

## TS170 $\pm 50\text{Nm}$ , $\pm 100\text{Nm}$ , $\pm 200\text{Nm}$ , $\pm 500\text{Nm}$



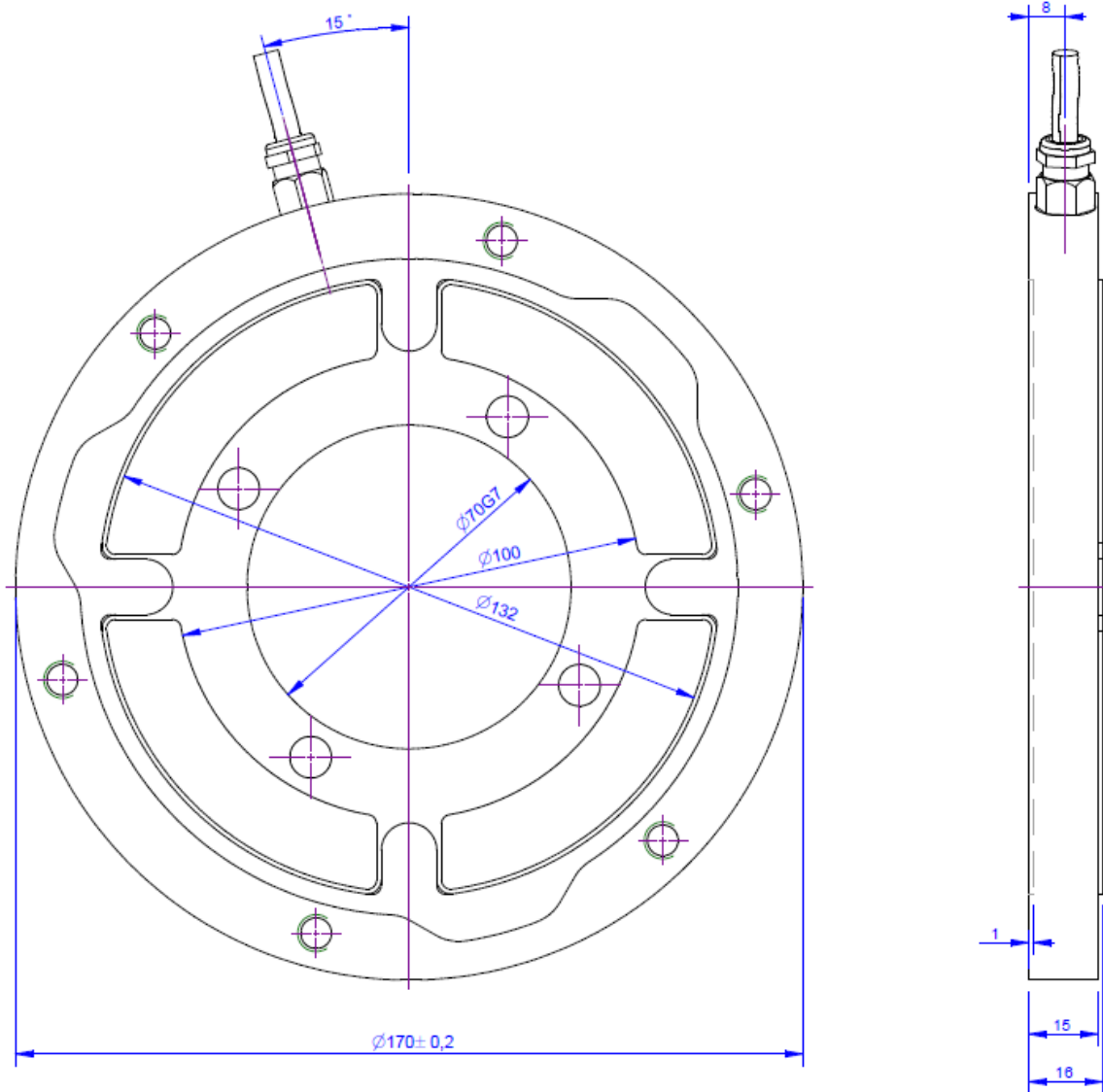
### Description

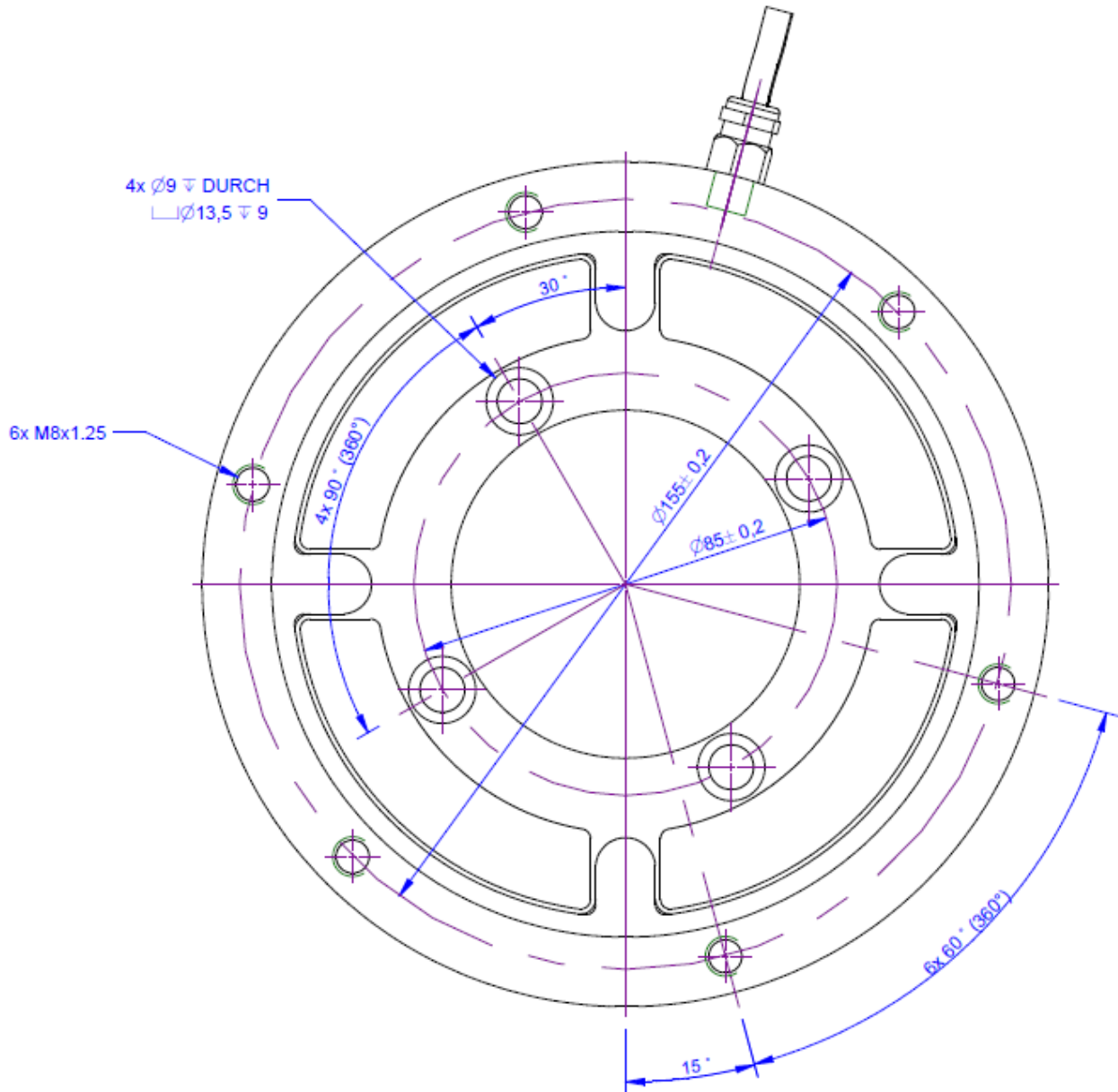
The torque sensor comprises an external flange and an inner flange, which are inter-connected via 4 torque axle brackets. The outer and inner flange have 6 or 4 M8 screw threads respectively to apply torque.

The sensor is designed to measure the reaction torque. For this purpose, the engine is constrained exclusively by the sensor. The structure with internal holes is selected to ensure that engine or test bench shafts have sufficient space.

The torque sensor TS170 is used in torque testers for quality assurance as well as in manufacturing machines.

## Dimensions







## Technical Data

### Basis Data

|                          |                 |      |
|--------------------------|-----------------|------|
| Type                     | shear beam      |      |
| Bending moment limit     | 50              | Nm   |
| Maximum operating torque | 150             | %FS  |
| Breaking torque          | 400             | %FS  |
| Rated torsion angle      | 0.7             | °/FS |
| Axial force limit        | 1000            | N    |
| Lateral force limit      | 1000            | N    |
| Torque introduction      | pitch circle    |      |
| Dimension 1              | Ø85             |      |
| drehmomentausleitung     | pitch circle    |      |
| Dimension 2              | Ø155            |      |
| Diameter                 | 170             | mm   |
| laenge                   | 16              | mm   |
| Material                 | Aluminium alloy |      |

### Elektrische Daten

|   |                   |           |
|---|-------------------|-----------|
| Input resistance                        | 700               | Ohm       |
| Tolerance input resistance              | 10                | ±         |
| Output resistance                       | 700               | Ohm       |
| Tolerance output resistance             | 10                | ±         |
| Insulation resistance                   | 5x10 <sup>9</sup> | Ohm       |
