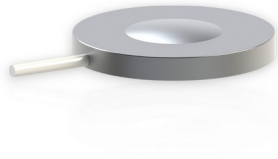


## Force Sensor KM25 500N

Item number: 5322



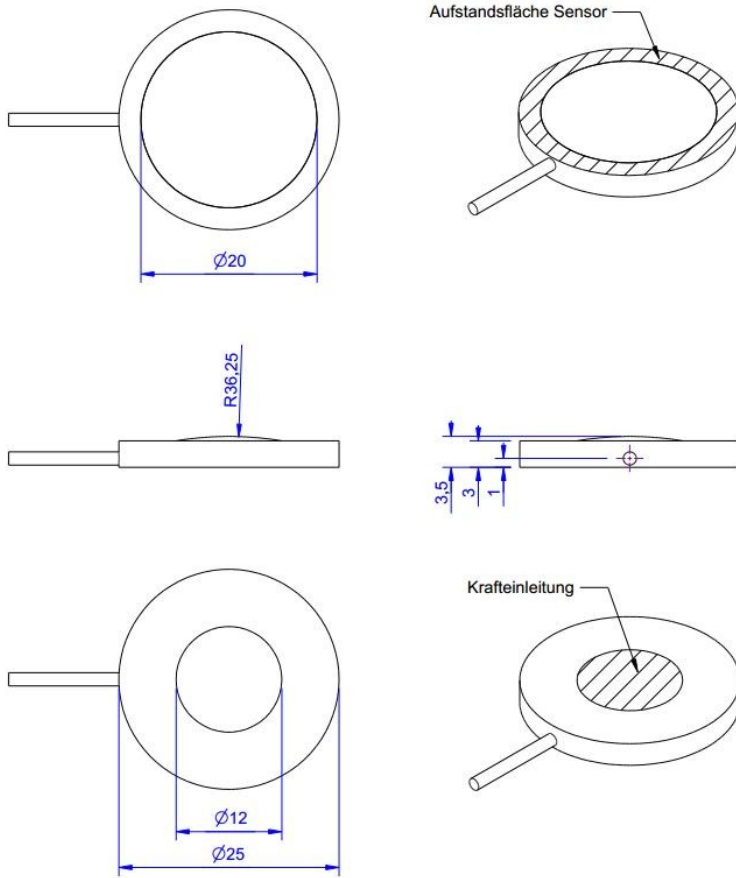
The force sensor KM25 is a membrane-type force sensor with small dimensions. It is suitable for measuring compressive forces. The force sensor is fitted into a flat recess and if required, fixed in place with adhesive. There is a spherical cap of radius 20 mm provided for the force transmission.

The method of protection is IP 66.

### Optional special version

- Vacuum version  $> 10^{-5}$  mbar
- Pressure range up to 8 bar
- Suitable for cleanrooms

## Technical Drawing



## Technical Data

| Basic Data                       |                 | Unit |
|----------------------------------|-----------------|------|
| Type                             | Force load cell |      |
| Force direction                  | Compression     |      |
| Rated force F <sub>x</sub>       | 500             | N    |
| Force introduction               | Load button     |      |
| Dimension 1                      | Ø12             |      |
| Sensor Fastening                 | Circular ring   |      |
| Dimension 2                      | Ø25x2,5         |      |
| Operating force                  | 150             | %FS  |
| Rated displacement               | 0.08            | mm   |
| Lateral force limit              | 10              | %FS  |
| Material                         | Stainless steel |      |
| Natural frequency f <sub>x</sub> | 5               | kHz  |
| Dimensions                       | Ø25 mm x 3 mm   |      |
| Height                           | 3               | mm   |
| Length or Diameter               | 25              | mm   |
| Variants                         | 100N...1kN      |      |

| Electrical Data                            |                   | Unit      |
|--|-------------------|-----------|
| Input resistance                           | 380               | Ohm       |
| Tolerance input resistance                 | 30                | ±         |
| Output resistance                          | 350               | Ohm       |
| Tolerance output resistance                | 2.5               | ±         |
| Insulation resistance                      | 5x10 <sup>9</sup> | Ohm       |
| 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                                | 0.05              | mV/V      |
| Rated output                               | 1.5               | mV/V / FS |
| relative error of characteristic value     | 0.5               | mV/V / FS |

| Accuracy Data                              |      | Unit  |
|--|------|-------|
| Accuracy class                             | 1    |       |
| 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 | -10  | °C   |
| Operating temperature range to   | 85   | °C   |
| Storage temperature range from   | -10  | °C   |
| Storage temperature range to     | 85   | °C   |
| Environmental protection         | IP66 |      |

Abbreviation : RD: „Reading“; FS: „Full Scale“;1) Nominal output: 1,0±0,5 for 100N 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     |     |

Screen - transparent. Pressure load : positive output signal