Membrane level indicator

Level limit switches for bulk goods

MF

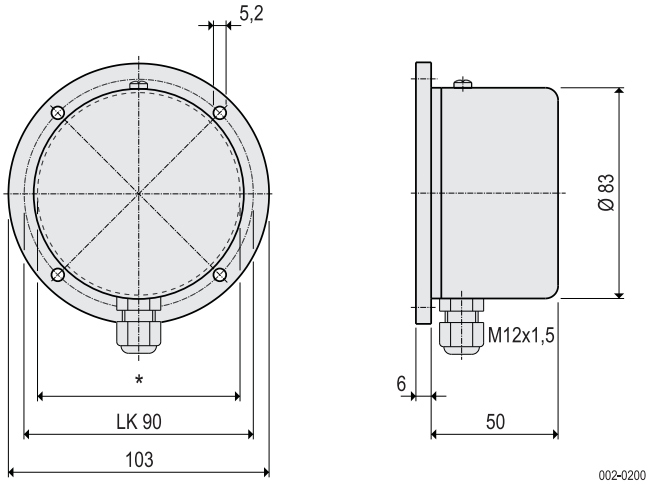
Appliance information

Index

MOLLET simply point level

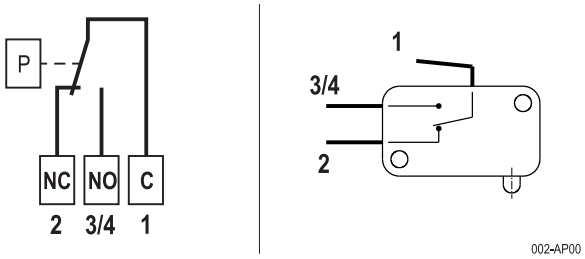
Appliance information

Dimensions



* Hole Ø in the vessel max. 80 mm

Wiring connection



Use

The membrane level indicator observes the level as limit switch in silos, hoppers and vessels. There it is used as level indicator for dusty, powdery, granulated and grained bulk goods with a maximum grain size of 30 mm and a bulk density from 0.3 t/m³ ... 1.0 t/m³.

Mode of operation

The bulk goods presses with its weight against the membrane. A tappet directly transfers the pressure from the membrane to the microswitch. When the bulk goods are decreasing, pressure is taken off the membrane and the switch will be interconnected.

Construction

The plastic housing carries the membrane.
The membrane is transfering the pressure via a tappet onto a microswitch.
Sensitivity is adjustable by a spring.

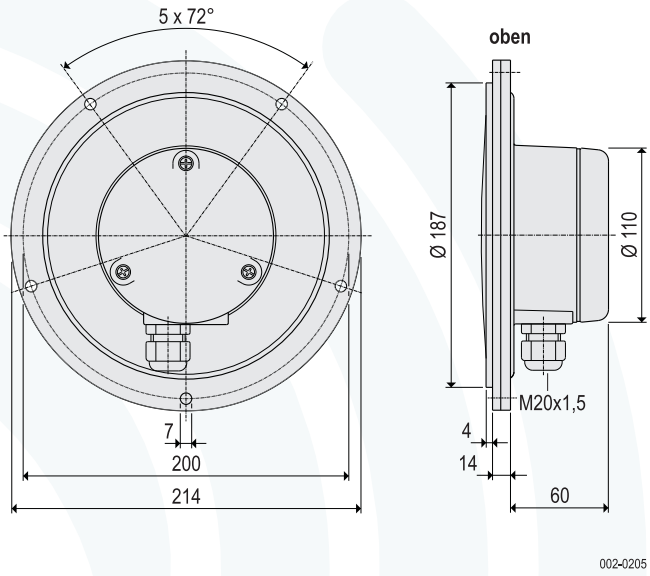
Technical data

Materials	Housing Membrane	ABS Nitrile
Temperature range	*Ta*	-10 °C ... +60 °C
Signal contact **Capacity of the contact** **Switching voltage**	*Contact*	change-over contact, potentialfree 2 A / 250 V ~ (AC) 24 V...250 V AC or 12 V...65 V DC
Response delay		none
Sensitivity		adjustable from 20 g ... 60 g
Cable connection		flat connection 4,8x0,8
Cable entry		Gland M12x1.5
Type of protection	*IP*	**IP44** acc. to DIN EN 60529
Weight		0.2 kg
Maintenance		none
Installation		any position

