

### Description

The torque sensor TD175 is used in test benches for measuring the reaction torque. (Wired, non-rotating).

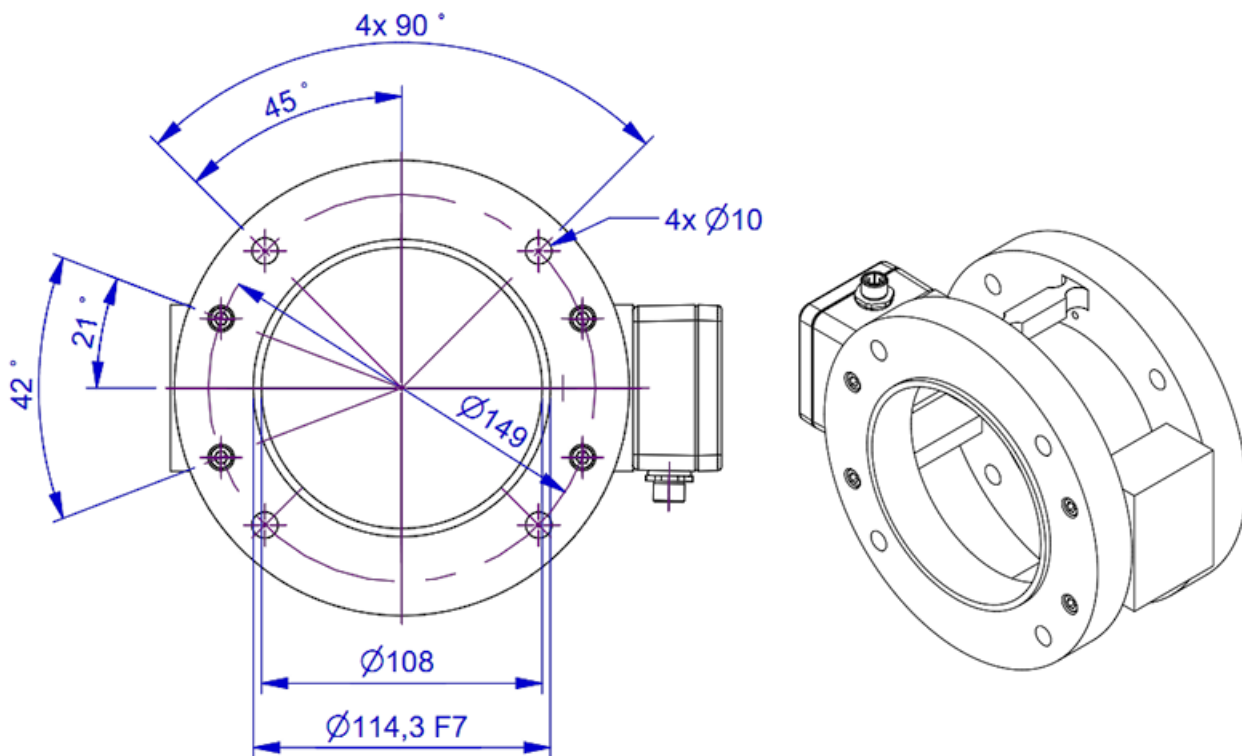
The torque sensor consists of two flanges, which are connected with each other via 4 measuring spokes. The two flanges have the same pitch circle  $\varnothing$  149mm. The centerings are designed as an external and internal collar with  $\varnothing$ 114,3.

