

Pendulum level indicator

Level limit switches for bulk goods

PF/PSF

Pendulum rod switch

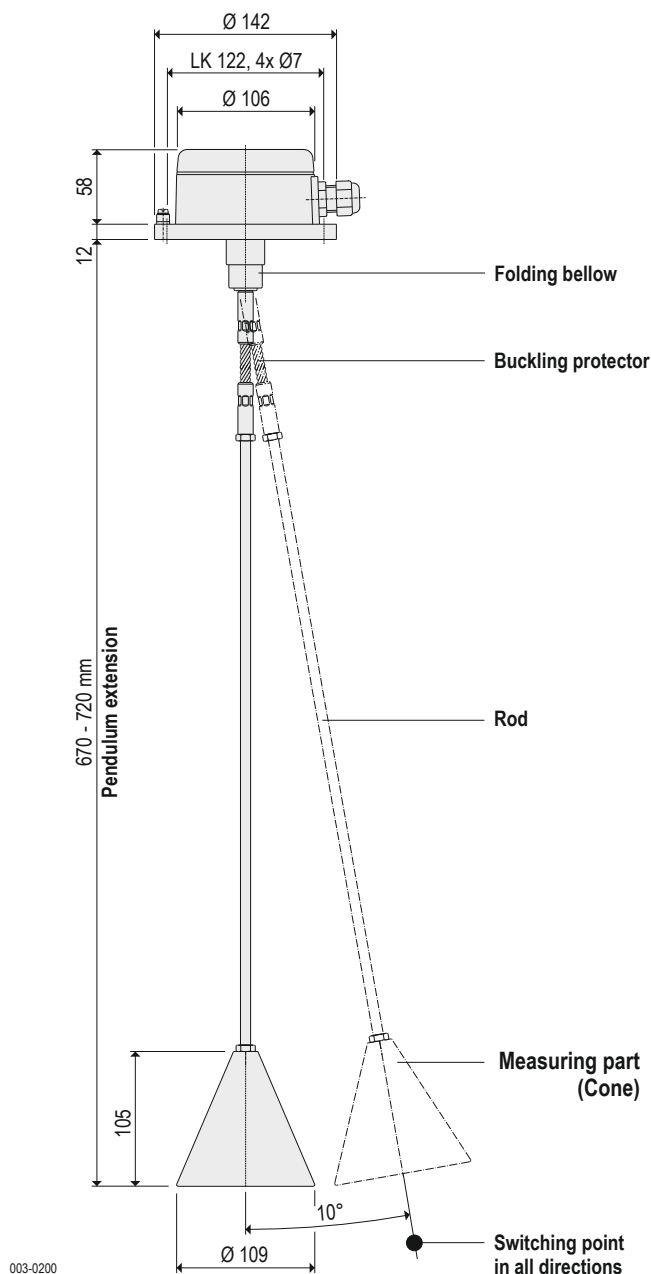
Monitoring device for bulk solids in motion

Appliance information

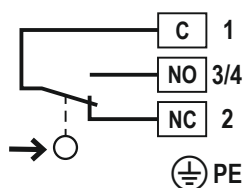
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Appliance information

Dimensions



Wiring connection



Use

The pendulum level indicator observes the level as limit switch in silos and vessels. It is used as full indicator for powdery, granulated and grainy bulk goods with a grain size up to 100 mm and a bulk density from 0.3 t/m³ ... 3.0 t/m³. It is preferred for mechanically filled silos and containers, for example with screw conveyors, feeders, elevators and so on.

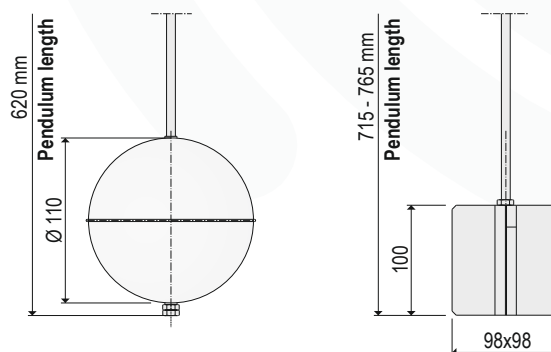
Mode of operation

Using the dumping cone of the bulk goods. The bulk goods, being dumped besides the pendulum, are moving the pendulum more and more aside, as the filling level increases. A signal switch registers this movement and evaluates it.

