

Pressure device

protects silos during pneumatic filling

MSD

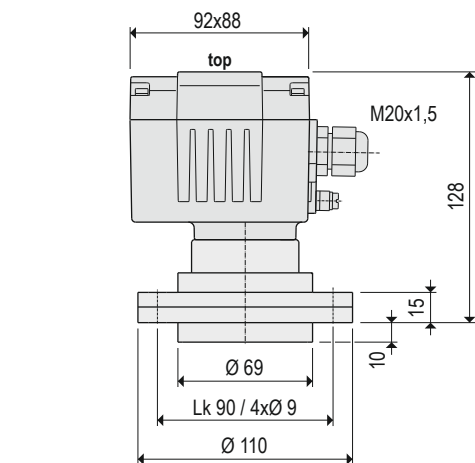
Appliance information

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Appliance information

for potentially dust explosive atmospheres

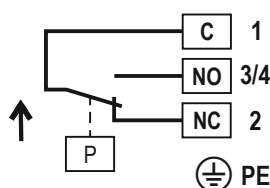
Dimensions



008-0201

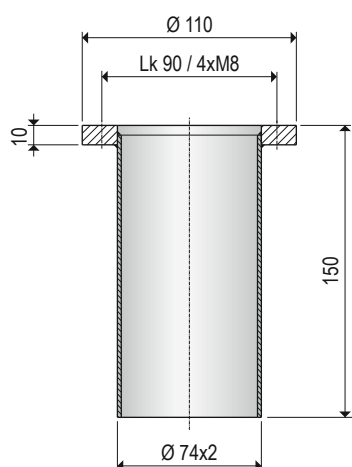
Flange gasket

Electrical connection



008-AP00

Accessories Flange tube



Use

The silo pressure detector is used as limit switch to control the pressure in silos and vessels, being filled by a pneumatic conveying system. If the pressure is reaching the switching point, the pressure detector will give a signal. Consequently it protects silos and vessels against to high pressure during the pneumatic filling process.

Mode of operation

Using the increasing pressure in the silo or vessel. Increases the pressure to the membrane, the signal switch registers the pressure difference and evaluates it.

Technical data

Materials	Housing A1	Aluminium
	Housing A2	Stainless steel 1.4408 / 316
	Flange F1A	Aluminium
	Flange F1I	Stainless steel 1.4571 / 316 Ti
	Membrane	Stainless steel 1.4310 / 302
	Flange nozzle	Steel
Bulk solids temperature	$T_{(Process)}$	-25 °C ... +80 °C
Ambient temperature	T_a	-20 °C ... +70 °C
Signal-contact		change-over contact. potential-free
> Loadability of signal contact		4 A / 250 V AC
> Switching voltage		24 V...250 V AC or 12 V...125 V DC
Switching point	SP	40 mbar = 0.04 bar = 400 mm WS
Pressure in the container		p_e 0 bar / p_{max} 0.5 bar
Cable entry		cable gland M20x1.5
Type of protection	IP	IP66 acc. to EN 60529
Weight	A1F1A	1.2 kg
	A1F1I	2.1 kg
	A2F1I	2.9 kg
Maintenance		none
Mounting position		vertical