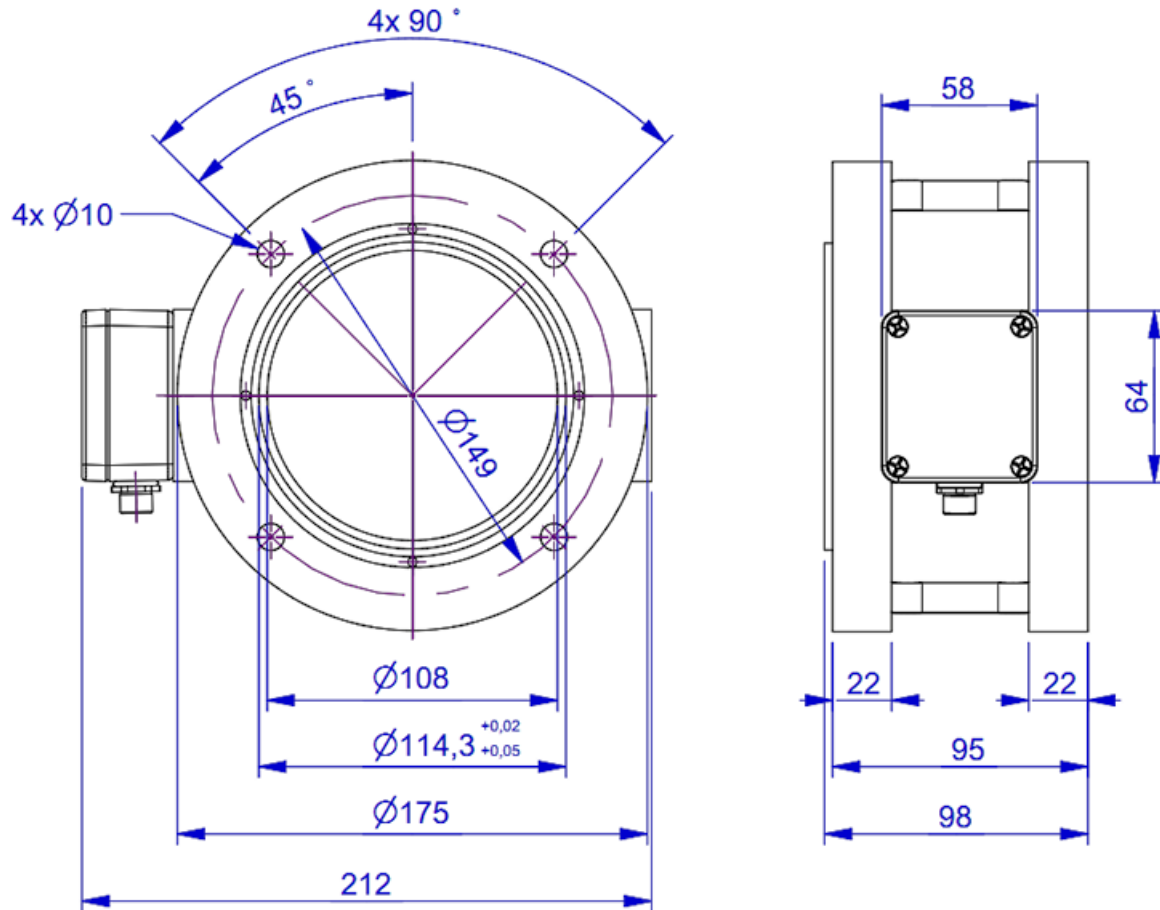
Due to the large diameter of the torque sensor TD175 and the arrangement of the measuring spokes in the axial direction, this torque sensor can also absorb bending moments up to 200 Nm, which are caused by the dead weight of the drive motor.

The connection is made via a terminal box with M12 connectors.

Optionally, a GSV-1A measuring amplifier can be provided on the factory side instead of the terminal box so that the sensor has a voltage or current output of  $\pm 10\text{V}$  or  $12\text{mA} \pm 8\text{mA}$ .

Dimensions





**Technical Data**

**Electrical Data**

Input resistance	700 Ohm
Tolerance input resistance	10 Ohm
Output resistance	700 Ohm
Tolerance output resistance	10 Ohm
Insulation resistance	5 GOhm
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
characteristic value range min	0 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	0.01 %FS/K
Temperature effect on characteristic value	0.01 %RD/K
Relative creep	0.05 %FS

**Connection Data**

Connection type	Connector
Name of the connection	M12 round plug connector

**Temperature**

Rated temperature range f	-10 ... 70 °C
Operating temperature range f	-10 ... 85 °C
Storage temperature range f	-10 ... 85 °C
Environmental protection	IP65