Technical data

Materials	Housing	GAL, RAL7001 coated
	Folding bellow	NBR, black
	Buckling protector	Stainless steel 1.4301 / 304
	Rod	AlSiMgMn or 1.4301 / 304
	Measuring parts	KF Cone AISi12
		OF Ball Stainless steel 1.4301 / 304
		XF Cross Stainless steel 1.4301 / 304
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	Contact	24 V ... 250 V AC or 12 V...125 V DC
Response delay		none
Pressure in the container	$p_{(Process)}$	- 0.5 bar ... 0.5 bar
Cable entry		cable gland M20x1.5
Type of protection	IP	IP66 acc. to EN 60529
Weight		1.2 to 1.4 kg (depending on measuring part)
Maintenance		none
Mounting position		vertical, $\pm 3^\circ$ inclination

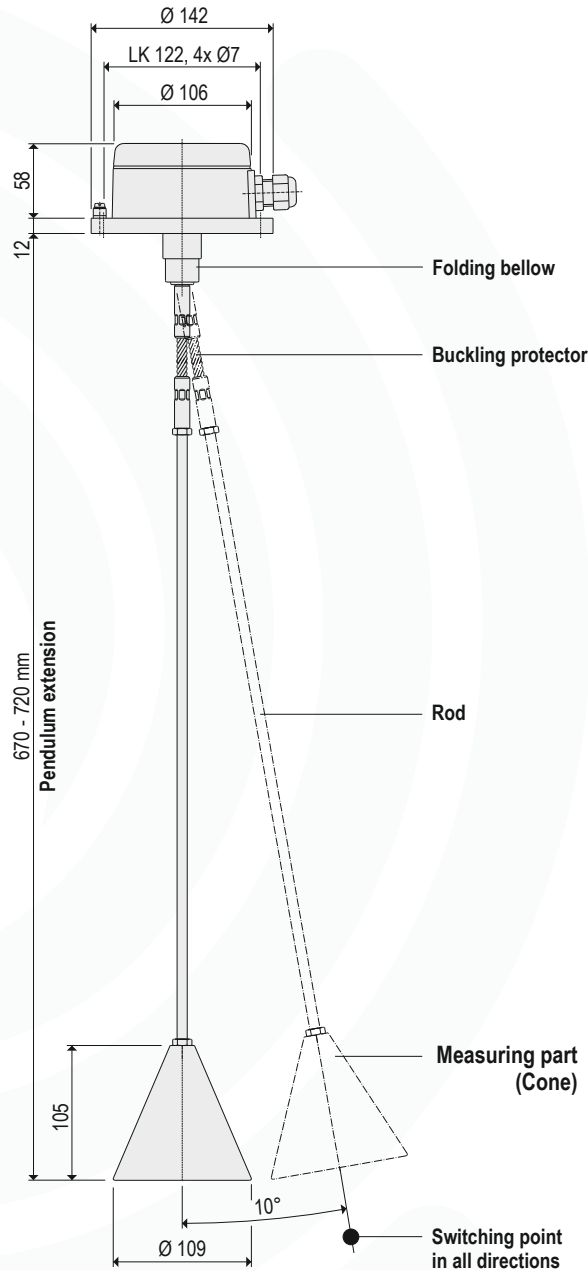
Dimensions of measuring parts



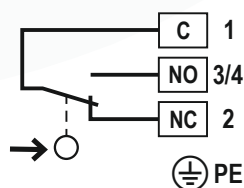
Appliance information

for potentially dust explosive atmospheres

Dimensions



Wiring connection



Use

The pendulum level indicator observes the level as limit switch in silos and vessels. It is used as full indicator for powdery, granulated and grainy bulk goods with a grain size up to 100 mm and a bulk density from 0.3 t/m³ ... 3.0 t/m³. It is preferred for mechanically filled silos and containers, for example with screw conveyors, feeders, elevators and so on.

