

## Level measurement

Guided wave radar	<b>MOLOS</b> wave	1
Yo-Yo sensing	<b>MOLOS</b> bob	2
Visualization	<b>MOLOS</b> visu	3

## Level indicator

Rotation	<b>MOLOS</b> roto	4
Membrane	<b>MOLOS</b> membran	5
Vibration	<b>MOLOS</b> vibro	6
Pendulum	<b>MOLOS</b> pendu	7

## Intelligent hose couplings

Coding	<b>MOLOS</b> code	8
Limit switch	<b>MOLOS</b> switch	9
Swivelling lever	<b>MOLOS</b> swing	10
Lockable couplings	<b>MOLOS</b> lock	11

## Silo protection

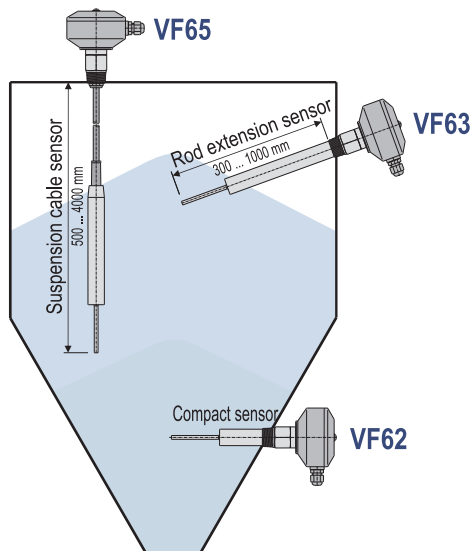
Overload protection	<b>MOLOS</b> safe	12
Pressure switch	<b>MOLOS</b> pressdec	13
Pinch valves	<b>MOLOS</b> valve	14



### Advantages of vibro level indicators:

- full-, demand- and empty indicator for light bulk solids
- reliable level indication for many applications
- low installation depth due to compact structure
- use in potentially dust explosive atmospheres possible
- maintenance-free continuous operation