Subject to modification

ATEX option

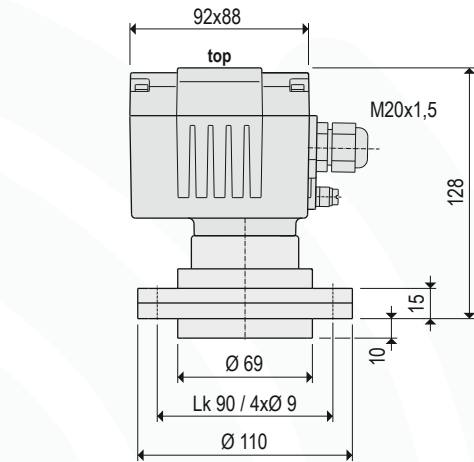
B1

 Dust  II 1/2D Ex ta/tb IIIC T80 °C Da/Db

Appliance information

for potentially gas and dust explosive atmospheres

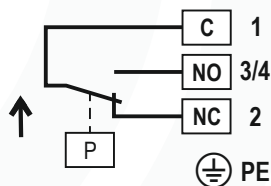
Dimensions



008-0201

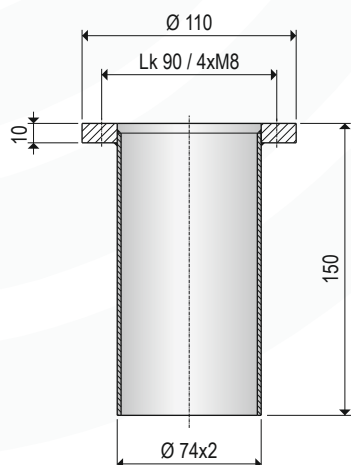
Flange gasket

Electrical connection



008-AP00

Accessories Flange tube



Use

The silo pressure detector is used as limit switch to control the pressure in silos and vessels, being filled by a pneumatic conveying system. If the pressure is reaching the switching point, the pressure detector will give a signal. Consequently it protects silos and vessels against to high pressure during the pneumatic filling process.

Mode of operation

Using the increasing pressure in the silo or vessel. Increases the pressure to the membrane, the signal switch registers the pressure difference and evaluates it.

Technical data

Materials	Housing A1	Aluminium
	Housing A2	Stainless steel 1.4408 / 316
	Flange F1A	Aluminium
	Flange F1I	Stainless steel 1.4571 / 316 Ti
	Membrane	Stainless steel 1.4310 / 302
	Flange nozzle	Steel
Bulk solids temperature	$T_{(Process)}$	-20 °C ... +70 °C
Ambient temperature	T_a	-20 °C ... +70 °C
Signal-contact	> Switching voltage > Switching current	change-over contact, potential-free $U_i \leq 30 \text{ V}$ $I_i \leq 100 \text{ mA}$ intrinsically safe
Switching point	SP	40 mbar = 0.04 bar = 400 mm WS
Pressure in the container		p_e 0 bar / p_{max} 0.5 bar
Cable entry		cable gland M20x1.5
Type of protection	IP	IP66 acc. to EN 60529
Weight	A1F1A A1F1I A2F1I	1.2 kg 2.1 kg 2.9 kg
Maintenance		none
Mounting position		vertical

Subject to modification

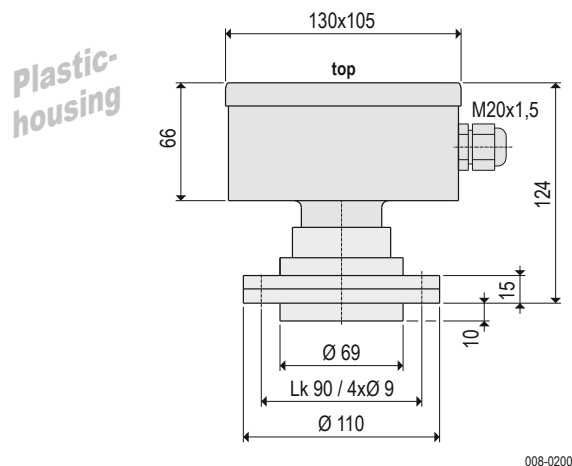
ATEX option

B5


 II 1/2D Ex ta/tb IIIC T80 °C Da/Db
 II 2G Ex ib IIC T6 Gb

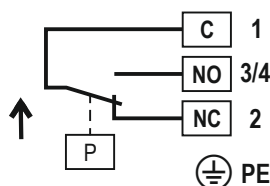
Appliance information

Dimensions

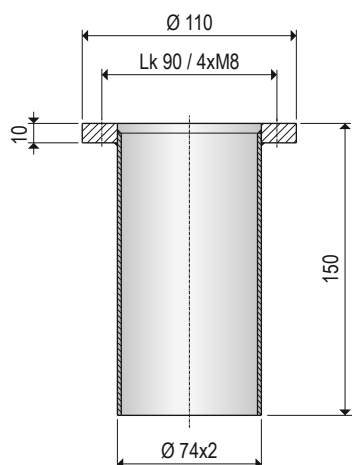


Flange gasket

Electrical connection



Accessories Flange tube



Use

The silo pressure detector is used as limit switch to control the pressure in silos and vessels, being filled by a pneumatic conveying system. If the pressure is reaching the switching point, the pressure detector will give a signal. Consequently it protects silos and vessels against to high pressure during the pneumatic filling process.