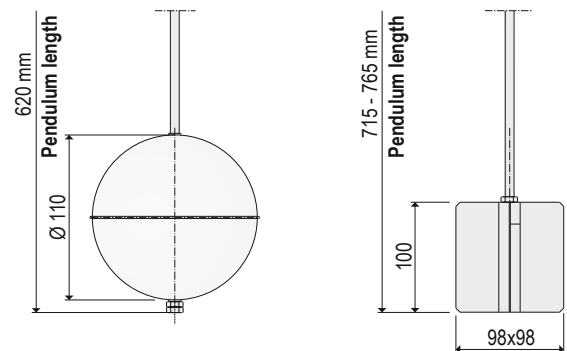
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	Folding bellow	NBR, black
	Buckling protector	Stainless steel 1.4301 / 304
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	Measuring parts	KF Cone AlSi12
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Response delay		none
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Cable entry		cable gland M20x1.5
Type of protection	IP	IP66 acc. to EN 60529
Weight		1.2 to 1.4 kg (depending on measuring part)
Maintenance		none
Mounting position		vertical, $\pm 3^\circ$ inclination

Dimensions of measuring parts



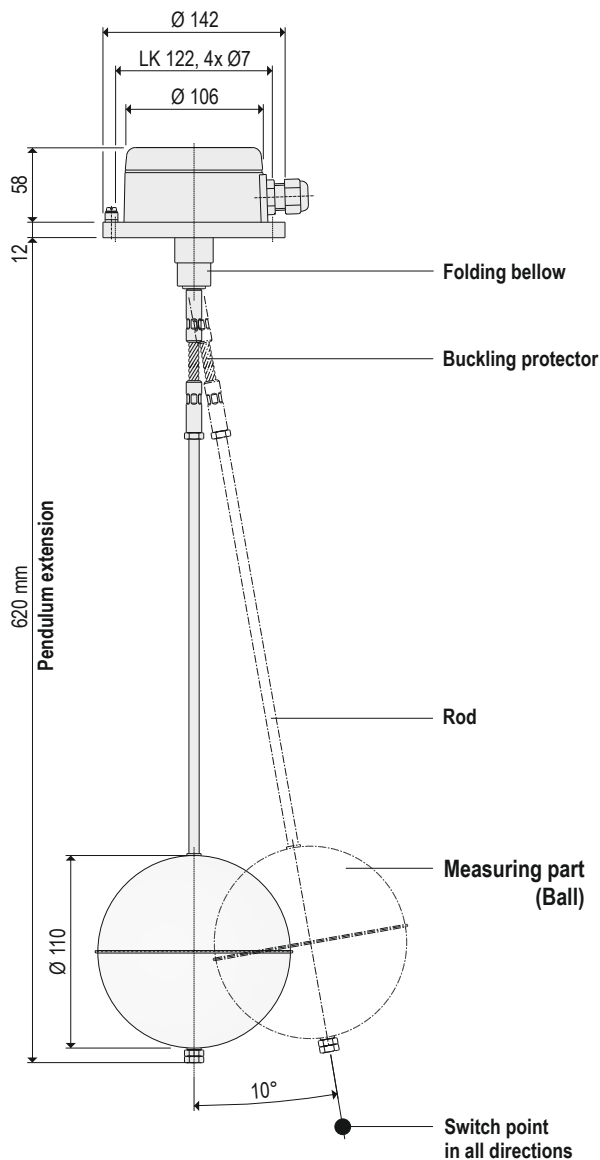
ATEX option

B1 **Dust**  II 1/2D Ex ta/tb IIIC T 80 °C Da/Db

Appliance information

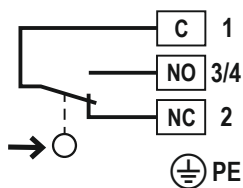
for potentially gas and dust explosive atmospheres

Dimensions



003-0203

Wiring connection



003-AP00

Use

The pendulum level indicator observes the level as limit switch in silos and vessels. It is used as full indicator for powdery, granulated and grainy bulk goods with a grain size up to 100 mm and a bulk density from 0.3 t/m³ ... 3.0 t/m³. It is preferred for mechanically filled silos and containers, for example with screw conveyors, feeders, elevators and so on.