Subject to modification

Appliance information

Dimensions

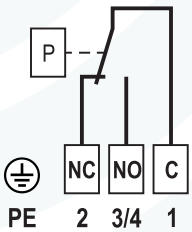


002-0205

Type selection

Type		Membrane	Mounting ring
MFB-NA	=	NBR	Aluminium
MFB-NE	=	NBR	Stainless steel 1.4301 / 304
MFB-VA	=	VITON	Aluminium
MFB-VE	=	VITON	Stainless steel 1.4301 / 304
MFB-EA	=	1.4301 / 304	Aluminium
MFB-EE	=	1.4301 / 304	Stainless steel 1.4301 / 304

Wiring connection



002-AP01

Use

The membrane level indicator observes the level as limit switch in silos, hoppers and vessels. There it is used as level indicator for dusty, powdery, granulated and grained bulk goods with a maximum grain size of 100 mm and a bulk density from 0.3 t/m³ ... 2.5 t/m³.

Mode of operation

The bulk goods presses with its weight against the membrane. A tappet directly transfers the pressure from the membrane to the switch. When the bulk goods are decreasing, pressure is taken off the membrane and the switch will be interconnected.

Construction

The aluminium housing carries a membrane which is held in place by a mounting ring. The membrane is transfering the pressure via a tappet onto a switch. Sensitivity is adjustable by a spring.

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Technical data

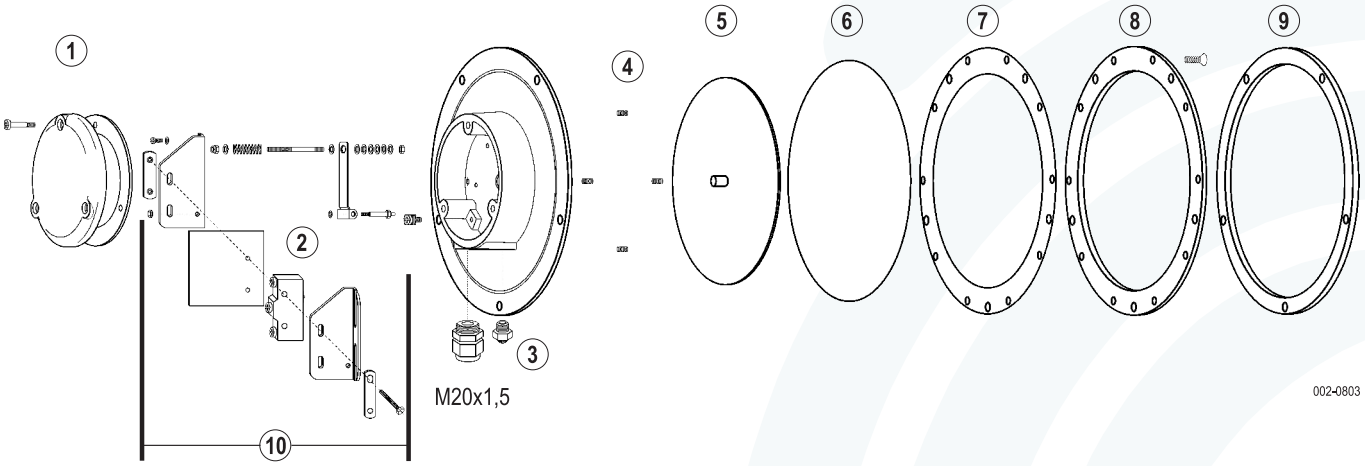
Materials	Housing		Aluminium
	Membrane	**- N .**	NBR
	Membrane	**- V .**	VITON
	Membrane	**- E .**	Stainless steel 1.4301 / 304
	Mounting ring	**- . A**	Aluminium
	Mounting ring	**- . E**	Stainless steel 1.4301 / 304
Bulk goods temperature	NBR	*Ts*	-20 °C ... +80 °C
	VITON		-20 °C ... +150 °C
	Stainless steel 1.4301 / 304		-20 °C ... +200 °C
Ambient temperature		*Ta*	-20 °C ... +80 °C
Signal contact		*Contact*	change-over contact, potentialfree
Capacity of the contact			4 A / 250 V ~ (AC)
Switching voltage			24 V...250 V AC or 12 V...125 V DC
Response delay			none
Sensitivity	with Membrane made of NBR		adjustable from 100 g ... 200 g
	VITON		adjustable from 100 g ... 200 g
	Stainless steel 1.4301 / 304		adjustable from 200 g ... 500 g
Cable entry			Gland M20x1.5
Type of protection	DIN EN 60529	*IP*	**IP40**
			IP53 if cable gland is downwards
			IP65 with stainless steel membrane
Weight			1.85 kg
Maintenance			none
Installation			any position

