

Compression Force Sensor DK3

Scope of Supply

Force sensor with 5 m cable (PVC) and load button (DK3) and cable connection T: cable gland, straight

Variant

N2: plug connection, straight, M12, moulded

Additional Option

F: For use in explosive areas, incl. J-Box

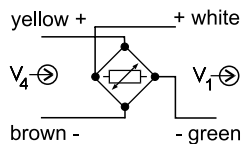
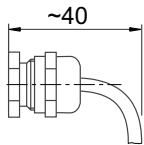
Additional Accessories for DK3B

Pressure piece

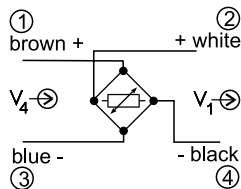
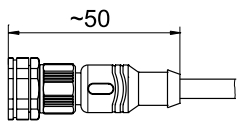


Connection

Variant T



Variant N2



V_4 Supply voltage
 V_1 Signal voltage

Special Features

- Minimum space requirement due to compact design
- Simple mounting
- Nominal force ratings from 1 up to 50 kN
- Made of stainless steel

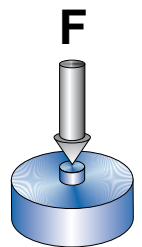
The cylindrical form and small dimensions of the compression force load cell series DK3 make them especially suitable for confined spaces. The completely enclosed stainless-steel design with the protection class IP 67 is able to withstand wet conditions in machinery and equipment. The screw top ensures an optimal force path.

The sensor consists primarily of a single sensor element designed and optimized with finite element analysis. As a result all sensors have the same dimensions. The load cells with nominal force ratings of 1 and 2 kN function according to the shearing principle, the other according to the compression principle.

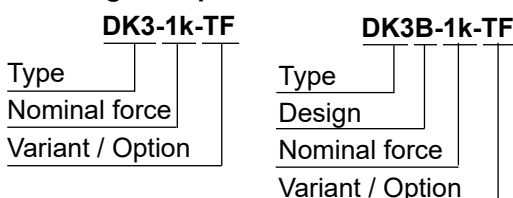
Strain gauges applied to the active areas of the sensor body capture the acting forces.

A measuring amplifier e. g. the HAEHNE MV125 is available for the voltage supply to the full bridge and the processing of the measuring signals.

The signals at the output terminals of the amplifier are proportional to the acting compression force. They can be digitally displayed or used as instantaneous values in a control loop. The radial cable entry facilitates simple mounting of the load cell to machine frames.

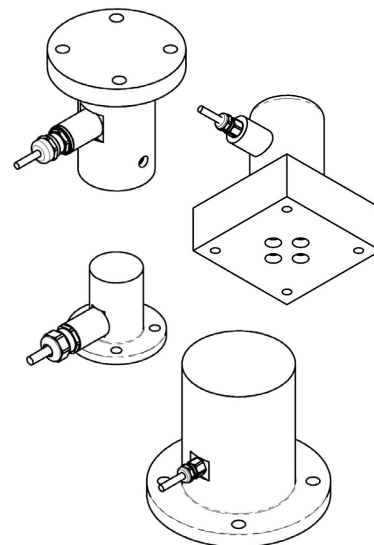


Ordering example:



| Technical Data | Values (%) based on nominal force | |
|---|--|-------------------------------------|
| Nominal force | DK3 with load button: 1; 2; 5; 10; 20; 50 kN | DK3B with calotte: 5; 10; 20; 50 kN |
| Max. operating force | 160 % | |
| Nominal rating | 1,5 mV / V | |
| Combined error | 0,5 % | |
| Nominal ambient temperature | + 10 ... + 60° C | (+50...+140° F) |
| Operational temperature range | - 10 ... + 70° C | (+14... +158° F) |
| Nominal resistance of the strain gauge bridge | DK3 - 1 ... 2 kN: | 350 Ω |
| | DK3 - 5... 50 kN: | 700 Ω |
| Bridge supply voltage | 10 VDC | |
| Enclosure protection | IP 67 | |

