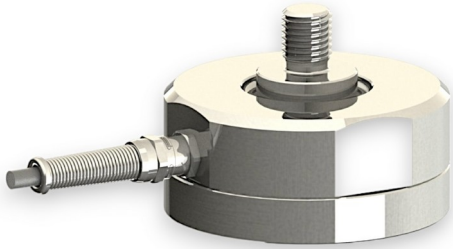


## Force Sensor KM90z-IG 10kN

Item number: 13342



### Highlights

- low height of the sensor body
- drag chain compatible connection cable
- or integrated M12 round plug

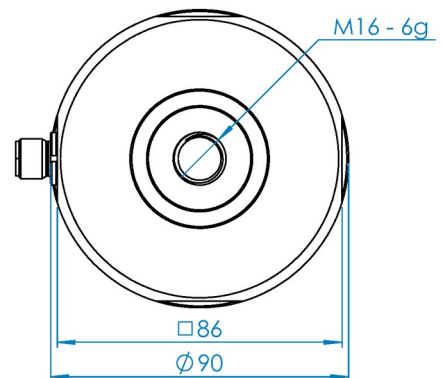
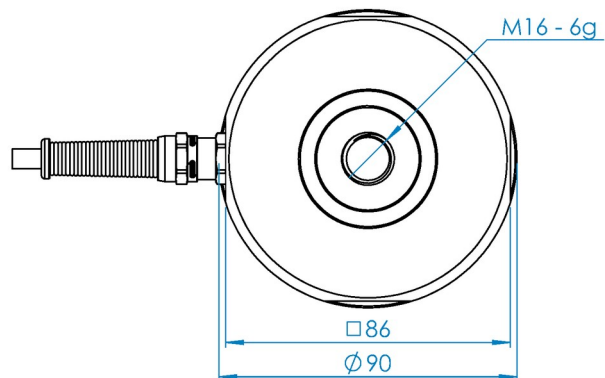
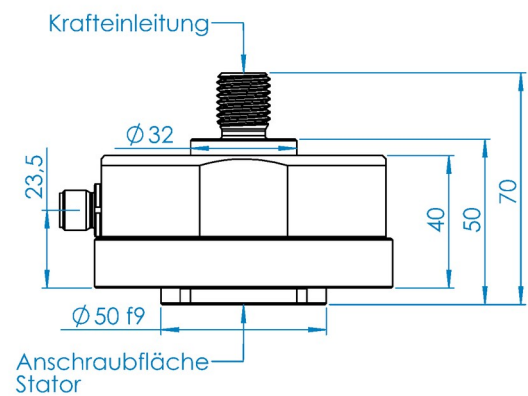
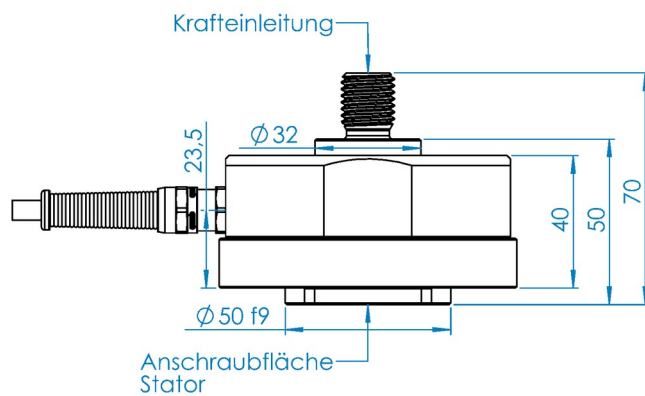
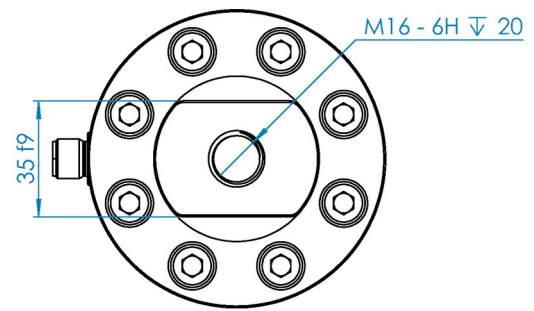
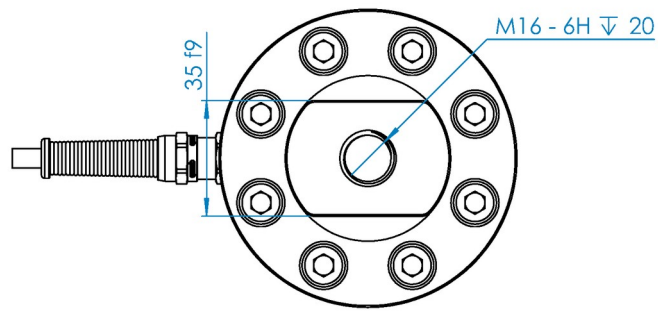
The KM90z force sensor is a tension/compression force sensor in diaphragm construction. He is characterized by