Subject to modification

ATEX option
with stainless steel membrane only

B0 Dust Ex **II 3D Ex tc IIIC T80 °C**

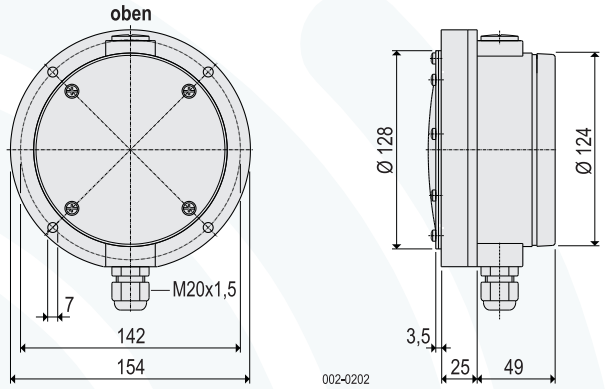
Single parts



Item	Reference	Order code	Material
1	Cap seal	MFB-DS01	EDPM
2	Switch	Z-15G-B	
3	Filter	395028-AVS	Brass
4	Spring	MFB-FR01	Spring steel
5	Membrane **V .**	MFB-MB-VI	VITON
	Membrane **N .**	MFB-MB-NR	NBR
6	Membrane **E .**	MFB-MB-VA	Stainless steel 304
7	Seal ring	MFB-DS02	
8	Mounting ring **. E**	MFB-HR-VA	Stainless steel 304
	Mounting ring **. A**	MFB-HR-AL	Aluminium
9	Gasket	MFB-FD01	NBR foam
10	Spare part kit incl. switch for **MFB-E .**	MFB-EP11	
10	Spare part kit incl. switch for **MFB-V . / MFB-N .**	MFB-EP12	

Appliance information

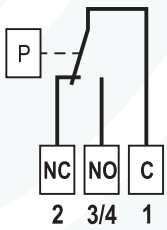
Dimensions



Type selection

Type		Membrane	Mounting ring
MFD-NN	=	NBR	Steel, galvanized
MFD-NE	=	NBR	Stainless steel 1.4301 / 304
MFD-VN	=	VITON	Steel, galvanized
MFD-VE	=	VITON	Stainless steel 1.4301 / 304

Wiring connection



Use

The membrane level indicator observes the level as limit switch in silos, hoppers and vessels. There it is used as level indicator for dusty, powdery, granulated and grained bulk goods with a maximum grain size of 30 mm and a bulk density from 0.3 t/m³ ... 2.5 t/m³.

Mode of operation

The bulk goods presses with its weight against the double-membrane. A tappet directly transfers the pressure from the membranes to the switch. When the bulk goods are decreasing, pressure is taken off the membranes and the switch will be interconnected.