| Rated range of excitation voltage f     | 2.5 ... 5         | V         |
| Operating range of excitation voltage f | 1 ... 10          | V         |
| Zero signal                             | 0.05              | mV/V      |
| Rated output                            | 1                 | mV/V / FS |

### Precision

|  |      |       |
|--|------|-------|
| Accuracy class                             | 0,1% |       |
| Relative linearity error                   | 0.1  | %FS   |
| Relative zero signal hysteresis            | 0.1  | %FS   |
| Temperature effect on zero signal          | 0.1  | %FS/K |
| Temperature effect on characteristic value | 0.1  | %RD/K |
| Relative creep                             | 0.05 | %FS   |



### Connection Data

|                        |                             |
|------------------------|-----------------------------|
| Name of the connection | ME-SYSTEME.DE / 24-4<br>PUR |
| Cable length           | 5 m                         |

### Temperature

|                               |               |
|-------------------------------|---------------|
| Rated temperature range f     | -20 ... 60 °C |
| Operating temperature range f | -20 ... 70 °C |
| Storage temperature range f   | -20 ... 70 °C |

Abbreviation: RD: „Reading“; FS: „Full Scale“;

1) The exact nominal sensitivity is indicated in the test report;



## Pin Configuration

| Channel | Symbol | Description            | Wire colour |
|---------|--------|------------------------|-------------|
|         | +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



## accessories

| Description  | Description   |
|--|---|
| Factory calibration certificate<br>Nm/50/5         | Detection of the characteristic value and the traceability to DKD torque device                             |
| Factory calibration certificate<br>Nm/50/5/System  | Proof of the characteristic value and the traceability on DAkkS torque device, including system calibration |
| Factory calibration certificate<br>Nm/200/5        | Detection of the characteristic value and the traceability to DKD torque device                             |
| Factory calibration certificate<br>Nm/200/5/System |   |