### Container

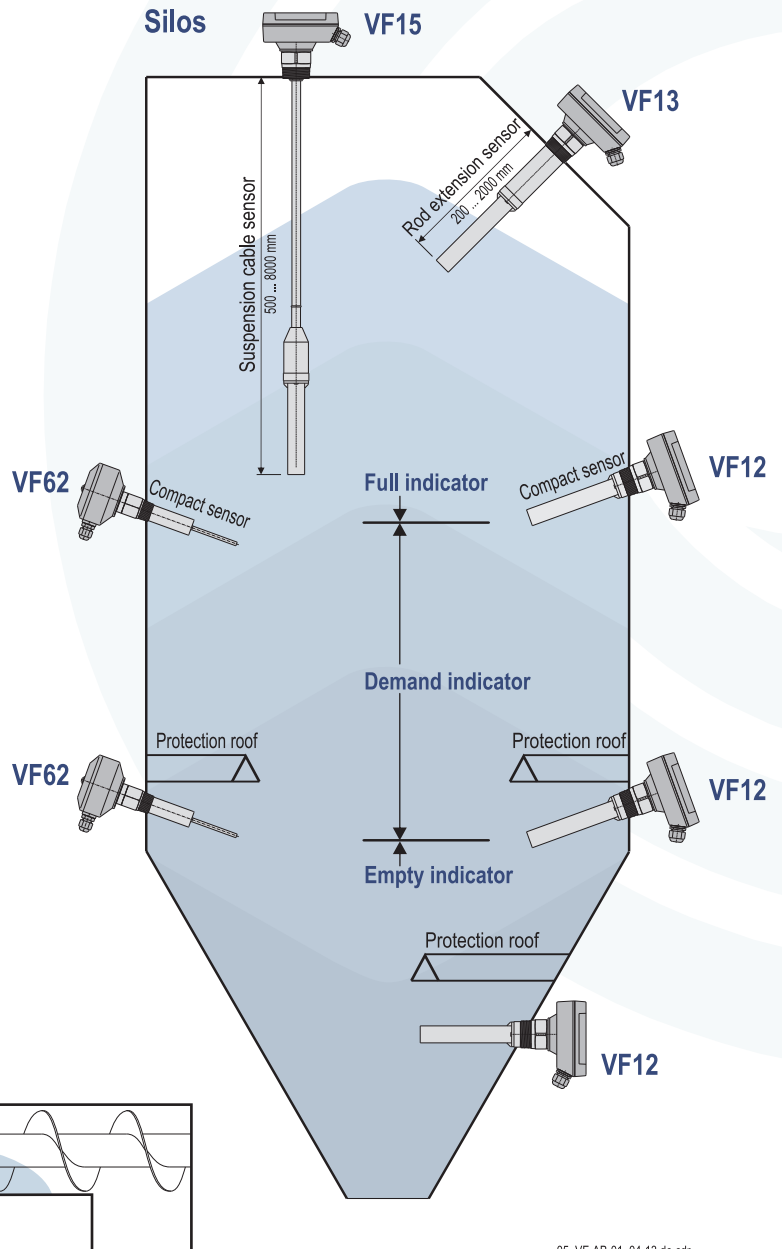


### Level indicator for bulk solids.

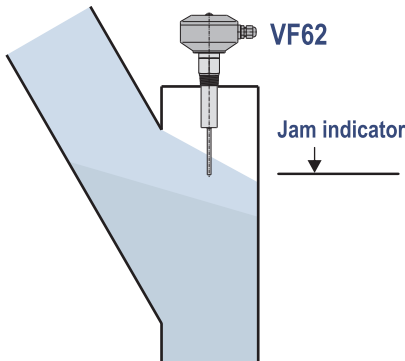
# VF



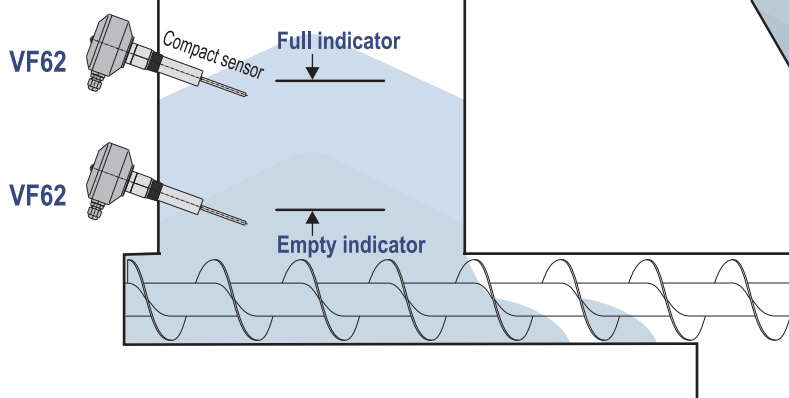
### Silos



### Drain pipes



### Dosing equipment



05\_VF-AB-01\_04-13 de.cdr


## Selection list

# VF12


## Compact sensor

Rhombus-  
vibration rod

ATEX option B1

**Dust**  II 1/2D Ex ta/tb IIIC T95 °C Da/Db

ATEX option B3

**Dust**  II 1/3D Ex ta/tc IIIC T95 °C Da/Dc

ATEX option B11

**Gas+**  II 1/2G Ex ia IIB T4 Ga  
**Dust**  II 1/2D Ex ia IIIC TX Da

1) not available with option B3

2) not available with option B1 / B11




## Basic device

### Choice of options with surcharges

#### Housing

- A1 **Standard** = rectangular aluminium housing, coated RAL7001 1) .....  
A22 Separate rectangular-housing, lead-through housing at the probe 2) .....

#### Certifications, certificates, approvals

- B0 **Standard** = CE conform and IP66/IP67 (with A22: IP65) .....  
B1 ATEX  II 1/2D Ex ta/tb IIIC T95°C **Dust** .....  
B3 ATEX  II 1/3D Ex ta/tc IIIC T95°C **Dust** .....  
B11 ATEX  II 1/2G Ex ia IIB T4 **Gas + Ex** II 1/2D Ex ia IIIC TX **Dust** .....

Further approvals ..... on request

#### Supply voltage

- C8 **Standard** = 20 ... 250 V AC/DC not with B11 .....  
C5 24 V DC transistor output PNP/NPN, not with B11 .....  
C5i 23,7 V DC only with B11 GasEx, supply and evaluation with VF-VEC8-B22 .....

#### Special equipment

- S0 **Standard** = useable for light bulk goods above 0,02 kg/l .....  
SE High sensitivity useable for very light bulk goods above 0,01 kg/l .....  
SA Sediment version, detection of deposited bulk goods in water ..... on request

#### Signal lamps

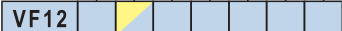
- H0 **Standard** = with function LED .....  
H1 Function LED visible from the outside, only with B0 .....

