

Data Sheet Explosion Diverter type DES

TV Explosion Diverter Typ:

	DES 100	DES 150	DES 200	DES 250	DES 300
direction of venting:	vertical				
max. running-up duct length of a deflagration propagation before reaching the diverter:	dependent on system and characteristic values, to be individually evaluated and determined by experts during plant-related risk assessment				
max. propagation induced pressure shock wave velocity before reaching the diverter:	770 m/s	710 m/s	640 m/s	580 m/s	520 m/s
air flow deviation:.	157,5 °				
total weight:	55 kg	86 kg	165 kg	245 kg	345 kg
weight of lid:	2,57 kg	4,53 kg	7,36 kg	10,64 kg	19,88 kg
interior measurements of duct body:	Ø186 mm	Ø263 mm	Ø358 mm	Ø449 mm	Ø550 mm
inlet- and outlet duct interior measurements:	Ø100,8 mm	Ø150 mm	Ø210,1 mm	Ø263 mm	Ø312,7 mm
effective vent area A_W	0,0078 m ²	0,018 m ²	0,035 m ²	0,054 m ²	0,077 m ²
outlet measurements (lid)	0,024 m ²	0,054 m ²	0,093 m ²	0,155 m ²	0,234 m ²
max. reduced explosion pressure p_{red} :	max. 3 bar \ddot{U}				
dust explosion classification: St 1 $K_{St} < 0 \dots 200$ St 2 $K_{St} < 200 \dots 300$	K_{St} -value: $\leq 250 \text{ bar} \cdot \text{m} \cdot \text{s}^{-1}$				
gas explosion classification:	K_G -Wert: in comparison $KG \leq$ air/propane-mixture with up to 4,5 % propane content, quiescent (non turbulent)				
stat. response pressure p_{stat} :	usually: 0.02 bar g as an exception, always in combination with reduced value for max. permissible pressure wave run-up speed according to plant-related risk assessment by experts: up to 0,1 bar g				
resulting max recoil force $F_{R, max.}$ at $p_{red} 2,0 \text{ bar} \ddot{U}^{***}$:	ca. 1,9 kN	ca. 4,2 kN	ca. 8,3 kN	ca. 13 kN	ca. 18,3 kN
	recoil duration t_p and momentum I are dependent on system				
flame arresting properties:	Serves to divert pressure shock wave and flame jet. Flame transfer cannot be avoided with 100% certainty.				
acceptable temperature:	ambient temperature: -30 ... +50 °C process temperature: +120°C at max. +50°C ambient temperature				
dim. drawing no.:	E400002M	E410003M	E420001M	E430001M	E450002M
retaining device acc. to drwg.-no. E6000030:	1	1	1	1	1
max. air velocity through diverter:	25 m/s				
pressure loss:	sliding scale, at 17 m/s approx. 400 Pa, at 20 m/s approx. 500 Pa				
flame barrier disclaimer:	Explosion doors for the pressure relief out of ducts will only perform partial decoupling. Total inhibition of flame passage is not warranted.				
max. vacuum:	-250 mbar	-250 mbar	-250 mbar	-250 mbar	-250 mbar
surface treatment:	<ul style="list-style-type: none"> body of explosion diverter: - hot dip galvanized lid: - none wear and tear protection of lid (from the inside): - wear and tear metal spray coating 				
materials:	<ul style="list-style-type: none"> body of explosion diverter: - S235JRG2 lid: - CrNiSt W.-Nr. 1.4571/AISI 316Ti lid gasket: - silicone retaining devices: - seawater resistant cast aluminium CrNiSt 1.4571, springs s. s. 1.4310/AISI 301 				
sentinel switch:	ifm-electronic: Typ: NI 5002				

SUBJECT TO CHANGE

*** $p_{red} 2,0 \text{ bar g}$ is an arbitrary chosen value allowing the exemplary indication of a recoil force. Depending on pipework geometry, especially pipe length, explosion properties of material to be conveyed, point of ignition and oxygen content of the air in the system, this value can be considerably higher!