Mode of operation

Using the increasing pressure in the silo or vessel. Increases the pressure to the membrane, the signal switch registers the pressure difference and evaluates it.

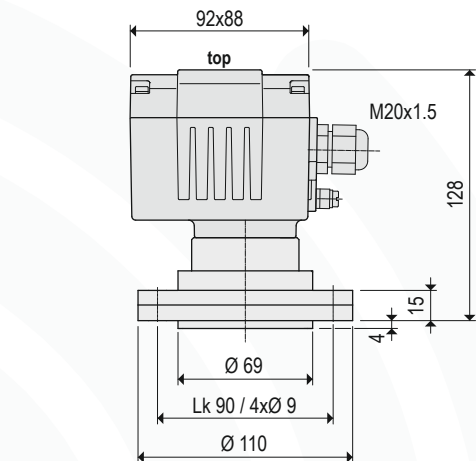
Technical data

Materials	Housing Flange Membrane Flange nozzle	ABS (plastic) grey Aluminium Stainless steel 1.4310 / 302 Steel
Bulk solids temperature	$T_{(Process)}$	-25 °C ... +80 °C
Ambient temperature	T_a	-20 °C ... +70 °C
Signal-contact		change-over contact. potential-free 4 A / 250 V AC
> Loadability of signal contact	Contact	24 V...250 V AC or 12 V...125 V DC
> Switching voltage		
Switching point	SP	40 mbar = 0.04 bar = 400 mm WS
Pressure in the container		p_e 0 bar / p_{max} 0.5 bar
Cable entry		cable gland M20x1.5
Type of protection	IP	IP65 acc. to EN 60529
Weight		1.1 kg
Maintenance		none
Mounting position		vertical

Subject to modification

Appliance information

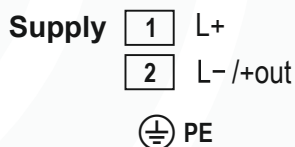
Dimensions



008-0201

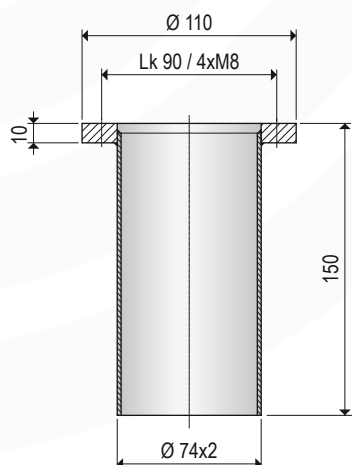
Flange gasket

Electrical connection


24 V DC

008-AP01

Accessories Flange tube



ATEX option

 B1 **Dust**  II 1/2D Ex ta/tb IIIC T80 °C Da/Db

Use

The electronic pressure transmitter monitors continuously the increasing pressure in a silo or bin (including the occurrent last torrent) during the pneumatic filling process.

The mechanical pressure is transmitted into a continuous output signal by this pressure measurement device.

Mode of operation

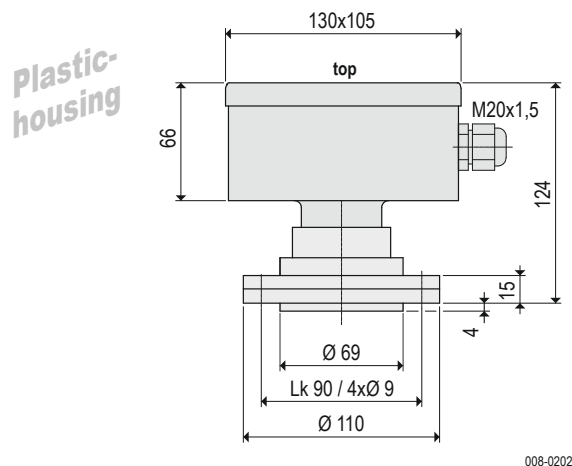
Use of pressure-increase in a silo or bin. Increasing pressure on the membrane is detected and evaluated by the electronic.

