

## TS20 HOLLOW FLANGE STYLE REACTION TORQUE TRANSDUCER (U.S. & METRIC)

### FEATURES & BENEFITS

- Capacities from 10 to 200 Nm (88.5 to 1.77K lbf-in)
- Very short axial length
- Thru-hole

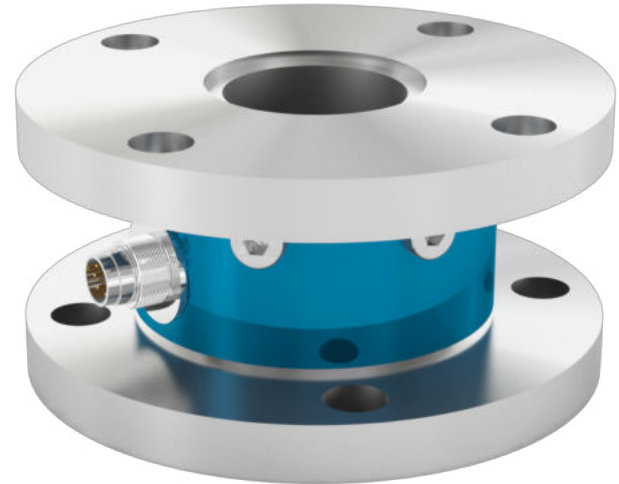
### SPECIFICATIONS

| ACCURACY – (MAX ERROR)     |    |              |
|----------------------------|----|--------------|
| Nonlinearity – %FS         |    | ±0.1         |
| Hysteresis – %FS           |    | ±0.1         |
| Nonrepeatability – % RO    |    | ±0.02        |
| TEMPERATURE                |    |              |
| Effect on Zero – %RO/ deg  | °C | ±0.02        |
| Effect on Output – % / deg | °C | ±0.01        |
| Compensated Range          | °C | -5 to +45    |
|                            | °F | +23 to +113  |
| Operating Range            | °C | -15 to +55   |
|                            | °F | +5 to +131   |
| ELECTRICAL                 |    |              |
| Output – mV/V ± %          |    | 1 ± 0.1      |
| Excitation Voltage – VDC   |    | 2-12         |
| Bridge Resistance – Ohm    |    | 350          |
| Electrical Connection      |    | 7-pin Binder |
| MECHANICAL                 |    |              |
| Safe Overload – %RO        |    | 150          |
| Protection Level           |    | IP50         |

### OPTIONS

- High accuracy to 0.05% FS
- 100% control signal (internal shunt cal)
- Extended temperature range
- A2LA accredited calibration
- Mating cable (straight or right angle)

### STANDARD CONFIGURATION



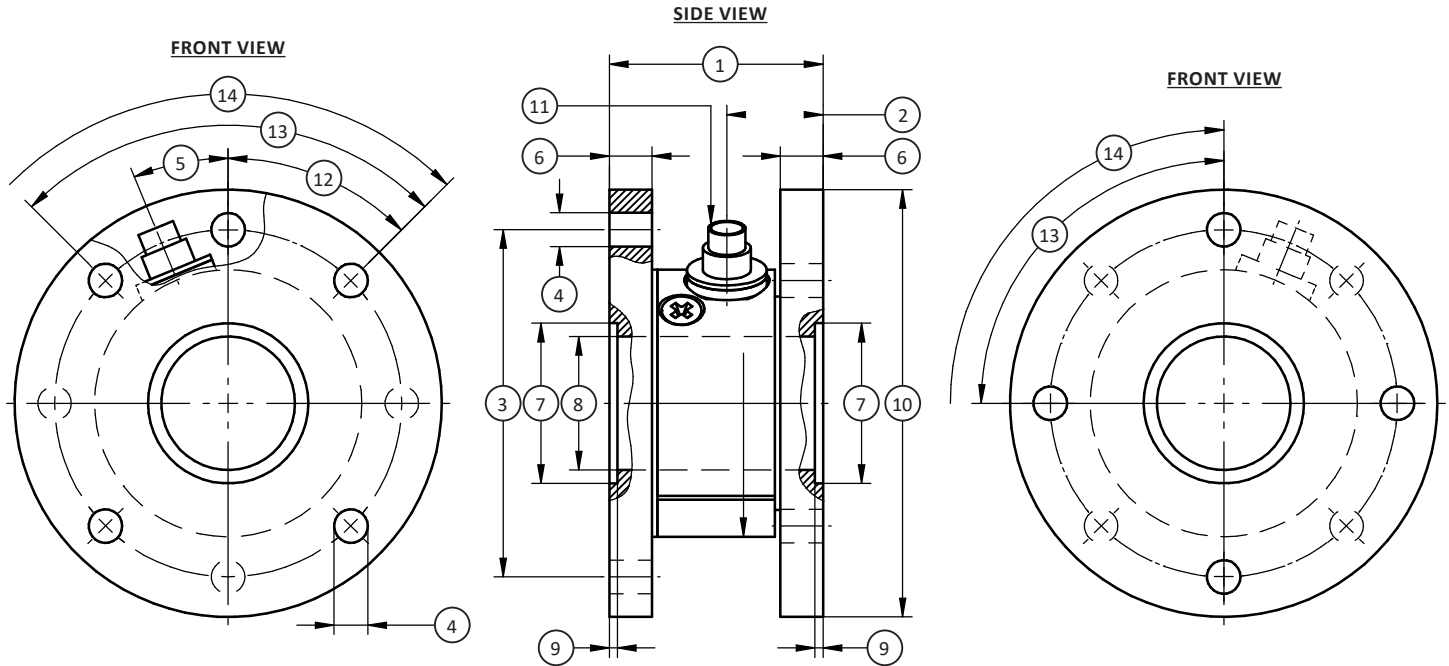
Model TS20 (Shown)

