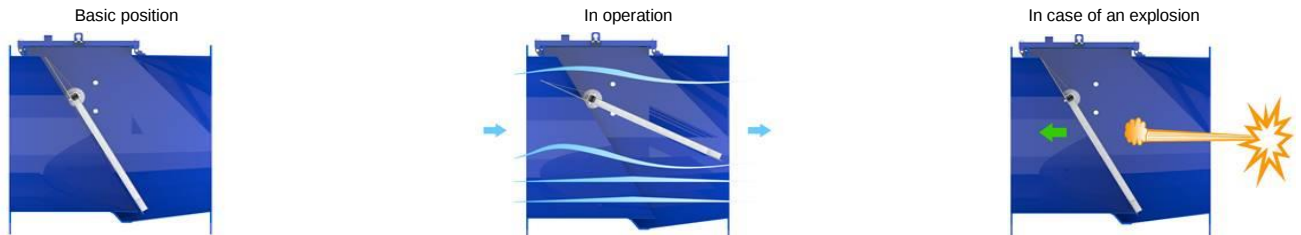


/ Installation guideline Explosion Isolation Flap Valve REDEX® Flap

/ Function



/ Advantages

- / Explosion pressure shock resistant design
- / Certified safety system for pull applications according to EN 16447:2014
- / Position indication for basic position and locked position with inductive switches
- / Flanges according to DIN 24154 class 2
- / Mechanical locking device

/ Certification

Zone inside: Ex II 1D / zone 20, 21, 22
 Zone outside: Ex II 2D / zone 21, 22



/ Description

Function	Installation position
for organic dust, single acting	horizontal

/ Technical data

Max. air speed against explosion direction = 35m/s
 Min. closing pressure of the flap valve ≥ 0.05 bar

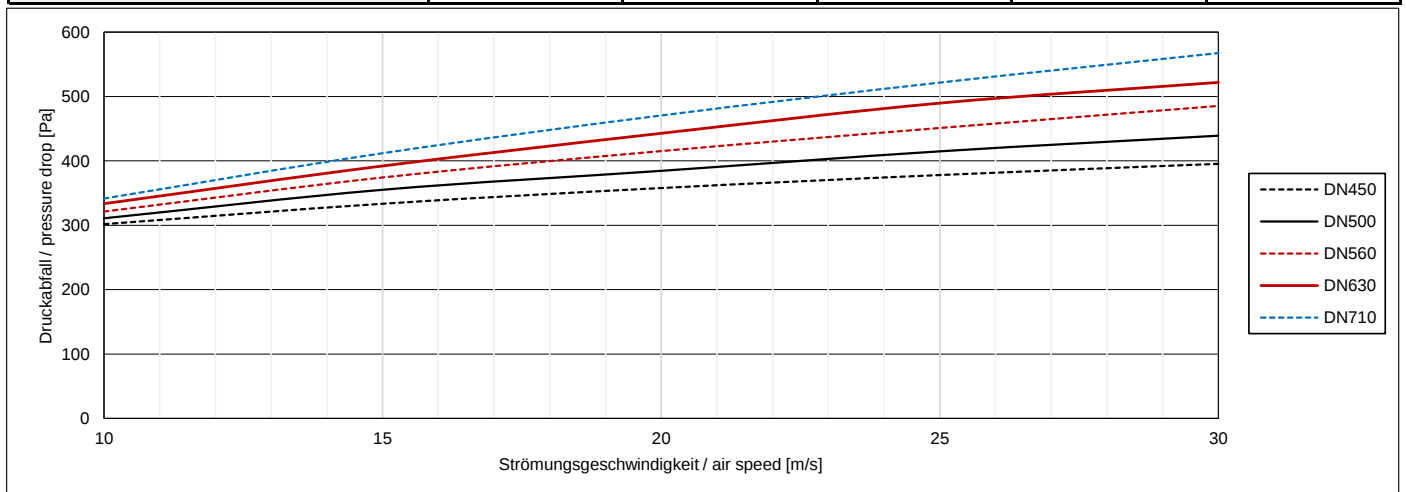
		Nominal size				
		DN450	DN500	DN560	DN630	DN710
Test certificate ATEX		GEX 19 ATEX 1000X				
Maximum explosion pressure in the vessel at 20°C	$p_{red\ max}$ [barg]	0.95	0.77	0.77	0.77	0.77
Maximum explosion pressure on the Explosion Isolation Flap Valve	$p_{ex\ max}$ [barg]	1.46	1.03	1.03	1.03	1.03
Organic dust with K_{St}	bar m s-1	≤ 250	≤ 250	≤ 250	≤ 250	≤ 250
Installation distance for vessel size	min. m	3.5	-	-	-	-
$0.7\ m^3 \leq V \leq 100\ m^3$	max. m	9.5	-	-	-	-
Installation distance for vessel size	min. m	3.5	3.5	3.5	3.5	3.5
$2.77\ m^3 \leq V \leq 100\ m^3$	max. m	9.5	9.5	9.5	9.5	9.5

MESG: ≥ 1.37 mm

The certification tests have been performed with corn starch (MIT = 380°C and MIE = 3 mJ with inductance in the ignition circuit).