#### Process temperature

- E0 **Standard** = -40°C ... +80°C .....  
E1 -40°C ... +150°C .....  
E2 -40°C ... +200°C only with S0 .....  
E3 -40°C ... +250°C only with S0 .....  
E9 Further temperatures ..... on request

#### Process connection

- R3 **Standard** = R1½ EN 10226, steel 1.4301 / 304 ..  
N3 1½" NPT, steel 1.4301 / 304 .....

VF12  ← Order code

## Selection list

# VF13

## Rod extension sensor

6 Rhombus-  
vibration rod



ATEX option B1

**Dust**  II 1/2D Ex ta/tb IIIC T95 °C Da/Db

ATEX option B3

**Dust**  II 1/3D Ex ta/tc IIIC T95 °C Da/Dc

ATEX option B11

**Gas+**  II 1/2G Ex ia IIB T4 Ga  
**Dust**  II 1/2D Ex ia IIIC TX Da

1) not available with option B3

2) not available with option B1 / B11





## Basic device

### Choice of options with surcharges

#### Housing

- A1 **Standard** = rectangular aluminium housing, coated RAL7001 1) .....  
A22 Separate rectangular-housing, lead-through housing at the probe 2) .....

#### Certifications, certificates, approvals

- B0 **Standard** = CE conform and IP66/IP67 (with A22: IP65) .....  
B1 ATEX  II 1/2D Ex ta/tb IIIC T95°C **Dust** .....  
B3 ATEX  II 1/3D Ex ta/tc IIIC T95°C **Dust** .....  
B11 ATEX  II 1/2G Ex ia IIB T4 **Gas** +  II 1/2D Ex ia IIIC TX **Dust** .....

Further approvals ..... on request

#### Supply voltage

- C8 **Standard** = 20 ... 250 V AC/DC not with B11 .....  
C5 24 V DC transistor output PNP/NPN, not with B11 .....  
C5i 23,7 V DC only with B11 GasEx, supply and evaluation with VF-VEC8-B22 .....

#### Special equipment

- S0 **Standard** = useable for light bulk goods above 0,02 kg/l .....  
SE High sensitivity useable for very light bulk goods above 0,01 kg/l .....  
SA Sediment version, detection of deposited bulk goods in water ..... on request

#### Signal lamps

- H0 **Standard** = with function LED .....  
H1 Function LED visible from the outside, only with B0 .....

#### Process temperature

- E0 **Standard** = -40°C ... +80°C .....  
E1 -40°C ... +150°C .....  
E2 -40°C ... +200°C only with S0 .....  
E3 -40°C ... +250°C only with S0 .....  
E9 Further temperatures ..... on request

#### Process connection

- R3 **Standard** = R1½ EN 10226, steel 1.4301 / 304 ..  
N3 1½" NPT, steel 1.4301 / 304 .....

#### Length rod extension

- |    |   |   |   |   |    |                                                                                                   |
|----|---|---|---|---|----|---------------------------------------------------------------------------------------------------|
| LA | 0 | 2 | 0 | 0 | mm | basic length .....                                                                                |
|    | 0 | 0 | 0 | 0 | mm | ... any further 100 mm<br>insert required length<br>in steps of 100 mm,<br>range 0200 ... 2000 mm |

VF13  LA 0 0 ← Order code

## Selection list

# VF15


## Suspension cable sensor

Rhombus-  
vibration rod

ATEX option B1

**Dust**  II 1/2D Ex ta/tb IIIC T95 °C Da/Db

ATEX option B3

**Dust**  II 1/3D Ex ta/tc IIIC T95 °C Da/Dc

ATEX option B11

**Gas+**  II 1/2G Ex ia IIB T4 Ga  
**Dust**  II 1/2D Ex ia IIIC TX Da

1) not available with option B3

2) not available with option B1 / B11





## Basic device

### Choice of options with surcharges

#### Housing

- A1 **Standard** = rectangular aluminium housing, coated RAL7001<sup>1)</sup> .....  
A22 Separate rectangular-housing, lead-through housing at the probe<sup>2)</sup> .....

#### Certifications, certificates, approvals

- B0 **Standard** = CE conform and IP66/IP67 (with A22: IP65) .....  
B1 ATEX  II 1/2D Ex ta/tb IIIC T95°C **Dust** .....  
B3 ATEX  II 1/3D Ex ta/tc IIIC T95°C **Dust** .....  
B11 ATEX  II 1/2G Ex ia IIB T4 **Gas** +  II 1/2D Ex ia IIIC TX **Dust** .....

Further approvals ..... on request

#### Supply voltage

- C8 **Standard** = 20 ... 250 V AC/DC not with B11 .....  
C5 24 V DC transistor output PNP/NPN, not with B11 .....  
C5i 23,7 V DC only with B11 GasEx, supply and evaluation with VF-VEC8-B22 .....

