

5400 SOLID FLANGE REACTION TORQUE TRANSDUCER (U.S. & METRIC)

FEATURES & BENEFITS

- Capacities from 1K to 500K lbf-in (110 to 55K Nm)
- High torsional stiffness
- Flange mount
- Low deflection
- Metric models have mounting holes sized for metric fasteners

STANDARD CONFIGURATION



MODEL 5400 (Shown)

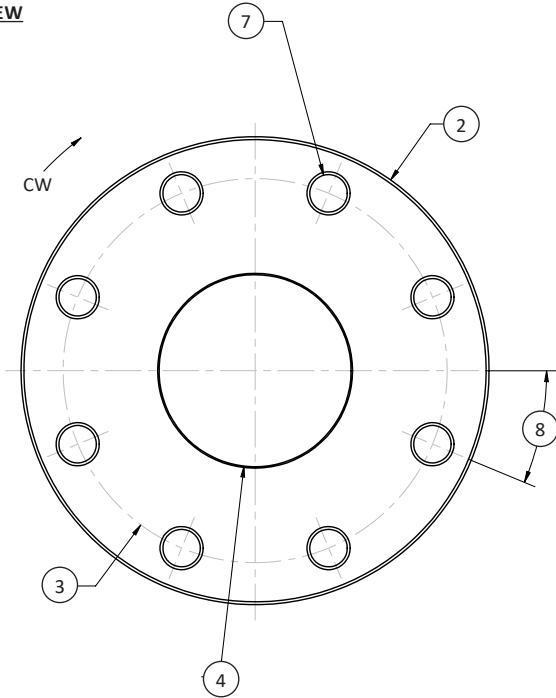
SPECIFICATIONS

PARAMETERS	MODEL										
	5410		5411		5412		5413		5414		
	CAPACITY										
	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	
	1K, 2K, 5K	110, 220, 550	10K, 20K	1.1K, 2.2K	50K, 100K	5.5K, 11K	200K	22K	300K, 500K	33K, 55K	
ACCURACY – (MAX ERROR)											
Nonlinearity – %FS	±0.1		±0.1		±0.1		±0.1		±0.1		
Combined Error – %FS	±0.1		±0.1		±0.1		±0.1		±0.1		
Nonrepeatability – %RO	±0.02		±0.02		±0.02		±0.02		±0.02		
TEMPERATURE											
Compensated Range	°F	+70 to +170		+70 to +170		+70 to +170		+70 to +170		+70 to +170	
	°C	+21 to +77		+21 to +77		+21 to +77		+21 to +77		+21 to +77	
Operating Range	°F	-65 to +200		-65 to +200		-65 to +200		-65 to +200		-65 to +200	
	°C	-54 to +93		-54 to +93		-54 to +93		-54 to +93		-54 to +93	
Effect on Zero – %RO / deg	°F	±0.002		±0.002		±0.002		±0.002		±0.002	
	°C	±0.004		±0.004		±0.004		±0.004		±0.004	
Effect on Output – % / deg	°F	±0.002		±0.002		±0.002		±0.002		±0.002	
	°C	±0.004		±0.004		±0.004		±0.004		±0.004	
ELECTRICAL											
Rated Output – mV/V (Nominal)	2.0		2.0		2.0		2.0		2.0		
Excitation Voltage – VDC MAX	20		20		20		20		20		
Bridge Resistance – Ohm (Nominal)	350		350		350		350		350		
Electrical Connection	MS3102E-14S-5P		MS3102E-14S-5P		MS3102E-14S-5P		MS3102E-14S-5P		MS3102E-14S-5P		
MECHANICAL											
Safe Overload – %CAP	±150		±150		±150		±150		±150		
Deflection at Capacity – rad	0.005		0.004		0.006, 0.005		0.006		0.005		
Overhung Moment MAX	U.S. (lbf-in)	500, 1K, 2K		5K, 10K		24K, 50K		90K		150K, 200K	
	Metric (Nm)	56.5, 110, 220		550, 1.1K		2.71K, 5.65K		10.2K		16.9K, 22.6K	
Side Load – MAX	U.S. (lbf)	1K, 1.5K, 2K		4K, 6.5K		12K, 20K		30K		42K, 55K	
	Metric (kN)	4.45, 6.67, 8.9		17.8, 28.9		53.4, 89		133		187, 245	
Axial Load – MAX	U.S. (lbf)	1.5K, 2K, 3K		6K, 10K		18K, 30K		40K		60K, 80K	
	Metric (kN)	6.67, 8.9, 13.3		26.7, 44.5		80.1, 133		178		267, 356	
Material	Alloy steel		Alloy steel		Alloy steel		Alloy steel		Alloy steel		

