                       | FEP & HD3822                         | PTFE                                 | PTFE                                | metallic                                 | metallic                              |

\* DN 50 ≥ 4.4 - pallet DN 50 aluminum / stainless steel

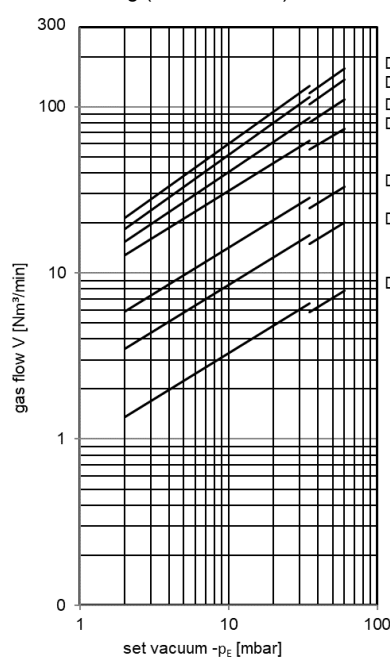
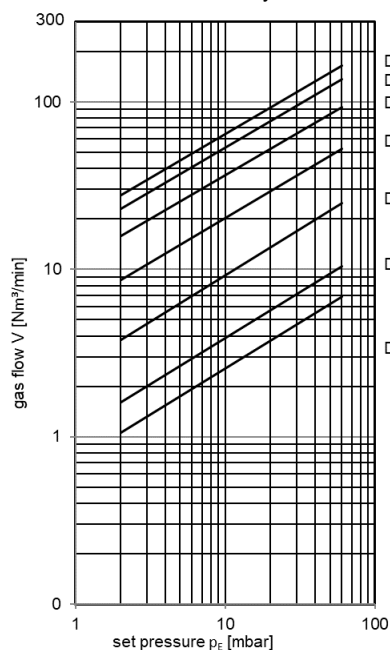
stainless steel = 1.4571

**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

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

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



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