**Basis Data**

Type	bending spring
Rated torque	10 Nm
Bending moment limit	200 Nm
Maximum operating torque	150 %FS
Breaking torque	400 %FS
Rated torsion angle	0.7 °/FS
Axial force limit	500 N
Lateral force limit	500 N
Torque introduction	pitch circle
Dimension 1	Ø149
drehmomentausleitung	pitch circle
Dimension 2	Ø149
Diameter	175 mm

length	98 mm
Material	Aluminium alloy

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



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

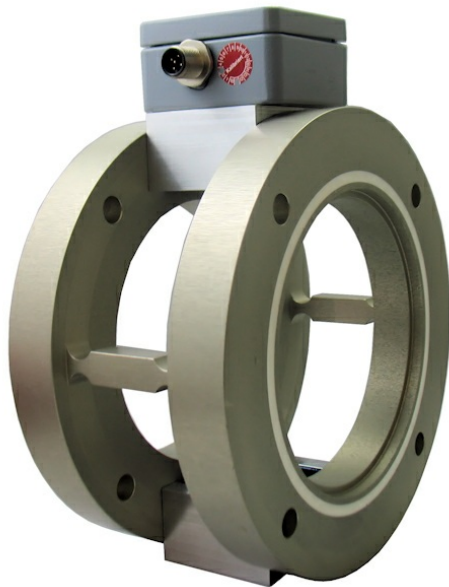
### Pin Configuration

Symbol	Description	Wire colour	PIN
+Us	positive bridge supply	brown	1
-Us	negative bridge supply	white	2
+Ud	positive bridge output	blue	3
-Ud	negative bridge output	black	4

Compressive load: positive output signal.

### accessories

Description	Description
 Factory calibration certificate Nm/50/5	Detection of the characteristic value and traceability on DAkkS torque device; 0.025Nm... 50Nm
 Factory calibration certificate Nm/50/5/System	Detection of the characteristic value and traceability on DAkkS torque device; 0.025Nm... 50Nm; incl. calibration, torque sensor + amplifier