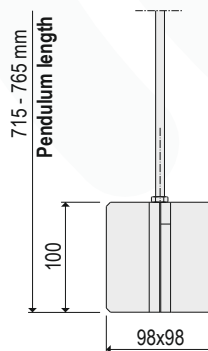
Mode of operation

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	Folding bellow	NBR, black
	Buckling protector	Stainless steel 1.4301 / 304
	Rod	Stainless steel 1.4301 / 304
	Measuring parts	OF Ball Stainless steel 1.4301 / 304
		XF Cross Stainless steel 1.4301 / 304
Bulk solids temperature	$T_{(process)}$	-25 °C ... +80 °C
Ambient temperature	T_a	-20 °C ... +70 °C
Signal contact		change-over contact, potential-free
> Switching voltage		$U_i \leq 30 \text{ V}$
> Switching current		$I_i \leq 100 \text{ mA}$
	contact	> intrinsically safe
Response delay		none
Pressure in the container	$p_{(process)}$	-0.5 bar ... 0.5 bar
Cable entry		cable gland M20x1.5
Type of protection	IP	IP66 acc. to EN 60529
Weight		1.2 to 1.4 kg (depending on measuring part)
Maintenance		none
Mounting position		vertical, $\pm 3^\circ$ inclination

Dimensions of measuring part



003-0292

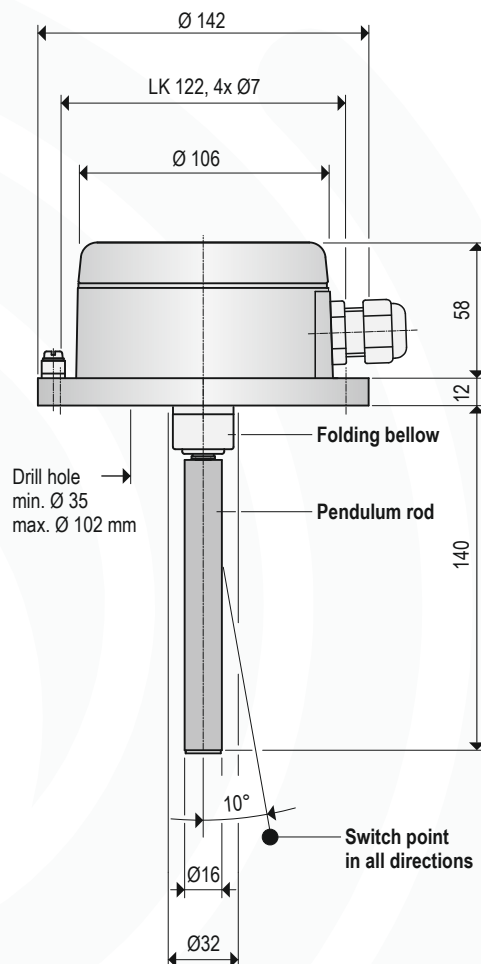
ATEX option



II 2G Ex ib IIB T6 Gb
and
II 1/2D Ex ta/tb IIIC T 80°C Da/Db

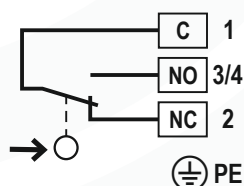
Appliance information

Dimensions



003-0202

Electrical connection



003-AP00

Use

The pendulum rod switch is a universal monitoring device for bulk solids in motion with versatile capabilities. It can be used as robust limit switch, as counter for sacks on conveyor belts, as jam detector in delivery pipes, at the final point of a pneumatic conveying system, as safety switch in conveying screws and elevators or for monitoring the loading height on conveying belts.

Mode of operation

As soon as the pendulum rod is moved in any direction out of the basic position, the switch detects this movement and gives a signal.