Construction

The housing, made of glass-fibre reinforced plastic, carries the two membranes which are held in place by mounting rings. The membranes are transfering the pressure via a tappet onto a switch. Sensitivity is adjustable by a spring.

Technical data

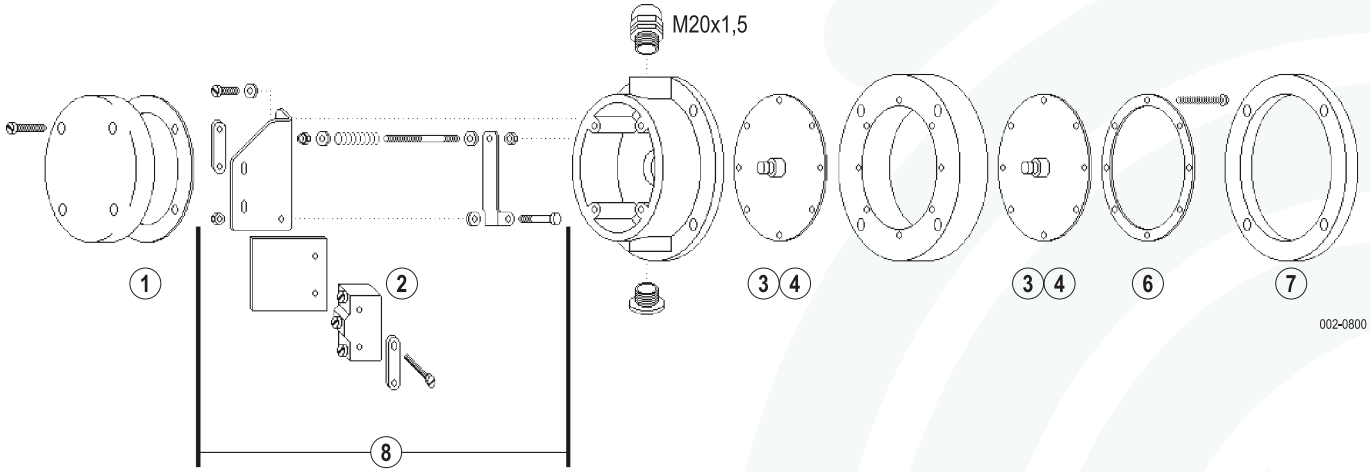
Materials	Housing		GFK (glass-fibre reinforced plastic)
	Membrane	**- N .**	NBR
	Membrane	**- V .**	VITON
	Mounting ring	**- . N**	Steel, galvanized
		- . E	Stainless steel 1.4301 / 304
Temperature range		*Ta*	-20 °C ... +70 °C
Signal contact			change-over contact, potentialfree
Capacity of the contact		*Contact*	4 A / 250 V ~ (AC)
Switching voltage			24 V...250 V AC or 12 V...125 V DC
Response delay			none
Sensitivity			adjustable from 60 g ... 200 g
Cable entry			Gland M20x1.5
Type of protection		*IP*	**IP65** acc. to DIN EN 60529
Weight			0.73 kg
Maintenance			none
Installation			any position

