General description

Data sheet

TV explosion diverter model STT SL	applies only for duct venting in vacuum conveyor processes		
	STT .../800 SL	**STT .../1150 SL**	**STT .../1400 SL**
Max. admissible development length of an explosion propagation through the duct before reaching the door lid:	System- and characteristic-dependent, to be evaluated and certified by experts in the context of the operation-specific threat assessment		
Flow deflection:	150°		
Door lid weight	6,5 kg	12,5 kg	16,5 kg
Vent area A:	0.5 m^2	1.05 m^2	1.52 m^2
Type test certification FSA Mannheim no.:	CE 0588 ⟨Ex⟩ D FSA 16 ATEX 1668 X*[3]		
Venting direction:	from 60 ° to horizontal to vertical		
Admissible reduced explosion pressure p_{red} :	max. 2.4 barg		
Max. explosion overpressure p_{max}:	≤ 9 bar		
Dust explosion class: St 1 K_{St} < 0 ... 200 St 2 K_{St} < 200 ... 300	K_{St}-value: ≤ 300 bar • m • s^{-1}		
K_G-value: Gas explosion class:	K_G-value: ≤ 100 bar • m • s^{-1} IIA		
Stat. response pressure p_{stat}:	Standard value: 0,02 – 0,1 bar eff. *[2]		
Admissible temperatures:	Ambient temperature: -40 ... +50 °C Operating conditions under 0 °C as well as snow loads have a negative effect on the techn. data. Process temperature: +120 °C at max. +50 °C ambient temperature		
Dimensional drawing no.:	See Chapter 3.2		
Retaining mechanism:	Quantity: 1	Quantity: 2	Quantity: 3
max. process negative pressure:	-150 mbar	-150 mbar	-150 mbar
Resulting recoil force $F_{R,max}$ at p_{red} 2,0 barg***:	See Chapter 3.2		
	For recoil time t_D and total impulse, see: EN 14491 (system-dependent).		
Surface treatment:	Baffle plate hot-galvanized Diverter body: hot-galvanized Inside of cover: Wear protection coating		
SUBJECT TO CHANGES			

***[1] The value p_{red} 2.0 barg is an accepted typical value for a typical recoil force. Depending on the container design, explosion characteristics of the materials, ignition location and oxygen content of process air, this may be greater or smaller!**

***[2] In exceptional cases, always in combination with reduced value for the max admissible shock wave pickup speed according to operation-specific threat assessment by experts.**

***[3]Use for turbulent gas/air mixes, such as those that occur in pipelines or in diverters, is explicitly excluded for the safety system in this certificate.**

General properties		
Materials:	Door body: Diverter body:	- Application up to -20 °C structural steel S235JR (hot-dip galvanized), or stainless steel mat. no.: 1.4571 - Application up to -40 °C mat.no.: 1.0488 P275NL1 (hot-dip galvanized), or stainless steel mat. no. 1.4571
	Baffle plate:	-Structural steel S235JR (hot-dip galvanised)
	Lid:	-Fibre-reinforced material, wear protection (optional): Fe13Cr0,5Mn0,5Ni0,25Si
	Lid seal:	-Silicone profile
	Retaining device PZZ:	-Anodised aluminium and structural steel S235JR (hot-dip galvanized)
	Protective cap for PZZ:	-PUR
	Controller for PZZ:	-Anodised aluminium
	Pressure vessel:	-Pressure vessel steel P235GH
Compressed air connection for compressed air supply Compressed air consumption	6 bar / G ¼“ female thread - First filling 40 L - 8 L per opening cycle of explosion door lid Compressed air quality according to DIN ISO 8573 Dried compressed air 10 °C below outside temperature	
Pressure switch (optional) for pressure vessel: Changeover contact, max. load capacity:	max. 2A / 250 VAC	
Pressure transducer in the PZZ controller	Operating voltage: 7-30 VDC Input pressure: 0 - 10 bar Output signal: 4-20 mA	
Applied standards and guidelines:	- DIN EN ISO 9001:2015 - EN ISO/IEC 80079-34:2012 - DIN EN ISO 80079-36:2016 - DIN EN ISO 80079-37:2016 - DIN EN 14491:2012 - DIN EN 14797:2007 - DIN EN 1127-1:2011	

<table>
<tr><td colspan="4">Information about proximity switches</td></tr>
<tr><td>Manufacturer</td><td>Type</td><td>Operating voltage</td><td>Special features</td></tr>
<tr><td>Télémécanique</td><td>XS6 30B1PAL2 EX</td><td>10 … 58 V DC</td><td>Zone 22 + Zone 21
Operate without switching amplifier
DC 3 PNP wire,
for flush fitting in metal,
-20 °C to +60 °C operating temperature,
N/O</td></tr>
<tr><td>IFM</td><td>NI5002</td><td>Namur 8.2 V DC</td><td>To be used together with a switching amplifier and approved for Zone 20 + Zone 21 + Zone 22,
for flush fitting in metal,
-20 °C to +70 °C operating temperature,
N/C</td></tr>
<tr><td colspan="4">Switching amplifier models with relay output for NI 5002 from IFM
e.g. N0533A, N0032A, N0033A
further switching amplifiers are possible on request to TV.</td></tr>
<tr><td>Pepperl & Fuchs</td><td>NJ10-30GK-N(1)</td><td>Namur 8 V DC</td><td rowspan="2">To be used together with a switching amplifier and approved for Zone 20 + Zone 21 + Zone 22,
for flush fitting in metal,
-25°C(1) / -50 °C(2) to +100 °C operating temperature,
N/C</td></tr>
<tr><td>Pepperl & Fuchs</td><td>NJ10-30GK-SN(2)</td><td>Namur 8 V DC</td></tr>
<tr><td colspan="4">Switching amplifier models with relay output for NJ10-30GK-N + NJ10-30GK-SN
e.g. KFD2-SR2-Ex1.W, KFA5-SR2-Ex1.W, KFA6-SR2-Ex1.W
further switching amplifiers are possible on request to TV.</td></tr>
<tr><td>Pepperl & Fuchs</td><td>NJ10-30GM50-E2-3G-3D</td><td>10 … 60 V DC</td><td>Zone 22,
Operate without switching amplifier
DC 3 PNP wire,
for flush fitting in metal,
-25 °C to +70 °C operating temperature,
N/O</td></tr>
<tr><td colspan="4">Other types of inductive sensors from other manufacturers with or without switching amplifier are possible on request to TV</td></tr>
<tr><td colspan="4">SUBJECT TO CHANGES</td></tr>
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