

Reactive Torque Measuring Flange DF-30 with Rated Torque from 10 ... 20000 N·m



Data sheet



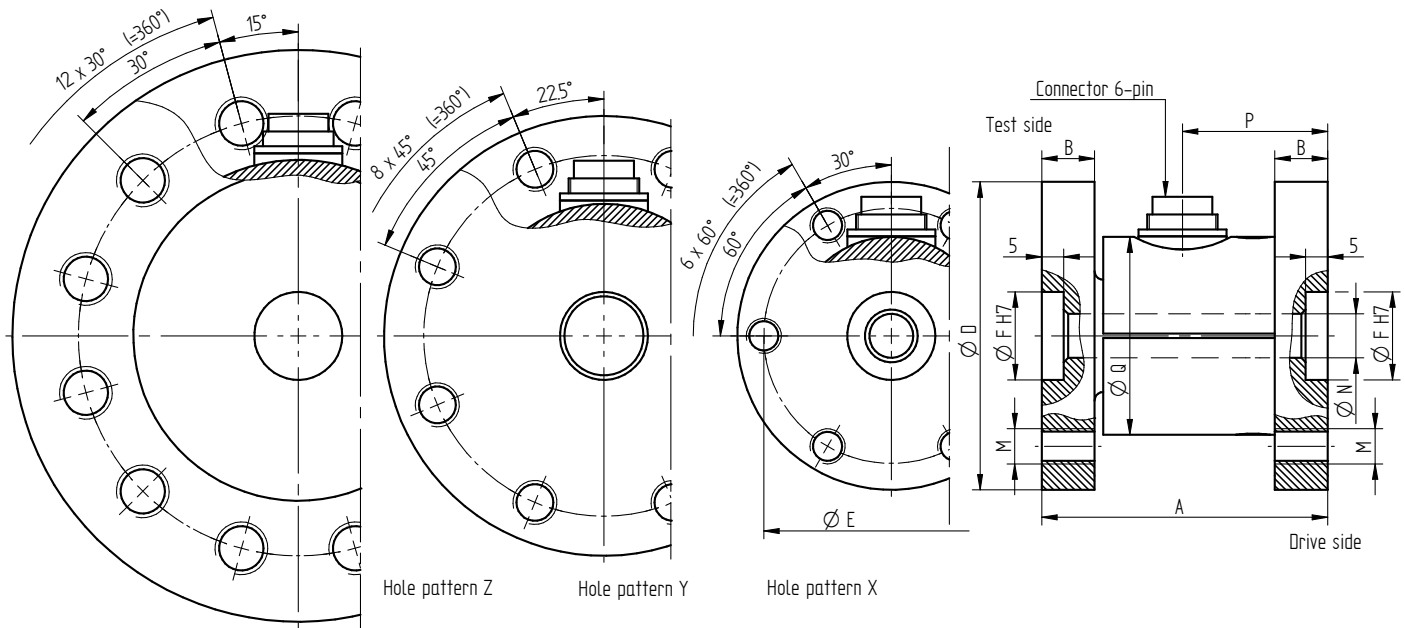
Performance Features

- Torque measuring flange for measurement of e. g. torque reaction or torsion measurement
- TEDS (Transducer Electronic Data Sheet) Standard IEEE 1451.4 (optional)
- Flange-flange-solution
- Through hole
- Very short axial length
- High torsional stiffness
- Simple handling and assembly
- Special versions on request

Application

- Process measuring and control technology
- Fully automated machining centres
- Measuring and control devices
- Tool engineering
- Special mechanical engineering

Dimensions in mm



Rated Torque [N·m]	Dimensions [mm]									Hole Pattern	Screws		Weight [kg]
	A	B	ØD	ØE	ØF	M	ØN	P	ØQ		Tightening Torque [N·m]	Property Class	
10/20/50/100/200	65	12	70	58	20	M8	10	33	45	X	35	10.9	0.9
500/1000	80	15	100	82	20	M10	18	39.5	60	Y	71	10.9	2.3
2000	100	20	130	100	75	M12	20	55	80	Z	120	10.9	4.8
5000	100	20	130	100	75	M12	20	55	80	Z	144	12.9	4.8
10000/20000	124	32	260	210	105	M24	105	67.5	145	Y	1190	12.9	23.2