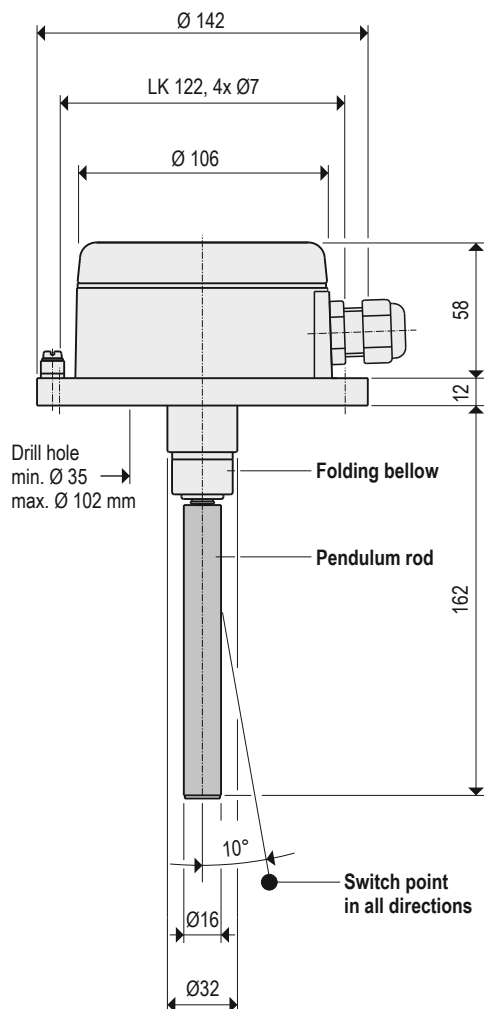
Technical data

Materials	Housing	GAL, RAL7001 coated
	Folding bellow	NBR, black
	Pendulum rod	NBR, black with aluminium core
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	Contact	4 A / 250 V AC
> Switching voltage		24 V ... 250 V AC or 12 V...125 V DC
Switching point		10° off-center
Pressure in the container	$p_{(Process)}$	- 0.5 bar ... 0.5 bar
Cable entry		cable gland M20x1.5
Type of protection	IP	IP66 acc. to EN 60529
Weight		1.2 kg
Maintenance		none
Mounting position		any

Appliance information

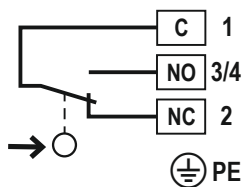
for potentially dust explosive atmospheres

Dimensions



003-0202

Electrical connection



003-AP00

Use

The pendulum rod switch is a universal monitoring device for bulk solids in motion with versatile capabilities. It can be used as robust limit switch, as counter for sacks on conveyor belts, as jam detector in delivery pipes, at the final point of a pneumatic conveying system, as safety switch in conveying screws and elevators or for monitoring the loading height on conveying belts.