Technical data

Materials	Housing A1	Aluminium
	Housing A2	Stainless steel 1.4408 / 316
	Flange F1A	Aluminium
	Flange F1AI	Aluminium / Steel 1.4571 / 316 Ti
	Flange F1I	Stainless steel 1.4571 / 316 Ti
	Membrane	Stainless steel 1.4310 / 302
	Flange nozzle	Steel
Bulk solids temperature	$T_{(process)}$	-25 °C ... +75 °C
Ambient temperature	T_a	-20 °C ... +70 °C
Supply voltage	Supply	24 V DC (12 - 28 V DC)
Apparent ohmic resistance		≤ (U-11) / 0.02 Ω
Output signal	MSD-A...420	4 ... 20 mA 
Output signal	MSD-A...485	RS485-BUS 
Electrical connection	MSD-A...420 MSD-A...485	2-wire RS485 interface
Measuring range	relative pressure	0 ... 100 mbar (0 ... 10000 Pa)
Linearity		< 0.5 % FS
Temperature error	0-area	0.02 % FS/K
Temperature error	measuring range	0.02 % FS/K
Pressure in the container	$p_{(process)}$	- 0.1 bar ... 0.5 bar
Relative humidity	acceptable	0 ... 85 %
Cable entry		cable gland M20x1.5
Type of protection	IP	IP66 acc. to EN 60529
Weight	A1F1A A1F1I A2F1I	1.2 kg 2.1 kg 2.9 kg
Maintenance		none
Mounting position		vertical

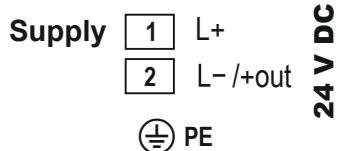
Appliance information

Dimensions



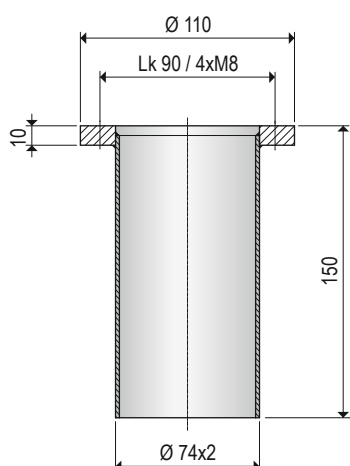
Flange gasket

Electrical connection



008-AP01

Accessories Flange tube



Use

The electronic pressure transmitter monitors continuously the increasing pressure in a silo or bin (including the occurrent last torrent) during the pneumatic filling process. The mechanical pressure is transmitted into a continuous output signal by this pressure measurement device.

Mode of operation

Use of pressure-increase in a silo or bin. Increasing pressure on the membrane is detected and evaluated by the electronic.

Technical data

Materials	Housing Flange Membrane Flange nozzle	ABS (plastic) grey Aluminium Stainless steel 1.4310 / 302 Steel
Bulk solids temperature	$T_{(Process)}$	-25 °C ... +75 °C
Ambient temperature	T_a	-20 °C ... +70 °C
Supply voltage	Supply	24 V DC (12 - 28 V DC)
Apparent ohmic resistance		$\leq (U-11) / 0.02 \Omega$
Output signal	MSD-420	4 ... 20 mA
	Output	
Output signal	MSD-485	RS485-BUS  RS485
Electrical connection	MSD-420 MSD-485	2-wire RS485 interface
Measuring range	relative pressure	0 ... 100 mbar (0 ... 10000 Pa)
Linearity		< 0.5 % FS
Temperature error	0-area	0.02 % FS/K
Temperature error	measuring range	0.02 % FS/K
Pressure in the container	$p_{(Process)}$	- 0.1 bar ... 0.5 bar
Relative humidity	acceptable	0 ... 85 %
Cable entry		cable gland M20x1.5
Type of protection	IP	IP65 acc. to EN 60529
Weight		1.1 kg
Maintenance		none
Mounting position		vertical

Subject to modification