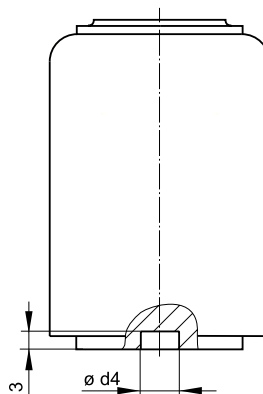
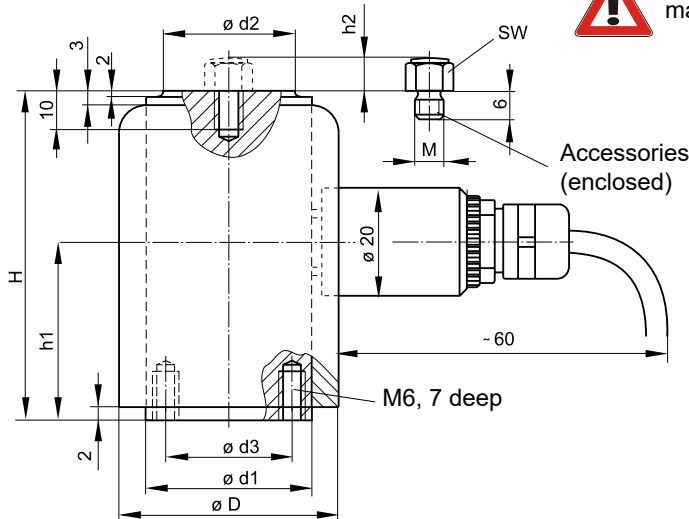
Possible special designs



DK3: Standard design with load button



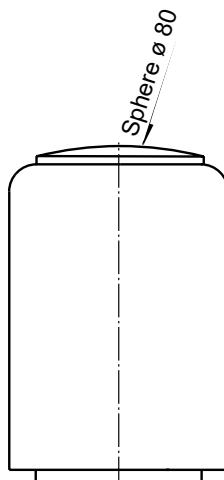
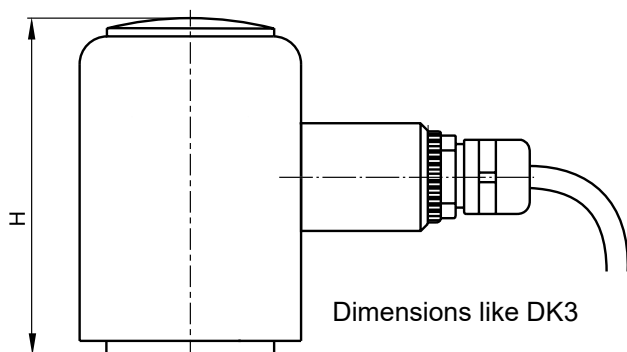
tightening torque:
max. 8 Nm



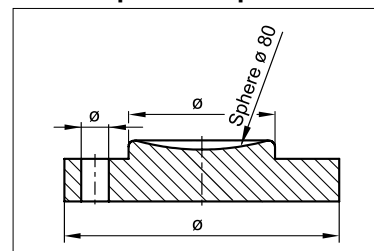
Dimensions in mm (1 mm = 0.03937 inches)

| Nominal Force [kN] | D | d1 | d2 | d3 | H | h1 | h2 | M | SW | d4 | d5 |
|--------------------|----|---------|----|----|----|----|----|---|----|-------|------|
| 1; 2 | 40 | 30,2 f7 | 12 | 21 | 60 | 32 | 10 | 6 | 10 | 14 H7 | 14 |
| 5; 10; 20; 50 | | | | | | | | | | 12 H7 | 11,5 |

DK3B: Design B



Available pressure piece DK3B



DK3B with modified dimensions up to 200 kN is possible