/ Pressure drop

Pressure drop [Pa]		Nominal size				
		DN450	DN500	DN560	DN630	DN710
Air speed [m/s]	10	301.7	310.8	321.3	333.5	341.5
	15	333.4	355.1	374.2	392.1	411.9
	20	357.8	384.5	415.2	442.8	470.5
	25	378	414.8	451.1	489.7	521.6
	30	395.4	439.1	485.3	521.9	567.4



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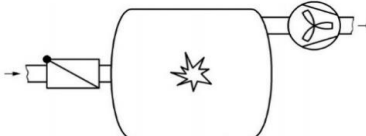
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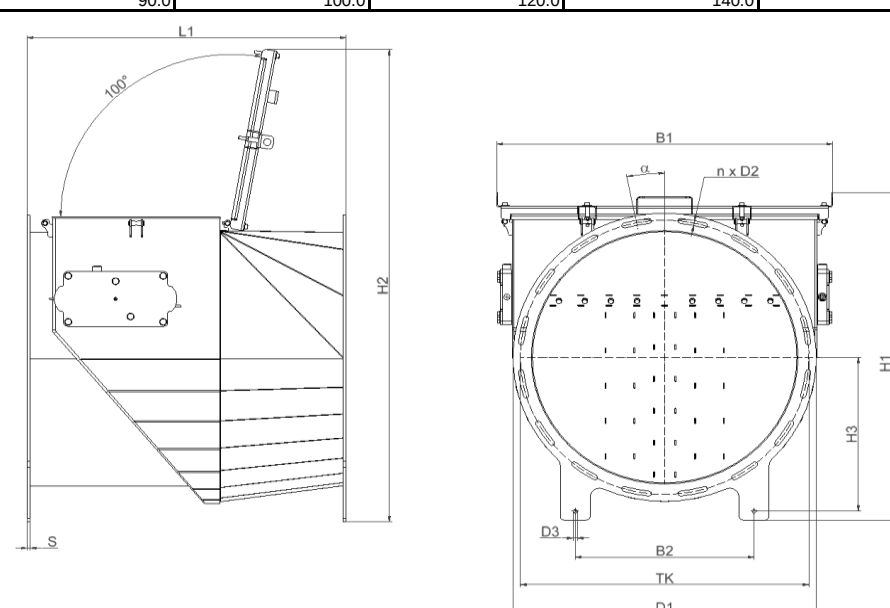
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/ Installation guideline Explosion Isolation Flap Valve REDEX® Flap

/ Requirements on the installation situation

Installation situation	Description and requirements
Pull application according to EN 16447:2014 (3.4)	The certification of this flap valve is valid for pull applications.  Source: EN 16447:2014
Vessel	The applicable volume of the attached vessel is $\geq 0.7 \text{ m}^3$ or rather $\geq 2.77 \text{ m}^3$. The back flap valve can just be used in combination with vented vessels which are equipped with non-reclosable venting devices.
Operating temperature	Minimum/maximum operating temperature: $+1^\circ\text{C} \dots +100^\circ\text{C}$. At operating temperatures $< +1^\circ\text{C}$ it has to be ensured that the flap valve cannot freeze. A frozen mechanism affects the proper function of the flap valve negatively. The process temperature simultaneously determines the maximum surface temperature of the REDEX® Flap on the housing. For a zone 21 or 22 in the outdoor area, this must therefore be taken into account.
Pipes	Elbows are allowed between the explosion source and the flap valve, the pressure resistance of the pipeline must be designed for the applied protection concept. If there is a pipe connection to other equipment on the side of the flap valve opposite to the explosion source, a straight pipe with a length of at least five times the nominal diameter must be installed (at least 5 x DN).
Process conditions	The intended use of the back flap has always to be ensured. Further information can be found in the operation instructions.
Support	It is recommended to support the flap valve separately from the pipe. It has to be ensured that the valve is installed without tension.
Maintenance area	For the maintenance there has to be a good accessibility to the flap valve. Especially there has to be enough space to open the housing cover completely.

/ Dimensions

Dimensions [mm]		Nominal size				
		DN450	DN500	DN560	DN630	DN710
Length	L1	661.0	714.0	796.0	826.0	856.0
Width	B1	642.0	707.0	772.0	837.0	902.0
Width fixation	B2	340.0	370.0	400.0	440.0	480.0
Height	H1	635	700	760	845	925
Height (cover open)	H2	937.4	1022.3	1122.2	1237.0	1346.9
Height fixation	H3	275.0	310.0	345.0	395.0	435.0
Flange diameter	D1	534.0	584.0	664.0	734.0	814.0
Flange thickness	S	8.0	8.0	8.0	8.0	8.0
Pitch circle diameter	TK	497.0	551.0	629.0	698.0	775.0
Quantity of holes	n	12	12	16	16	16
Hole diameter	D2	11	11	13.5	13.5	13.5
Pitch	α	15	15	11.25	11.25	11.25
Hole diameter	D3	11	11	11	11	11
Weight (net)	kg	90.0	100.0	120.0	140.0	150.0
Sketch						

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