Subject to modification

ATEX option

B0 Dust Ex **II 3D Ex tc IIIC T80 °C**

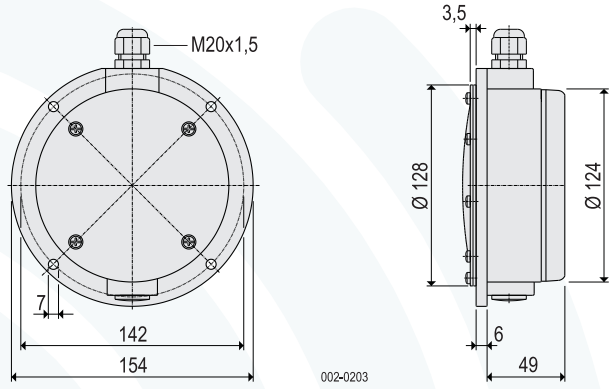
Single parts



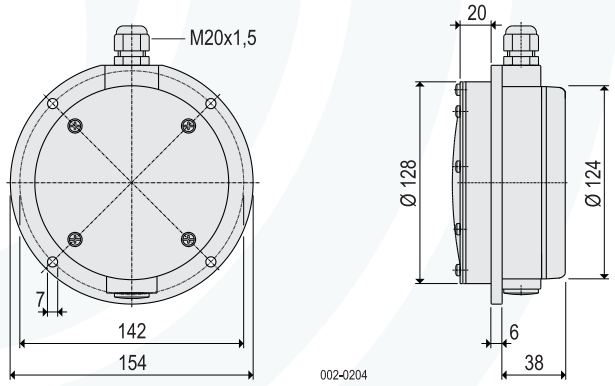
Item	Reference	Order code	Material
1	Cap seal	MF-DS001	NBR
2	Switch	BZ-2R-A2	
3	Tappet	MF-WE001	Aluminium
4	Membrane **N.**	MF-MB-NR	NBR
	Membrane **V.**	MF-MB-VI	VITON
6	Mounting ring **.N**	MF-HR-ST	Steel, galvanized
	Mounting ring **.E**	MF-HR-VA	Stainless steel 304
7	Gasket	MF-FD-NR	NBR foam
8	Spare part kit incl. switch	MF-EP001	

Appliance information

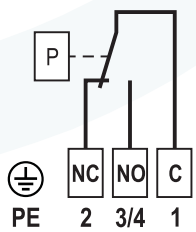
Dimensions MFE



Dimensions MFEF



Wiring connection



Use

The membrane level indicator observes the level as limit switch in silos, hoppers and vessels. There it is used as level indicator for dusty, powdery, granulated and grained bulk goods with a maximum grain size of 30 mm and a bulk density from 0.3 t/m³ ... 2.5 t/m³.

Mode of operation

The bulk goods presses with its weight against the membrane. A tappet directly transfers the pressure from the membrane to the switch. When the bulk goods are decreasing, pressure is taken off the membrane and the switch will be interconnected.

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Construction

The housing carries a membrane which is held in place by a mounting ring. The membrane is transfering the pressure via a tappet onto a switch. Sensitivity is adjustable by a spring.

Technical data

Materials	Housing	GFK (glass-fibre reinforced plastic)
	Membrane **- N .**	NBR
	Membrane **- V .**	VITON
	Membrane **- E .**	Stainless steel 1.4301 / 304
	Mounting ring **- . N**	Steel, galvanized
	Mounting ring **- . E**	Stainless steel 1.4301 / 304
Temperature range	*Ta*	-20 °C ... +60 °C
Signal contact	*Contact*	change-over contact, potentialfree
Capacity of the contact		4 A / 250 V AC
Switching voltage		24 V...250 V AC or 12 V...125 V DC
Response delay		none
Sensitivity with Membrane made of	NBR	adjustable from 60 g ... 1000 g
	VITON	adjustable from 60 g ... 1000 g
	Stainless steel 1.4301 / 304	adjustable from 150 g ... 2000 g
Cable entry		Gland M20x1.5
Type of protection	*IP*	**IP40** DIN EN 60529 **IP53** if cable gland is upwards **IP65** with stainless steel membrane
Weight	**MFE**	0.48 kg
	MFEF	0.49 kg
Maintenance		none
Installation		any position