#### Special equipment

- S0 **Standard** = useable for light bulk goods above 0,02 kg/l .....  
SE High sensitivity useable for very light bulk goods above 0,01 kg/l .....  
SA Sediment version, detection of deposited bulk goods in water ..... on request

#### Signal lamps

- H0 **Standard** = with function LED .....  
H1 Function LED visible from the outside, only with B0 .....

#### Process temperature


- E0 **Standard** = -40°C ... +70°C .....  
E9 Further temperatures ..... on request

#### Process connection

- R3 **Standard** = R1½ EN 10226, steel 1.4301 / 304 ..  
N3 1½" NPT, steel 1.4301 / 304 .....

#### Length suspension cable

- |    |   |   |   |   |    |                                                                                                                          |
|----|---|---|---|---|----|--------------------------------------------------------------------------------------------------------------------------|
| LT | 1 | 0 | 0 | 0 | mm | basic length .....                                                                                                       |
|    | 0 | 0 | 0 | 0 | mm | ... any further 100 mm<br>insert required length<br>in steps of 100 mm,<br>range 0500 ... 8000 mm<br>(longer on request) |

VF15  LT 0 0 ← Order code

## Selection list

# VF62

## Compact sensor

(VF06 changed to VF62)

6 Mini-vibration rod

ATEX option B1

**Dust**  II 1/2D Ex ta/tb IIIC T95 °C Da/Db

ATEX option B3

**Dust**  II 1/3D Ex ta/tc IIIC T95 °C Da/Dc

ATEX option B11

**Gas+**  II 1/2G Ex ia IIB T4 Ga  
**Dust**  II 1/2D Ex ia IIIC TX Da

- 1) not available with option B3
- 2) not available with option B1 / B11
- 3) not available with option B1 / B11 / E1





## Basic device

### Choice of options with surcharges

#### Housing

- A1 **Standard** = round aluminium housing, coated RAL7001 1) .....  
 A22 Separate round-housing, round lead-through housing at the probe 2) .....  
 A23 Separate round-housing, angled screw coupling at the probe 3) .....

#### Certifications, certificates, approvals

- B0 **Standard** = CE conform and IP66/IP67 (with A22, A23: IP65) .....  
 B1 ATEX  II 1/2D Ex ta/tb IIIC T95°C **Dust** .....  
 B3 ATEX  II 1/3D Ex ta/tc IIIC T95°C **Dust** .....  
 B11 ATEX  II 1/2G Ex ia IIB T4 **Gas +**  II 1/2D Ex ia IIIC TX **Dust** .....

Further approvals ..... on request

#### Supply voltage

- C8 **Standard** = 20 ... 250 V AC/DC not with B11 .....  
 C5i 23,7 V DC only with B11 GasEx, supply and evaluation with VF-VEC8-B22 .....

#### Special equipment

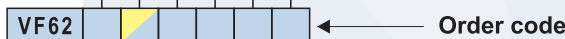
- S0 **Standard** = useable for light bulk goods above 0,02 kg/l .....  
 SE High sensitivity useable for very light bulk goods above 0,01 kg/l .....  
 SA Sediment version, detection of deposited bulk goods in water .....

#### Process temperature

- E0 **Standard** = -20°C ... +80°C .....  
 E1 -20°C ... +150°C .....  
 E9 Further temperatures ..... on request

#### Process connection

- R1 **Standard** = R1 EN 10226, stainless steel 1.4301 / 304 .....  
 N1 1" NPT, stainless steel 1.4301 / 304 .....

VF62 


## Selection list

# VF63


## Rod extension sensor

Mini-vibration rod

ATEX option B1

**Dust**  II 1/2D Ex ta/tb IIIC T95 °C Da/Db

ATEX option B3

**Dust**  II 1/3D Ex ta/tc IIIC T95 °C Da/Dc

ATEX option B11

**Gas+  
Dust**  II 1/2G Ex ia IIB T4 Ga  
und  
II 1/2D Ex ia IIIC TX Da

1) not available with option B3

2) not available with option B1 / B11

3) not available with option B1 / B11 / E1





## Basic device

### Choice of options with surcharges

#### Housing

- A1 **Standard** = round aluminium housing, coated RAL7001 <sup>1)</sup> .....
- A22 Separate round-housing, round lead-through housing at the probe <sup>2)</sup> .....
- A23 Separate round-housing, angled screw coupling at the probe <sup>3)</sup> .....