Connection Assignment

6-pin	DF-30	Series 723
Pin 1	Excitation (-)	
Pin 2	Excitation (+)	
Pin 3	Shielding	
Pin 4	Signal (+)	
Pin 5	Signal (-)	
Pin 6	Control signal or TEDS (option)	

Technical Data acc. to VDI/VDE/DKD 2639

Reactive Torque Measuring Flange DF-30 with Through Hole

Rated torque M_{nom}	N·m	10 ... 20000
Accuracy class	% M _{nom}	0.1 (optional 0.05)
Relative repeatability error in unchanged mounting position b'	% M _{nom}	±0.02
Rated characteristic value C_{nom}	mV/V	1 [10 N·m; 0.5] ±0.1%
Bridge resistance R_{Br}	Ω	350 [≥10000 N·m; 700]
Rated range of excitation voltage	VDC	2 ... 12
Electrical connection		6-pin series 723 ¹
Reference temperature T_{ref}	°C	23
Rated temperature range	°C	-5 ... 45
Operating temperature range	°C	-15 ... 55
Storage temperature range	°C	-30 ... 95
Temperature effect on zero signal TK₀	% M _{nom} /10 K	±0.2
Temperature effect on characteristic value TK_C	% M _{nom} /10 K	±0.1
Maximum operating torque M_G (static)	% M _{nom}	150
Torque limit M_{max} (static)	% M _{nom}	200
Breaking torque M_B (static)	% M _{nom}	>300
Permissible oscillation stress when subjected to torque M_{df}	% M _{nom}	70 (peak-to-peak)
Level of protection		IP50

Article-No.	Rated Torque [N·m]	Springrate [N·m/rad]	Mass Moment of Inertia [kg·m²]		Axial Force Limit [N]	Lateral Force Limit [N]
			Drive Side	Test Side		
100359	10	4.7E+03	2.3E-04	2.0E-04	920	85
114353	20	4.9E+03	2.3E-04	2.0E-04	970	90
100356	50	1.2E+04	2.3E-04	2.0E-04	2100	200
100355	100	2.7E+04	2.3E-04	2.0E-04	4300	450
100354	200	4.7E+04	2.3E-04	2.0E-04	6700	730
100353	500	1.6E+05	1.2E-03	1.0E-03	12500	1600
100352	1000	3.1E+05	1.2E-03	1.0E-03	21000	3000
100351	2000	7.8E+05	4.4E-03	4.0E-03	42000	5000
100350	5000	1.1E+06	4.4E-03	4.1E-03	60000	8500
101063	10000	9.9E+06	1.3E-01	5.3E-02	70000	15000
100349	20000	1.5E+07	1.3E-01	5.4E-02	96000	30000

Options

Article-No.	Description	
101695	Accuracy class	0.05 % M _{nom}
100218	Control signal	100 % M _{nom}
100739	Control signal	80 % M _{nom}
106154	Control signal	50 % M _{nom}
113134	TEDS-standard IEEE 1451.4	
42828	Extended temperature range	-30 °C...100 °C
42829	Extended temperature range	-30 °C...120 °C

¹ Female cable connector in scope of delivery at first delivery

Calibrations

Article-No.	Description	
400676	Linearity diagram in accordance to factory standard	25 % steps
400664	Linearity diagram in accordance to factory standard	10% steps
400961	Proprietary calibration acc. to VDI/VDE 2646	3 steps
400700	Proprietary calibration acc. to VDI/VDE 2646	5 steps
400688	Proprietary calibration acc. to VDI/VDE 2646	8 steps
	DAkkS-Calibration/Standard on request	

Accessories

Electrical Connection

Article-No.	Description
10301	Female cable connector 6-pin series 581
10315	Female angled connector 6-pin series 682
10266	Connection cable, 3 m, with 6-pin female cable connector series 581 and free strands
10387	Connection cable angled, 3 m, with 6-pin female angled connector series 682 and free strands

Amplifiers

Examples of suitable amplifiers for the torque measuring flange DF-30:

LCV	GM 78	GM 40	GM 80	GM 80-PA
				

Further suitable amplifiers you can find on our homepage under <https://www.lorenz-messtechnik.de/english/products/>.