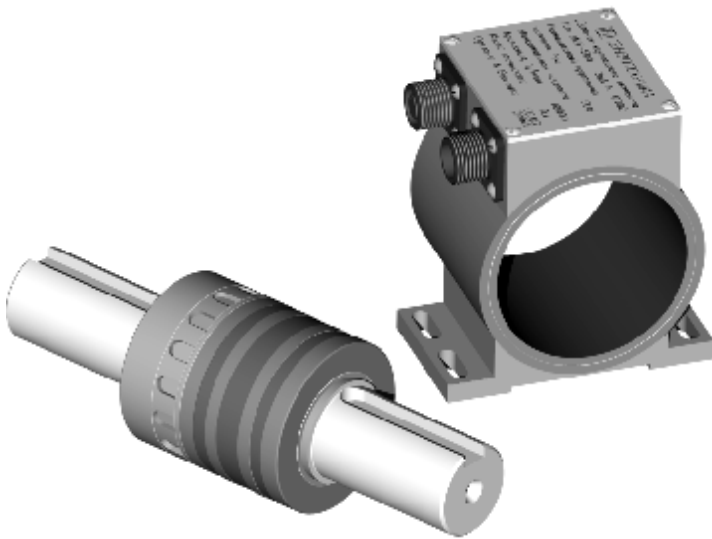


## M26 Torque Transducers



M26 Torque Transducers are used to measure constant or variable torque at medium rated capacities from 10 to 2000Nm.

Torque Transducers are designed without bearings and without slip-rings. They consist of two distinct components: a rotor and a stator. The measured signals are transmitted from the rotor to the stator by telemetry. The excitation voltage for the strain gauges and rotating electronics is inductively coupled to the rotor. The stator housing is fitted around the rotor with 3mm gap. Cylindrical shaft ends of the rotor are fitted with keyways for installation.

Torque Transducers are equipped with the rotation speed measuring system.

M26 Torque Transducers are maintenance-free.