#### Certifications, certificates, approvals

- B0 **Standard** = CE conform and IP66/IP67 (with A22, A23: IP65) .....
- B1 ATEX  II 1/2D Ex ta/tb IIIC T95°C **Dust** .....
- B3 ATEX  II 1/3D Ex ta/tc IIIC T95°C **Dust** .....
- B11 ATEX  II 1/2G Ex ia IIB T4 **Gas +  II 1/2D Ex ia IIIC TX **Dust** .....**

Further approvals ..... on request

#### Supply voltage

- C8 **Standard** = 20 ... 250 V AC/DC not with B11 .....
- C5i 23,7 V DC only with B11 GasEx, supply and evaluation with VF-VEC8-B22 .....

#### Special equipment

- S0 **Standard** = useable for light bulk goods above 0,02 kg/l .....
- SE High sensitivity useable for very light bulk goods above 0,01 kg/l .....
- SA Sediment version, detection of deposited bulk goods in water .....

#### Process temperature

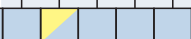

- E0 **Standard** = -20°C ... +80°C .....
- E1 -20°C ... +150°C .....
- E9 Further temperatures ..... on request

#### Process connection

- R1 **Standard** = R1 EN 10226, stainless steel 1.4301 / 304 .....
- N1 1" NPT, stainless steel 1.4301 / 304 .....

#### Length rod extension

- |    |   |   |   |   |    |                                                                                                     |
|----|---|---|---|---|----|-----------------------------------------------------------------------------------------------------|
| LA | 0 | 3 | 0 | 0 | mm | basic length .....                                                                                  |
|    | 0 | 0 | 0 | 0 | mm | ..... any further 100 mm<br>insert required length<br>in steps of 100 mm,<br>range 0300 ... 1000 mm |

VF63  LA 0 0  Order code

## Selection list

# VF65

## Suspension cable sensor

6 Mini-vibration rod

ATEX option B1

**Dust**  II 1/2D Ex ta/tb IIIC T95 °C Da/Db

ATEX option B3

**Dust**  II 1/3D Ex ta/tc IIIC T95 °C Da/Dc

ATEX option B11

**Gas+**  II 1/2G Ex ia IIB T4 Ga  
**Dust**  und II 1/2D Ex ia IIIC TX Da

- 1) not available with option B3  
2) not available with option B1 / B11





## Basic device

### Choice of options with surcharges

#### Housing

- A1 **Standard** = round aluminium housing, coated RAL7001 1) .....  
A22 Separate round-housing, round lead-through housing at the probe 2).....  
A23 Separate round-housing, angled screw coupling at the probe 2) .....

#### Certifications, certificates, approvals

- B0 **Standard** = CE conform and IP66/IP67 (with A22, A23: IP65) .....  
B1 ATEX  II 1/2D Ex ta/tb IIIC T95°C **Dust** .....  
B3 ATEX  II 1/3D Ex ta/tc IIIC T95°C **Dust** .....  
B11 ATEX  II 1/2G Ex ia IIB T4 **Gas** +  II 1/2D Ex ia IIIC TX **Dust** .....  
Further approvals ..... on request

#### Supply voltage

- C8 **Standard** = 20 ... 250 V AC/DC not with B11 .....  
C5i 23,7 V DC only with B11 GasEx, supply and evaluation with VF-VEC8-B22 .....

#### Special equipment

- S0 **Standard** = useable for light bulk goods above 0,02 kg/l .....  
SE High sensitivity useable for very light bulk goods above 0.01 kg/l .....  
SA Sediment version, detection of deposited bulk goods in water .....

#### Process temperature

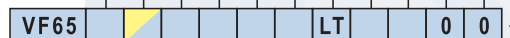
- E0 **Standard** = -20°C ... +70°C .....  
E9 Further temperatures ..... on request

#### Process connection

- R1 **Standard** = R1 EN 10226, stainless steel 1.4301 / 304 .....  
N1 1" NPT, stainless steel 1.4301 / 304 .....

#### Length suspension cable

- LT 0 5 0 0 mm basic length .....  
0 0 0 0 mm ..... any further 500 mm  
insert required length  
in steps of 500 mm,  
range 0500 ... 4000 mm

VF65  LT 0 0 **Order code**



## Selection list

# VF10/VF60

## Accessories

ATEX option B22

Gas+  
Dust  II (1)G [Ex ia Ga] IIB  
and  
II (1)D [Ex ia Da] IIIC

### Accessory



for VF ... B11 and VF ... B22 this device has to be used **always**:

**VF-VEC8-B22** Supply and evaluation device for supply voltage C5i .....

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