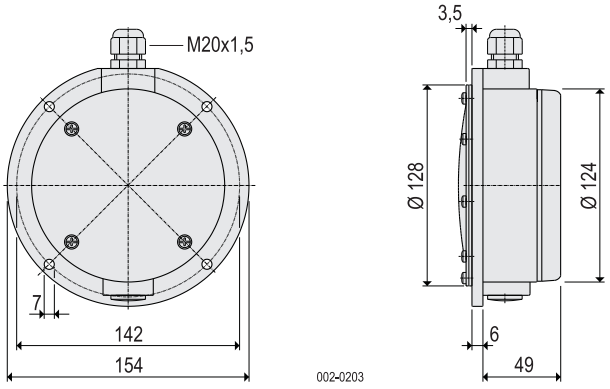
Änderung vorbehalten

ATEX option
with stainless steel membrane only

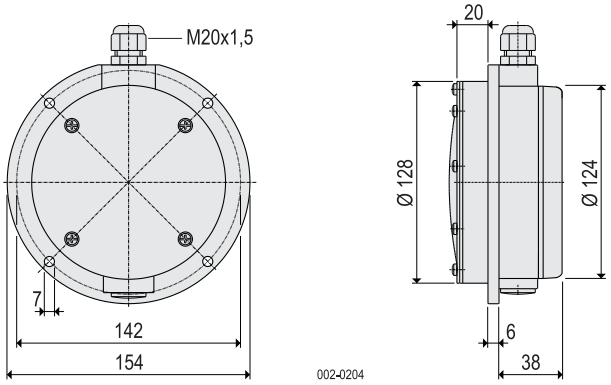
B3 Dust Ex **II 1/3D Ex ta/tc IIIB T63 °C**

Appliance information

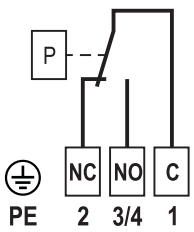
Dimensions MFE-A



Dimensions MFEF-A



Wiring connection



Use

The membrane level indicator observes the level as limit switch in silos, hoppers and vessels. There it is used as level indicator for dusty, powdery, granulated and grained bulk goods with a maximum grain size of 30 mm and a bulk density from 0.3 t/m³ ... 2.5 t/m³.

Mode of operation

The bulk goods presses with its weight against the membrane. A tappet directly transfers the pressure from the membrane to the switch. When the bulk goods are decreasing, pressure is taken off the membrane and the switch will be interconnected.

Construction

The housing carries a membrane which is held in place by a mounting ring. The membrane is transfering the pressure via a tappet onto a switch. Sensitivity is adjustable by a spring.

Technical data

Materials	Housing	**- A**	Aluminium
	Membrane	**- N .**	NBR
	Membrane	**- V .**	VITON
	Membrane	**- E .**	Stainless steel 1.4301 / 304
	Mounting ring	**- . N**	Steel, galvanized
	Mounting ring	**- . E**	Stainless steel 1.4301 / 304
Temperature range		*Ta*	Aluminium -25 °C ... +80 °C
Signal contact		*Contact*	change-over contact, potentialfree
Capacity of the contact			4 A / 250 V AC
Switching voltage			24 V...250 V AC or 12 V...125 V DC
Response delay			none
Sensitivity	with Membrane made of NBR		adjustable from 60 g ... 1000 g
	VITON		adjustable from 60 g ... 1000 g
	Stainless steel 1.4301 / 304		adjustable from 150 g ... 2000 g
Cable entry			Gland M20x1.5
Type of protection		*IP*	**IP40** DIN EN 60529
			IP53 if cable gland is upwards
			IP66 with stainless steel membrane
Weight		**MFE-A**	0.95 kg
		MFEF-A	1.00 kg
Maintenance			none
Installation			any position

Subject to modification

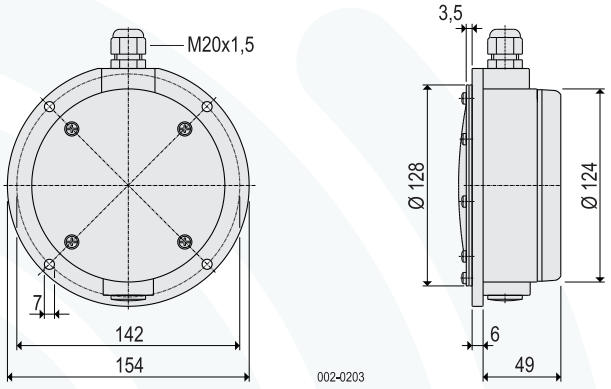
ATEX option
with stainless steel membrane only