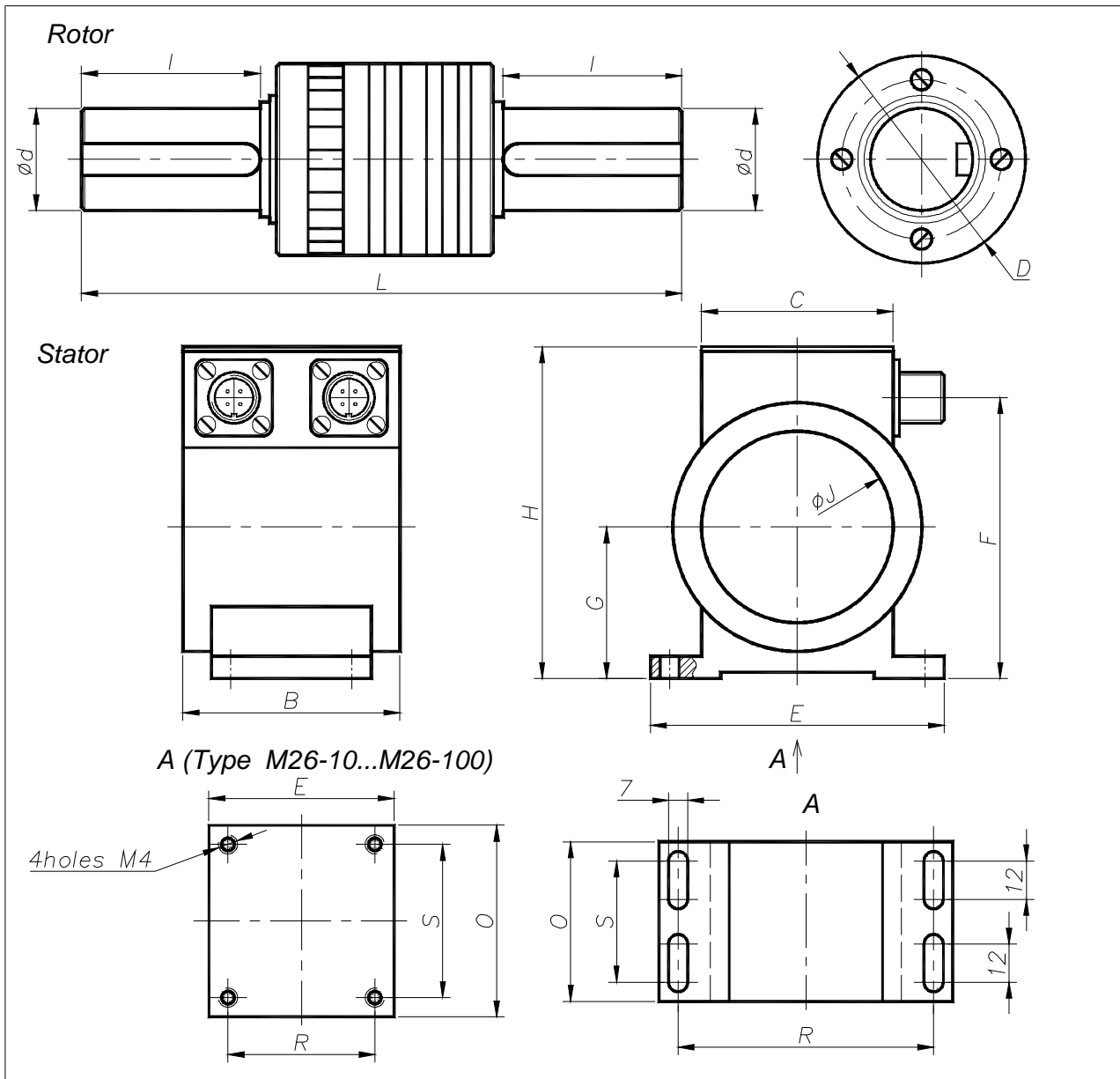
Accuracy class is 0.2

The torque output signal is  $\pm 5V$ .

### Type-Survey

Type	Nominal torque	Nominal speed
M26-10	10Nm	16 000 min <sup>-1</sup>
M26-20	20Nm	16 000 min <sup>-1</sup>
M26-50	50Nm	16 000 min <sup>-1</sup>
M26-100	100Nm	14 000 min <sup>-1</sup>
M26-200	200Nm	14 000 min <sup>-1</sup>
M26-500	500Nm	12 000 min <sup>-1</sup>
M26-1k	1kNm	10 000 min <sup>-1</sup>
M26-2k	2kNm	8 000 min <sup>-1</sup>

## Dimensions, mm



Type	Ød	ØD	L	I	B	C	E	F
M26-10...M26-50	16g6	42	122	28	60	58	58	62
M26-100	18g6	44	152	40	64	60	60	64
M26-200	24g6	50	171	50	68	60	60	78
M26-500	34g6	60	188	56	68	60	92	88
M26-1k	48g6	80	220	70	70	60	114	116
M26-2k	58g6	92	263	90	70	60	122	133

Type	G	H	ØJ	O	R	S	Key b x h
M25-10...M25-50	29	76	48	60	50	50	5×5
M25-100	30	78	60	64	54	52	6×6
M25-200	41	92	56	50	80	38	8×7
M25-500	47	102	66	50	80	38	10×8
M25-1k	62	130	86	60	100	46	14×9
M25-2k	72	147	98	60	108	46	18×11

## Technical data

1. **Nominal torque** and nominal speed see table «Type-Survey».

### 2. Electrical and metrology parameters

Nominal output signal with positive (right-hand) nominal torque	V	+5
Nominal output signal with negative (left-hand) nominal torque	V	-5
Output signal at torque = zero	V	0
Deviation of the actual output signal at the nominal torque from the nominal value	%	± 0.2
Accuracy class		0.2
Temperature effect on the output signal, related to the actual output value	%/10°C	± 0.1
Temperature effect on the zero signal, related to the nominal output value	%/10°C	± 0.1
Linearity deviation including hysteresis, related to the nominal output value	%	± 0.1
Limit load resistance	kΩ	10
Cut-off frequency (-3 dB)	Hz	0...500 (0...1000 on request)
Nominal excitation voltage	V (DC)	12± 10%
Current consumption	A	< 0.2