U.S. dimensions and capacities are provided for conversion only. Standard products have International System of Units (SI) capacities and dimensions.

### PERFORMANCE PARAMETERS

| CAPACITY |        | SPRING RATE<br>NM/rad | MASS MOMENT OF INERTIA –<br>(Kg•m <sup>2</sup> ) |                       | MAX THRUST LOAD |     | MAX SHEAR LOAD |      |
|----------|--------|-----------------------|--|-----------------------|-----------------|-----|----------------|------|
| Nm       | lbf-in |                       | Drive Side                                       | Test Side             | N               | lbf | N              | lbf  |
| 10       | 88.5   | 6.77x10 <sup>3</sup>  | 1.08x10 <sup>-4</sup>                            | 8.83x10 <sup>-5</sup> | 1.1K            | 247 | 190            | 42.7 |
| 20       | 177    | 1.28x10 <sup>4</sup>  | 1.08x10 <sup>-4</sup>                            | 8.83x10 <sup>-5</sup> | 1.6K            | 360 | 380            | 85.4 |
| 50       | 443    | 5.15x10 <sup>4</sup>  | 1.10x10 <sup>-4</sup>                            | 8.87x10 <sup>-5</sup> | 3.1K            | 697 | 850            | 191  |
| 100      | 885    | 9.44x10 <sup>4</sup>  | 2.83x10 <sup>-4</sup>                            | 2.56x10 <sup>-4</sup> | 2.5K            | 562 | 600            | 135  |
| 200      | 1.77K  | 1.97x10 <sup>5</sup>  | 2.84x10 <sup>-4</sup>                            | 2.57x10 <sup>-4</sup> | 4.2K            | 944 | 1.2K           | 270  |

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### DIMENSIONS

| See Drawing | CAPACITIES      |                    |                 |                    |
|-------------|-----------------|--------------------|-----------------|--------------------|
|             | Metric (Nm)     | U.S. (lbf-in)      | Metric (Nm)     | U.S. (lbf-in)      |
|             | 10, 20, 50      | 88.5, 177, 443     | 100, 200        | 885, 1.77K         |
|             | mm              | in                 | mm              | in                 |
| (1)         | 40              | 1.6                | 40              | 1.6                |
| (2)         | 18              | 0.7                | 18              | 0.7                |
| (3)         | ∅65             | ∅2.6               | ∅65             | ∅2.6               |
| (4)         | ∅6.3            | ∅0.25              | ∅8.3            | ∅0.33              |
| (5)         | 22.5°           |                    | 22.5°           |                    |
| (6)         | 8               | 0.3                | 8               | 0.3                |
| (7)         | ∅30 H7          | ∅(1.1819 / 1.1811) | ∅30 H7          | ∅(1.1819 / 1.1811) |
| (8)         | ∅25             | ∅1.0               | ∅25             | ∅1.0               |
| (9)         | 1.5             | 0.06               | 1.5             | 0.06               |
| (10)        | ∅80             | ∅3.1               | ∅80             | ∅3.1               |
| (11)        | Connector 7-pin |                    | Connector 7-pin |                    |
| (12)        | 45°             |                    | 45°             |                    |
| (13)        | 90°             |                    | 90°             |                    |
| (14)        | 4 x 90° (=360°) |                    | 4 x 90° (=360°) |                    |

Note:  
4 mounting holes per flange 45° offset