



## Chapter 1 Data sheet I

### TV Explosion Diverter Type STT G2 ..../.....:

(only valid for duct relief operated with conveying under vacuum conditions)

	STT G2..../600	STT G2..../800	STT G2.../1150	STT G2..../1400	STT G2..../1500
vent direction:	60° compared to horizontally inclined up to vertical				
max. permissible run-up distance of an explosion propagation through the duct prior to reaching the explosion door's lid:	dependent on system and characteristic values, to be individually evaluated and determined by experts during plant-related risk assessment				
max. permissible pressure-wave run-up speed when explosion door's lid is reached:	270 m/s	200 m/s	130 m/s	100 m/s	80 m/s
flow deviation	150 ° from inner to outer duct				
weight of lid	12,3 kg	20 kg	40 kg	62,2 kg	67,3 kg
inner dimensions at vent discharge:	Ø590 mm	Ø790 mm	Ø1155 mm	Ø1390 mm	Ø1500 mm
vent area A	0,27 m <sup>2</sup>	0,5 m <sup>2</sup>	1,0 m <sup>2</sup>	1,5 m <sup>2</sup>	1,76 m <sup>2</sup>
max. reduced explosion pressure p <sub>red</sub> :	max. 3,0 barÜ				
dust explosion classification St 1 K <sub>St</sub> < 0 ... 200 St 2 K <sub>St</sub> < 200 ... 300	K <sub>St</sub> value ≤ 250 bar•m•s <sup>-1</sup>				
gas explosion classification :	K <sub>G</sub> value: in comparison K <sub>G</sub> ≤ air/propane-mixture with up to 4,5 % propane content, quiescent (non turbulent)				
static response pressure p <sub>stat</sub> :	0,02 barÜ				
admissible temperatures:	ambient temperature: -30 ... +50 °C temperatures below 0 °C for explosion doors with electrical heating only max <sub>p</sub> process temperature: +115°C at max. +50°C ambient temperature				
retaining devices acc. to drawing no.: E6000030	No off: 1	No off: 1	No off.: 2	No off: 3	No off: 2
max. process vacuum	- 150 mbar	- 150 mbar	- 150 mbar	- 150 mbar	- 150 mbar
resulting recoil force F <sub>R max</sub> at p <sub>red</sub> 2,0 bar g <sup>***</sup> :	refer to comment 65 kN	refer to comment 117 kN	refer to comment 249 kN	refer to comment 361 kN	refer to comment 421 kN
velocity of air: (material)	length of recoil force t <sub>b</sub> and total impulse I depend on the type of system 25 m/s				
pressure drop:	17 m/s ca. 400 Pa 20 m/s ca. 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.				
surface treatment:	body of explosion door: lid: process exposed side of lid:		hot dip galvanised stainless steel wear and tear layer		
material:	body of explosion door: baffle plate lid: lid seal: retaining devices: weather protection:		S235JRG2, structural steel, S235JRG2, structural steel, CrNiSt W.-Nr. 1.4571 sheet metal, PU-foam silicone profile sea water resistant cast aluminium, stainless steel Polyurethane		
sentinel switch:	Telemecanique XS6 30B1PAL2 EX				

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\*\*\* The p<sub>red</sub> value 2,0 barg is an assumption for the recoil force.

Depending on the length of the duct, explosion properties of the material conveyed, position of ignition and oxygen content this value might be higher!



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## Chapter 1 Data sheet II

### Type of TV Explosion Diverter:

(only valid for duct relief operated with conveying under vacuum conditions)

	STT G2 350/600	STT G2 400/600	STT G2 450/600	STT G2 500/600	STT G2 600/600
total weight:	..... kg	..... kg	..... kg	..... kg	..... kg
dimensional drawing no.:					
inlet- outlet duct inner dimensions:	Ø360 mm	Ø400 mm	Ø450 mm	Ø500 mm	Ø596 mm
effective vent area: $A_W$	0,102 m <sup>2</sup>	0,126 m <sup>2</sup>	0,159 m <sup>2</sup>	0,196 m <sup>2</sup>	0,279 m <sup>2</sup>
resulting recoil force $F_{R, max}$ :	24 kN	30 kN	38 kN	47 kN	66 kN
$p_{red}$ 2,0 barÜ: ***	time span of recoil force $t_D$ and total impulse I are dependent on the system				

	STT G2 ...../600	STT G2 ...../800	STT G2 700/800	STT G2 750/800	STT G2 800/800
total weight:	..... kg	..... kg	580 kg	..... kg	..... kg
dimensional drawing no.:			DA00-00619		
inlet- outlet duct inner dimensions:	Ø..... mm	Ø..... mm	Ø700 mm	Ø737 mm	Ø800 mm
effective vent area: $A_W$	..... m <sup>2</sup>	..... m <sup>2</sup>	0,385 m <sup>2</sup>	0,427 m <sup>2</sup>	0,503 m <sup>2</sup>
resulting recoil force $F_{R, max}$ :	..... kN	..... kN	92 kN	102 kN	120 kN
$p_{red}$ 2,0 barÜ: ***	time span of recoil force $t_D$ and total impulse I are dependent on the system				

	STT G2 ...../1150	STT G2 860/1150	STT G2 1000/1150	STT G2 1000/1150	STT G2 1120/1150
total weight:	..... kg	..... kg	1050 kg	1250 kg	1160 kg
dimensional drawing no.:			DA00-00595	DA00-00620	
inlet- outlet duct inner dimensions:	Ø..... mm	Ø862 mm	Ø1000 mm	Ø1090 mm	Ø1110 mm
effective vent area: $A_W$	..... m <sup>2</sup>	0,584 m <sup>2</sup>	0,785 m <sup>2</sup>	0,933 m <sup>2</sup>	0,967 m <sup>2</sup>
resulting recoil force $F_{R, max}$ :	..... kN	139 kN	187 kN	222 kN	239 kN
$p_{red}$ 2,0 barÜ: ***	time span of recoil force $t_D$ and total impulse I are dependent on the system				

	STT G2...../1400	STT G2 1200/1400	STT G2 1400/1400	STT G2...../1500	STT G2 1500/1500
total weight:	..... kg	..... kg	..... kg	..... kg	..... kg
dimensional drawing no.:					
inlet- outlet duct inner dimensions:	Ø..... mm	Ø1200 mm	Ø1385 mm	Ø..... mm	Ø1500 mm
effective vent area: $A_W$	..... m <sup>2</sup>	1,131 m <sup>2</sup>	1,507 m <sup>2</sup>	..... m <sup>2</sup>	1,767 m <sup>2</sup>
resulting recoil force $F_{R, max}$ :	..... kN	269 kN	359 kN	..... kN	420 kN
$p_{red}$ 2,0 barÜ: ***	time span of recoil force $t_D$ and total impulse I are dependent on the system				

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