### 3. Parameters of resistance to environment and mechanical exposures

Nominal temperature range	° C	0...+60
Storage temperature range	° C	-10...+70
Vibration resistance:		
Frequency range	Hz	10...55
Duration	h	1
Acceleration	m/s <sup>2</sup>	40
Impact resistance:		
Number of impacts	n	1000
Duration	ms	10
Acceleration	m/s <sup>2</sup>	400
Degree of protection		IP 40

### 4. Permissible load limits and mechanical values

Nominal torque $M_N$	Nm	10	20	50	100	200	500	1000	2000
Limit torque, related to $M_N$	%	150							
Axial limit force on the rotor	kN	1	1.1	1.2	1.2	3	5	8	16
Lateral limit force on the rotor	N	15	30	40	40	120	200	400	600
Bending limit moment on the rotor	Nm	2	3	5	5	20	50	80	150
Torsional stiffness	Nm/rad	1.4	2.7	6.2	6.2	26.2	73	152	312
Weight Rotor	kg	0.5	0.5	0.5	0.7	0.9	2.2	3.2	5.7
Stator	kg	0.6	0.6	0.6	0.8	2.0	2.6	3.0	3.2

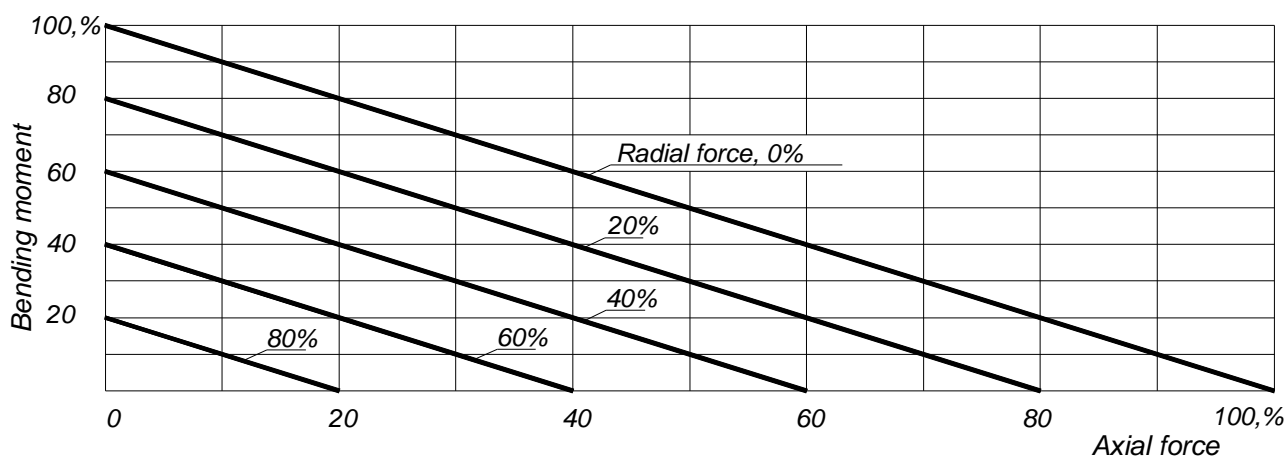
### 5. Rotation speed measuring system

Measuring system		Electromagnetic
Number of pulses per revolution		15
Minimum measurable speed	min <sup>-1</sup>	10
Amplitude of output pulse voltage	V	5± 10%
Load resistance	kΩ	10

Axial force, radial force and bending moment have to be reduced according to graph 1, if they act together.

To prevent from excessive stress due to misalignment and thermal influences the transducer should be fitted between flexible couplings. TILKOM offer such flexible torsionally rigid couplings MK series For technical specification see data sheet entitled "MK Couplings".

In addition to the transducer, there is T20 measuring unit to supply the operating voltage and indicate torque measured value, speed rotation and power. For technical data see the "T20 Measuring Unit" data sheet.



Graph 1

### Scope of delivery

M26 Torque Transducer	1
Connecting cable M26.70, 6m length	1
Operating manual	1

### Accessories (to be ordered separately)

MK series flexible torsionally rigid couplings	2
T20 Measuring Unit	1

Modifications reserved.

TILKOM can produce torque transducers in accordance with Customized specific requirements.

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