- a low height of 50mm... 70mm for the sensor body,
- a central M16 external thread for force introduction for the 2 kN and 5 kN variants
- a central M20 external thread for force introduction for the 10 kN variants
- a central M16 internal thread for force introduction for the 2 kN and 5 kN variants
- a central M20 internal thread for force introduction for the 10 kN variants

All variants are available with a permanently installed connection cable, Lapp drag chain cable FD/CP/Plus, or with a permanently installed M12 round plug connector, 4-pin.

The protection class of the sensor is IP 67.

## Technical Drawing



## Technical Data

| Basic Data                       |                     | Unit |
|----------------------------------|---------------------|------|
| Type                             | Kraftsensor         |      |
| Force direction                  | Tension/Compression |      |
| Rated force F <sub>x</sub>       | 10                  | kN   |
| Force introduction               | external thread     |      |
| Dimension 1                      | M16                 |      |
| Sensor Fastening                 | Internal thread     |      |
| Dimension 2                      | M16                 |      |
| Operating force                  | 200                 | %    |
| Rated displacement               | 0.05                | mm   |
| Lateral force limit              | 10                  | %    |
| Material                         | Stainless steel     |      |
| Natural frequency f <sub>x</sub> | 2                   | kHz  |
| Dimensions                       | Ø90mm x 70mm        |      |
| Variants                         | 10kN... 50kN        |      |

| Electrical Data                            |      | Unit |
|--------------------------------------------|------|------|
| Input resistance                           | 760  | Ohm  |
| Tolerance input resistance                 | 60   | Ohm  |
| Output resistance                          | 700  | Ohm  |
| Tolerance output resistance                | 10   | Ohm  |
| Insulation resistance                      | 2    | GOhm |
| Rated range of excitation voltage from     | 2.5  | V    |
| Rated range of excitation voltage to       | 5    | V    |
| Operating range of excitation voltage from | 1    | V    |
| Operating range of excitation voltage to   | 10   | V    |
| Zero signal tolerance                      | 0.05 | mV/V |
| Rated output                               | 1    | mV/V |

| Accuracy Data                              |      | Unit  |
|--------------------------------------------|------|-------|
| Accuracy class                             | 0,2  |       |
| Relative linearity error                   | 0.1  | %Fs   |
| Relative zero signal hysteresis            | 0.05 | %Fs   |
| Temperature effect on zero signal          | 0.02 | %Fs/K |
| Temperature effect on characteristic value | 0.02 | %Rd/K |
| Relative creep                             | 0.1  | %Fs   |
| Environmental Data                         |      | Unit  |
| Rated temperature range from               | -10  | °C    |
| Rated temperature range to                 | 70   | °C    |
| Operating temperature range from           | -20  | °C    |
| Operating temperature range to             | 85   | °C    |
| Storage temperature range from             | -10  | °C    |
| Storage temperature range to               | 70   | °C    |
| Environmental protection                   | IP67 |       |

Abbreviation: RD: "Reading"; FS: "Full Scale";  
The exact nominal sensitivity is indicated in the test report;

## Pin Assignment

| Channel | Symbol | Description            | Wire color | PIN |
|---------|--------|------------------------|------------|-----|
|         | +Us    | positive bridge supply | brown      |     |
|         | -Us    | negative bridge supply | white      |     |
|         | +Ud    | positive bridge output | green      |     |
|         | -Ud    | negative bridge output | yellow     |     |

Compressive load: positive output signal. Shield: transparent.