B1 Dust Ex **II 1/2D Ex ta/tb IIIC T83 °C**

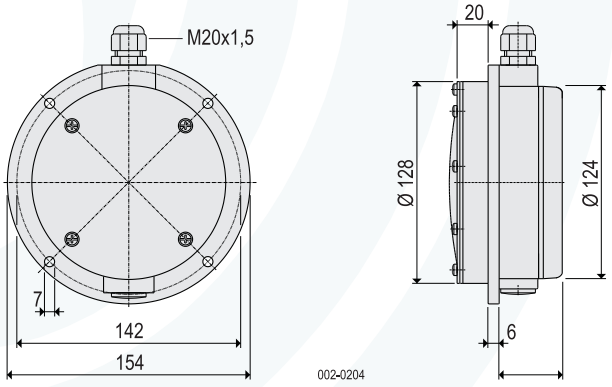
Appliance information

for potentially gas and dust explosive atmospheres

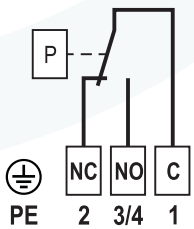
Dimensions MFE-A



Dimensions MFEF-A



Wiring connection



Use

The membrane level indicator observes the level as limit switch in silos, hoppers and vessels. There it is used as level indicator for dusty, powdery, granulated and grained bulk goods with a maximum grain size of 30 mm and a bulk density from 0.3 t/m³ ... 2.5 t/m³.

Mode of operation

The bulk goods presses with its weight against the membrane. A tappet directly transfers the pressure from the membrane to the switch. When the bulk goods are decreasing, pressure is taken off the membrane and the switch will be interconnected.

Construction

The housing carries a membrane which is held in place by a mounting ring. The membrane is transfering the pressure via a tappet onto a switch. Sensitivity is adjustable by a spring.

Technical data

Materials	Housing	**- A**	Aluminium
	Membrane	**- E .**	Stainless steel 1.4301 / 304
	Mounting ring	**- . E**	Stainless steel 1.4301 / 304
Temperature range		*Ta*	-25 °C ... +80 °C
Signal contact		*Contact*	change-over contact, potentialfree
	max. Switching voltage		$U_i \leq 30$ V
	max. Braking capacity		$I_i \leq 0.1$ A } **intrinsically safe**
Response delay			none
Sensitivity			adjustable from 150 g ... 2000 g
Cable entry			Gland M20x1.5
Type of protection		*IP*	**IP66** DIN EN 60529
Weight		**MFE-A**	0.95 kg
		MFEF-A	1.00 kg
Maintenance			none
Installation			any position