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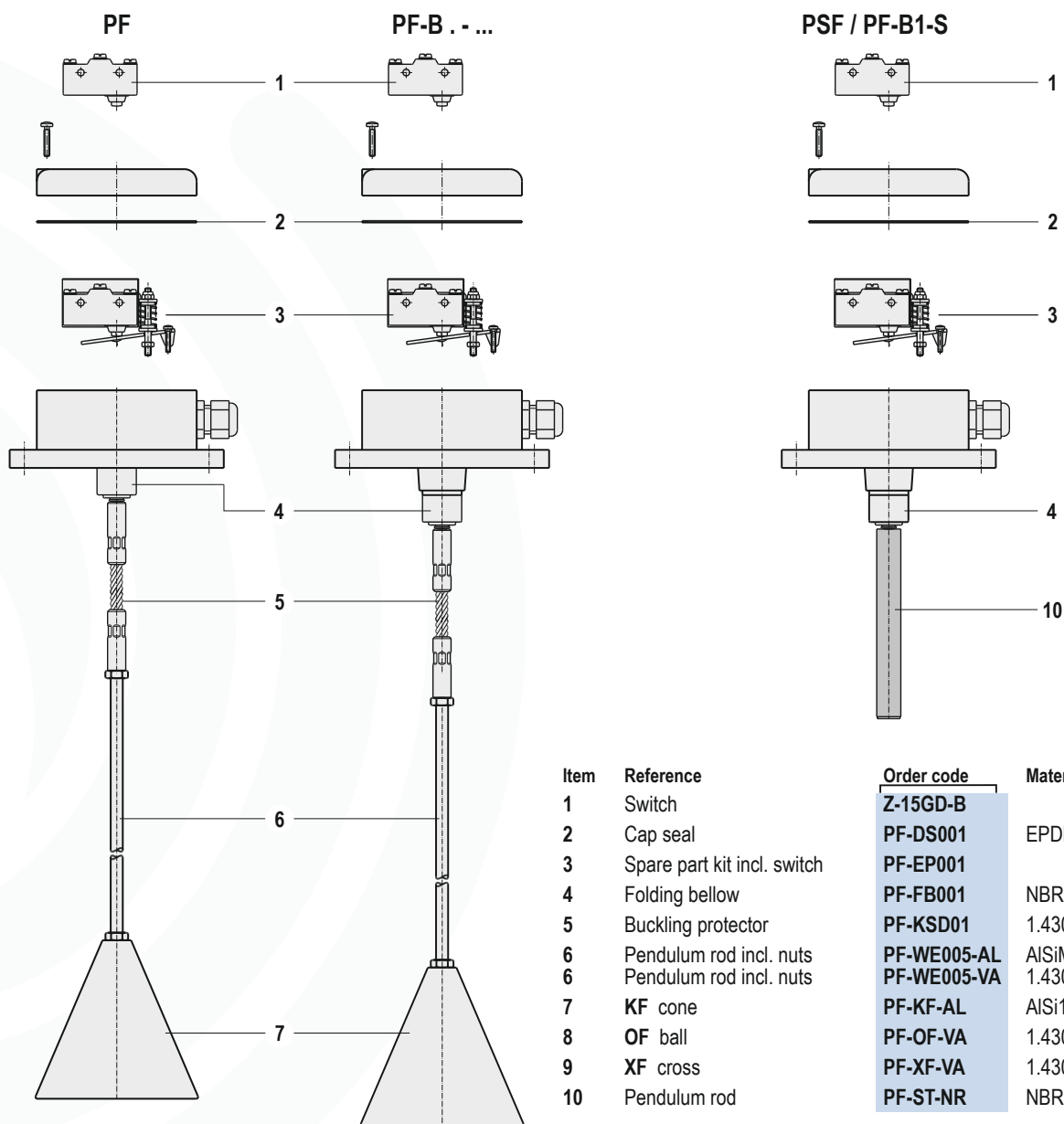
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	Folding bellow	NBR, black
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Type of protection	IP	IP66 acc. to EN 60529
Weight		1.2 kg
Maintenance		none
Mounting position		any

ATEX option

B1 **Dust**  II 1/2D Ex ta/tb IIIC T 80 °C Da/Db

Single parts

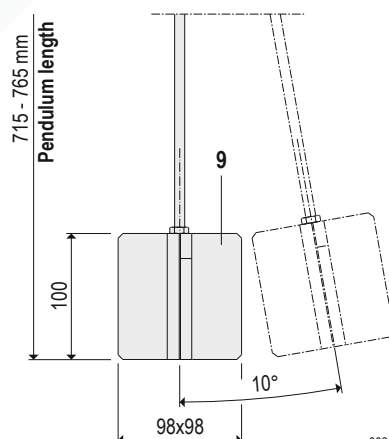
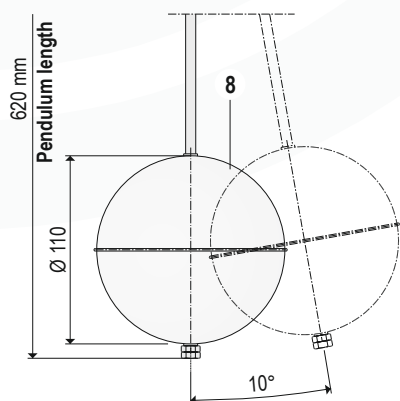
Pendulum rod switch



Item	Reference
1	Switch
2	Cap seal
3	Spare part kit incl. switch
4	Folding bellow
5	Buckling protector
6	Pendulum rod incl. nuts
6	Pendulum rod incl. nuts
7	KF cone
8	OF ball
9	XF cross
10	Pendulum rod

Order code	Material
Z-15GD-B	
PF-DS001	EPDM
PF-EP001	
PF-FB001	NBR
PF-KSD01	1.4301 / 304
PF-WE005-AL	AlSiMgMn
PF-WE005-VA	1.4301 / 304
PF-KF-AL	AlSi12
PF-OF-VA	1.4301 / 304
PF-XF-VA	1.4301 / 304
PF-ST-NR	NBR, aluminium core

003-0800



003-0291