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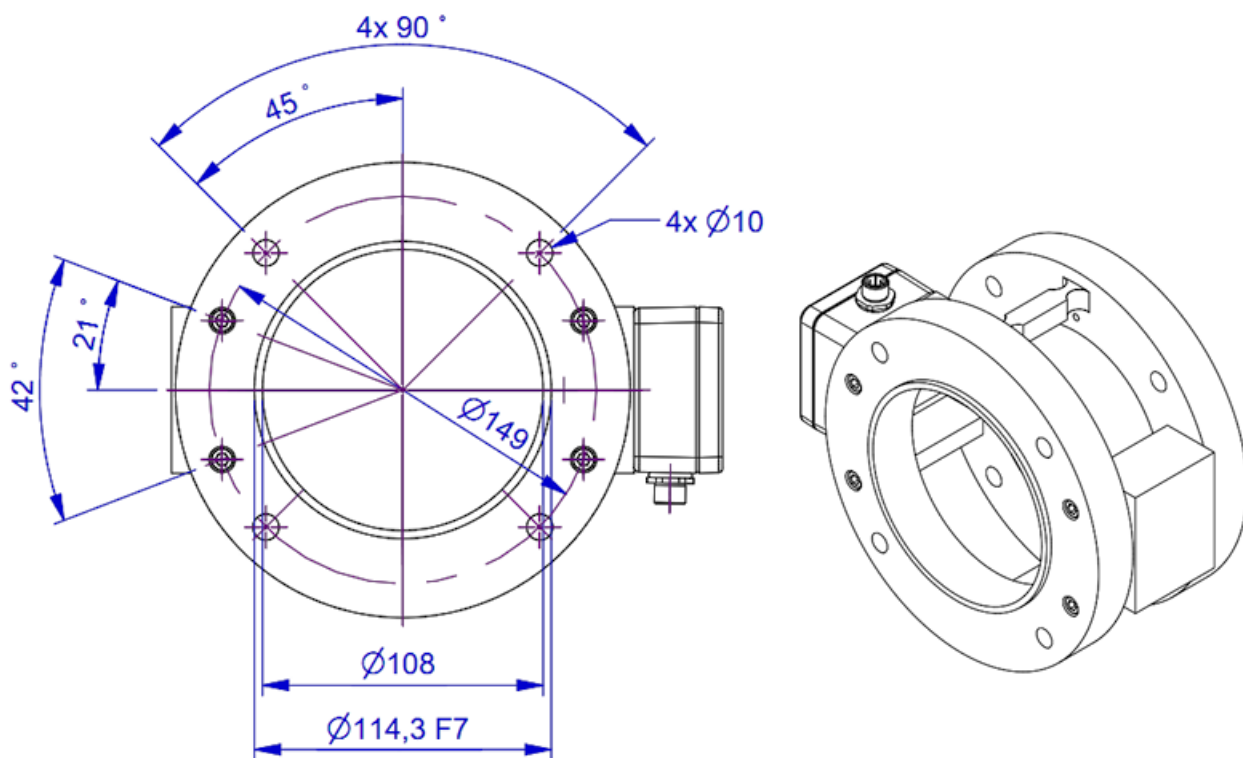
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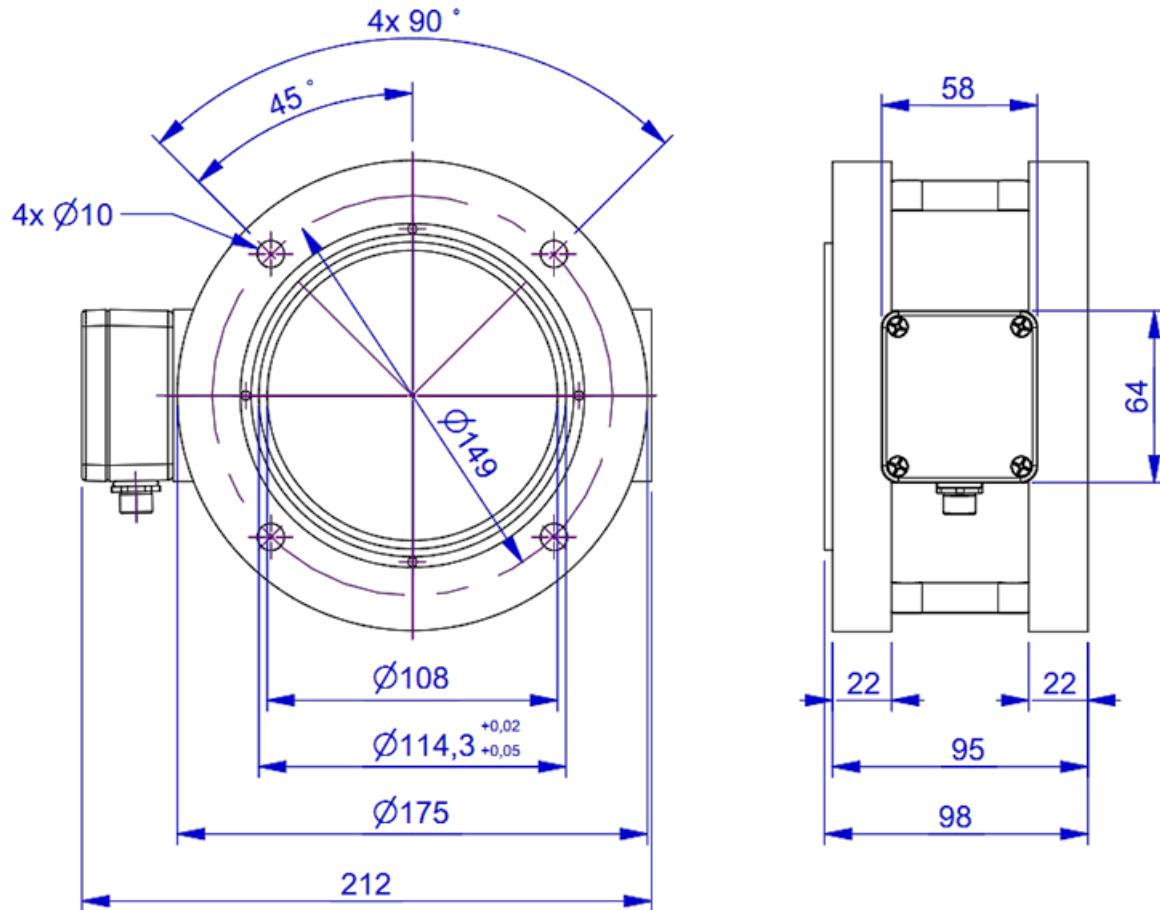
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**Electrical Data**