Subject to modification

ATEX option

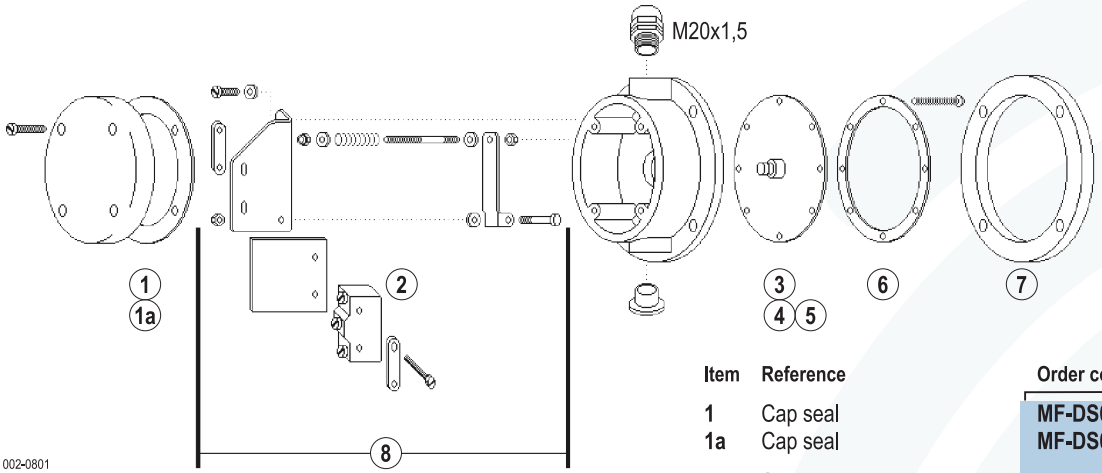
B5

Gas+ Dust

II 1/2D Ex ta/tb IIIC T83 °C
and
II 2G Ex ib IIC T6

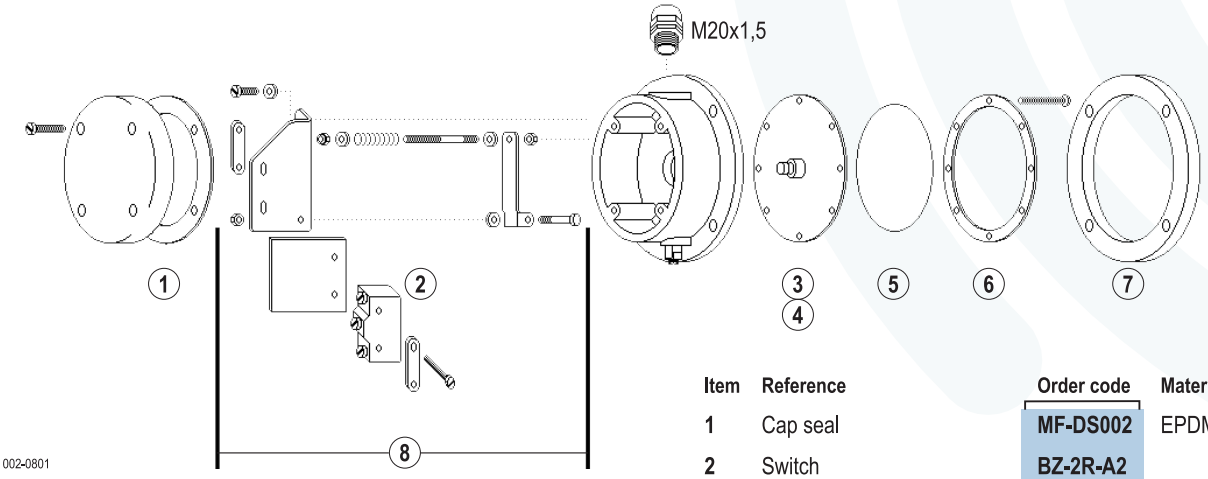
Single parts

MFE MFEF MFE-EE-B3 MFEF-EE-B3



Item	Reference	Order code	Material
1	Cap seal	MF-DS001	NBR
1a	Cap seal	MF-DS002	EPDM (with B3)
2	Switch	BZ-2R-A2	
3	Tappet	MF-WE001	Aluminium
4	Membrane **N.**	MF-MB-NR	NBR
	Membrane **V.**	MF-MB-VI	VITON
5	Membrane **E.**	MF-MB-VA	Stainless steel 304
6	Mounting ring **.N**	MF-HR-ST	Steel, galvanized
	Mounting ring **.E**	MF-HR-VA	Stainless steel 304
7	Gasket	MF-FD-NR	NBR foam
8	Spare part kit incl. switch	MF-EP001	

MFE-AEE MFEF-AEE



Item	Reference	Order code	Material
1	Cap seal	MF-DS002	EPDM
2	Switch	BZ-2R-A2	
3	Tappet	MF-WE001	Aluminium
4	Sealing	MF-MB-NR	NBR
5	Membrane **E.**	MF-MB-VA	Stainless steel 304
6	Mounting ring **.E**	MF-HR-VA	Stainless steel 304
7	Gasket	MF-FD-NR	NBR foam
8	Spare part kit incl. switch	MF-EP001	