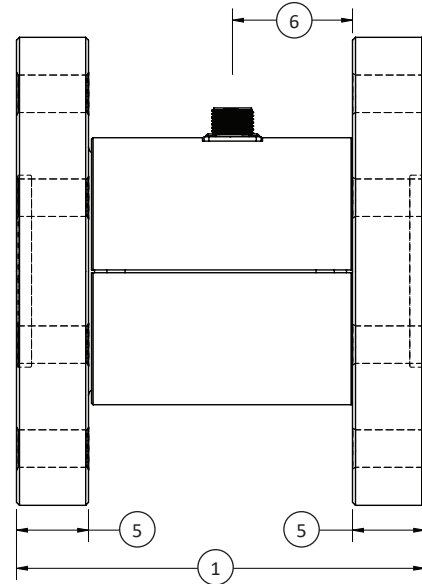
Datasheet 5400 Solid Flange v2.3 02-01-2021

5400 SOLID FLANGE REACTION TORQUE TRANSDUCER (U.S. & METRIC)

TOP VIEW



SIDE VIEW



DIMENSIONS

See Drawing	MODEL									
	5410		5411		5412		5413		5414	
	CAPACITY									
	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)	U.S. (lbf-in)	Metric (Nm)
	1K, 2K, 5K	110, 220, 550	10K, 20K	1.1K, 2.2K	50K, 100K	5.5K, 11K	200K	22K	300K, 500K	33K, 55K
	in	mm	in	mm	in	mm	in	mm	in	mm
(1)	3.0	76.2	3.5	88.9	7.38	187.5	8.5	219.5	10.5	266.7
(2)	∅ 4.0	∅ 101.6	∅ 5.0	∅ 127.0	∅ 8.0	∅ 203.2	∅ 9.75	∅ 247.7	∅ 14.0	∅ 355.6
(3)	∅ 3.25	∅ 82.55	∅ 4.25	∅ 107.95	∅ 6.5	∅ 165.1	∅ 8.0	∅ 203.2	∅ 11.0	∅ 279.4
(4)	∅ 1.5 +0.002, -0.00 ↓ 0.13	∅ 38.1 +0.05, -0.00 ↓ 3.3	∅ 2.0 +0.002, -0.00 ↓ 0.25	∅ 50.8 +0.05, -0.00 ↓ 6.4	∅ 3.5 +0.002, -0.00 ↓ 0.31	∅ 88.9 +0.05, -0.00 ↓ 7.9	∅ 4.0 +0.002, -0.00 ↓ 0.31	∅ 101.6 +0.05, -0.00 ↓ 7.9	∅ 6.0 +0.002, -0.00 ↓ 0.31	∅ 152.4 +0.05, -0.00 ↓ 7.9
(5)	0.5	12.7	0.75	19.1	1.5	38.1	1.5	38.1	2.0	50.8
(6)	0.94	23.9	0.94	23.9	2.5	63.5	2.5	63.5	3.5	88.9
(7)	8x ∅ 0.328	8x ∅ 8.33	8x ∅ 0.39	8x ∅ 9.91	8x ∅ 0.65	8x ∅ 16.51	8x ∅ 0.781	8x ∅ 19.84	8x ∅ 1.031	8x ∅ 26.19
(8)	22.5 °		22.5 °		22.5 °		22.5 °		22.5 °	
*1	⅝ - 24	M8 x 1.25	⅝ - 24	M10 x 1.5	⅝ - 18	M16 x 2	¾ - 16	M20 x 2.5	1 - 12	M24 x 3
*2	300	34	600	68	2400	270	4400	500	9000	1000

*1 - Recommended mounting screw size

*2 - Recommended mounting torque – lbf-in/Nm

International System of Units (SI) dimensions and capacities are provided for conversion only. Standard products have U.S. capacities and dimensions. SI capacities available upon special request and at an additional cost.