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Tolerance input resistance	10	Ohm
Output resistance	700	Ohm
Tolerance output resistance	10	Ohm
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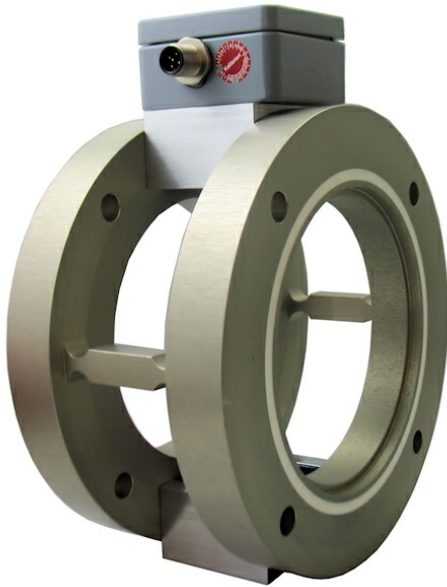
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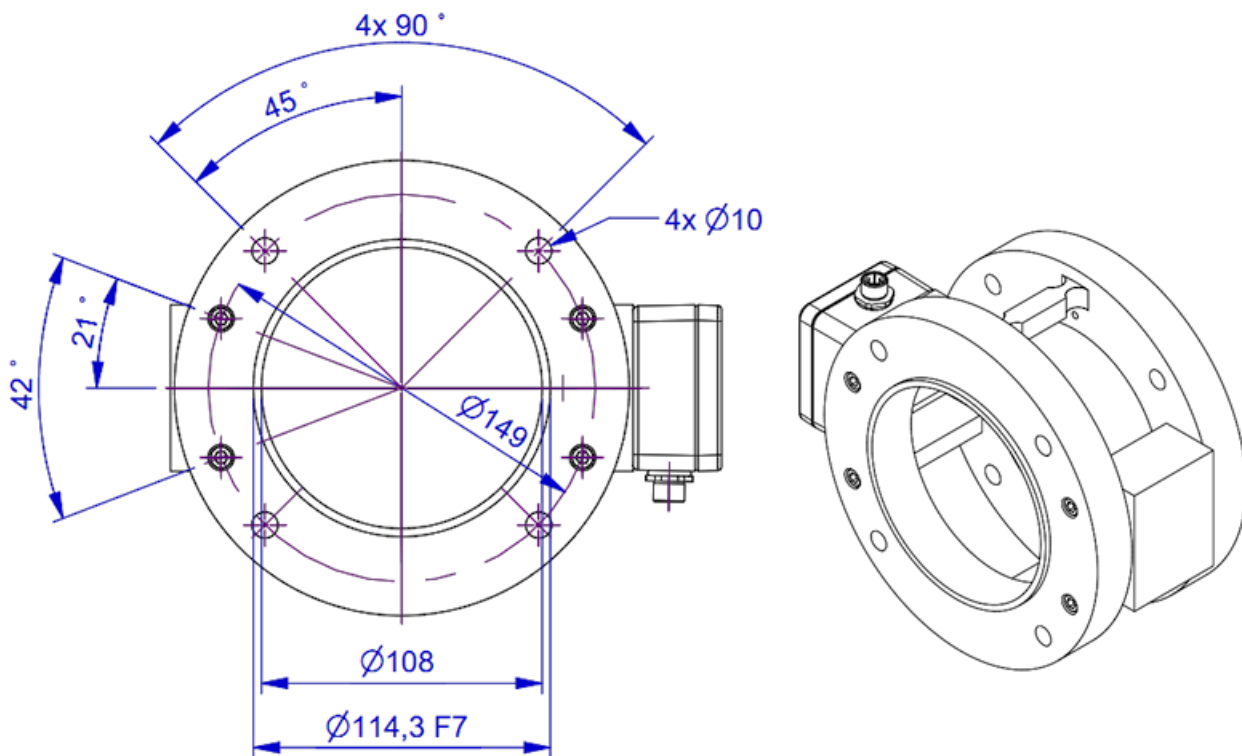
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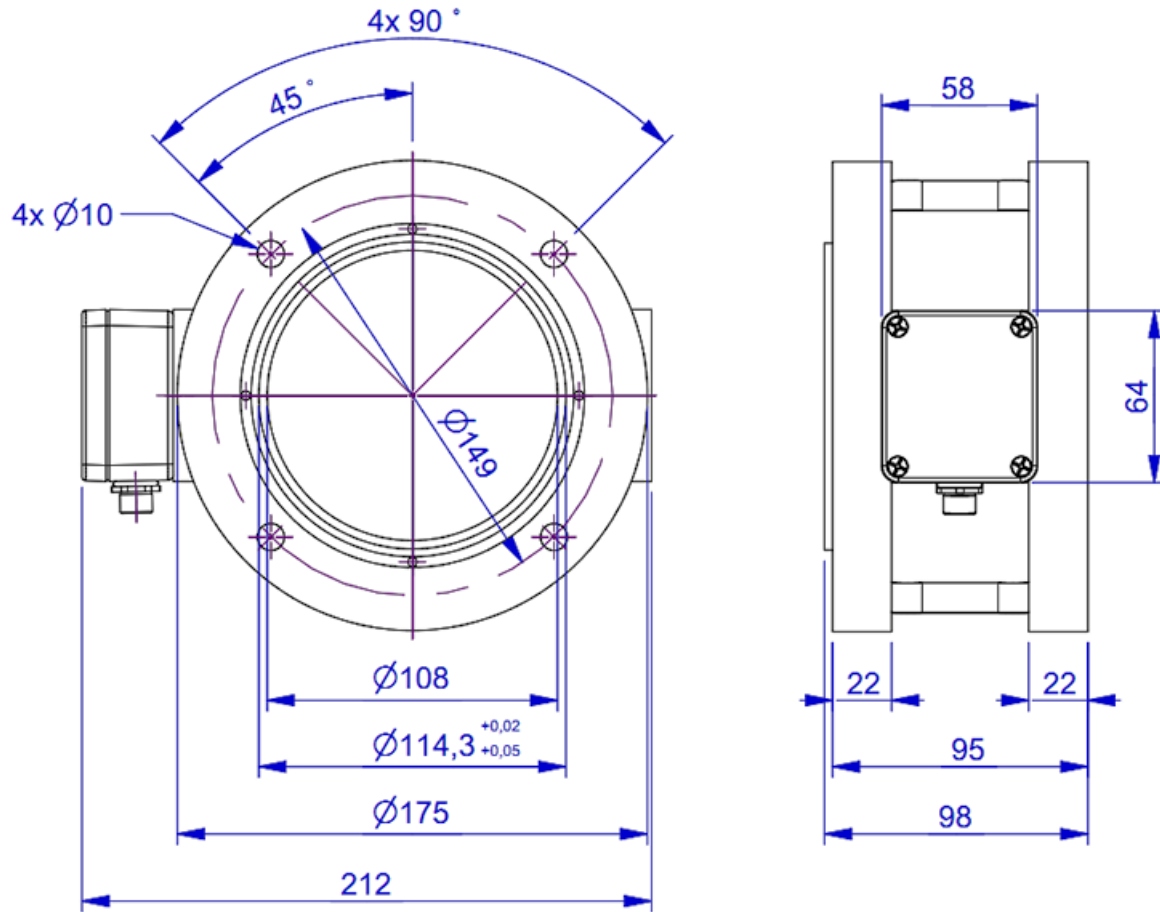
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Storage temperature range f	-10 ... 85 °C
Environmental protection	IP65

**Basis Data**



Type	bending spring
Rated torque	50 Nm
Bending moment limit	200 Nm
Maximum operating torque	150 %FS
Breaking torque	400 %FS
Rated torsion angle	0.7 °/FS
Axial force limit	500 N
Lateral force limit	500 N
Torque introduction	pitch circle
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