Pre Installation Guide
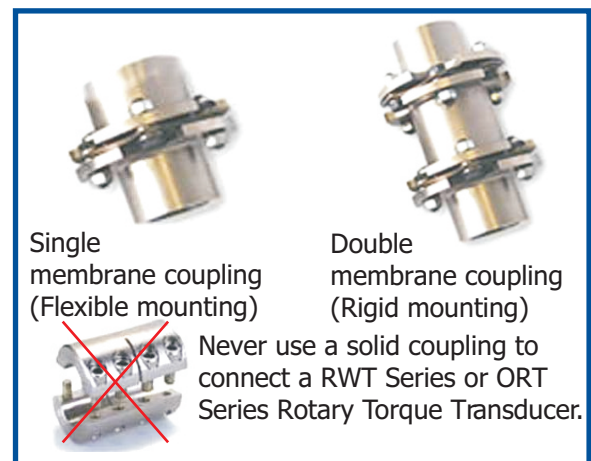
PLEASE READ THIS GUIDE BEFORE INSTALLING YOUR TRANSDUCER

To get the best from your RWT Series or ORT Series Rotary Torque Transducer it is essential that it is correctly installed.
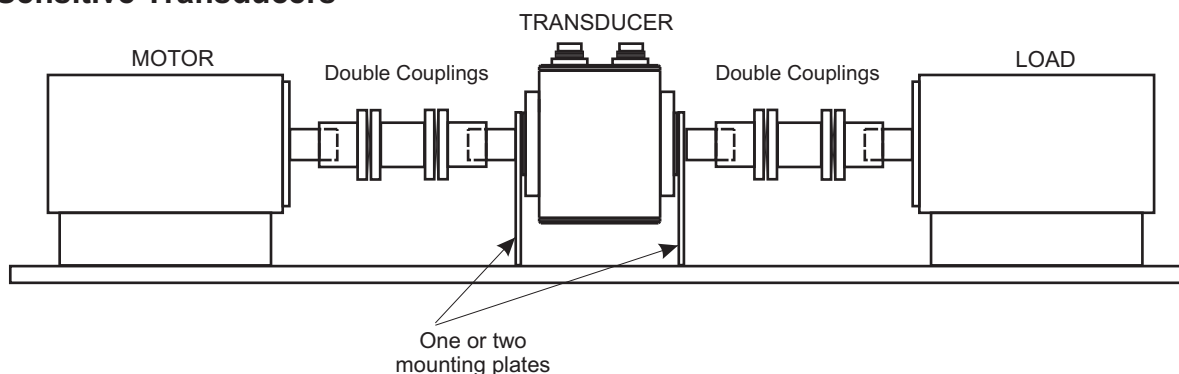
To avoid damaging the transducer during installation it is highly recommended that it is electrically connected and working during this process so that any torque overloads due to handling can be monitored.

1) Choice of Couplings

Should rapid variations in torque need to be measured in detail e.g. torque fluctuations in gearboxes or multi vane pumps then it is recommended using torsionally rigid couplings fitted at both ends of the transducer shaft such as single membrane couplings and that these are correctly selected for the transducer rating and speed. An undersized coupling will not transmit the torque while the high inertia of an oversized coupling can result in instantaneous peak torques far in excess of the measured torque. Alternatively, for lower bandwidth applications, where it is more important to measure the 'average' torque rather than fast torque fluctuations, then couplings with a degree of compliance would be more appropriate.


Single membrane coupling (Flexible mounting)

Double membrane coupling (Rigid mounting)

Never use a solid coupling to connect a RWT Series or ORT Series Rotary Torque Transducer.

2) Sensitive Transducers

MOTOR Double Couplings TRANSDUCER Double Couplings LOAD

One or two mounting plates

For rotary torque transducers **with torque ranges 1Nm (10lbf.in.) or less**, it is recommended that the transducer is rigidly mounted using the tapped locating holes on the end caps of the transducer. Care should be taken not to induce any end loads or bending moments to the shaft, as these may induce inaccuracies to the torque measurement and in extreme cases damage the transducer.

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3) Larger Transducers

Flexible strap
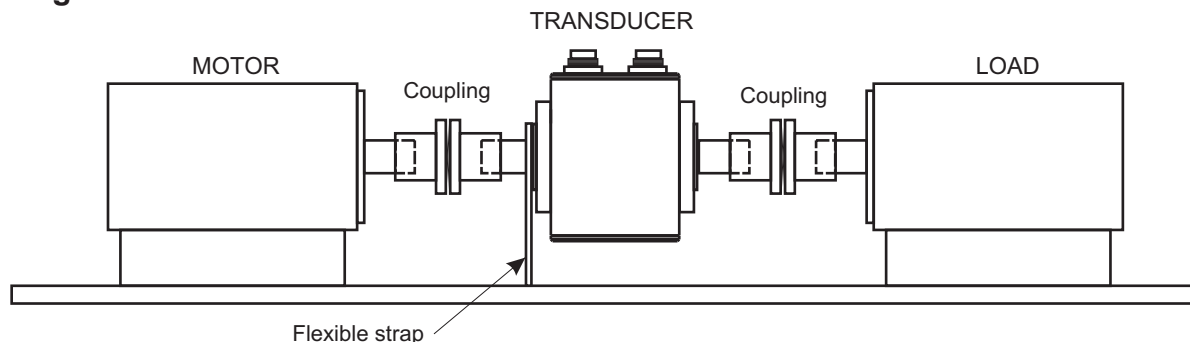
For rotary torque transducers **with torque ranges greater than 1Nm (10lbf.in.)** it is recommended that the body of the transducer is not rigidly mounted but restrained from rotation using a strap or straps connected to the tapped holes in the end caps. Couplings should be used to allow for angular misalignment while the transducer shaft takes up any parallel misalignment. Care should be taken not to induce any end loads or bending moments to the shaft, as these may induce inaccuracies to the torque measurement and in extreme cases damage the transducer. For applications when it is necessary to mount the transducer rigidly, please see section two above.

4) Pulley Mounting

Flexible strap
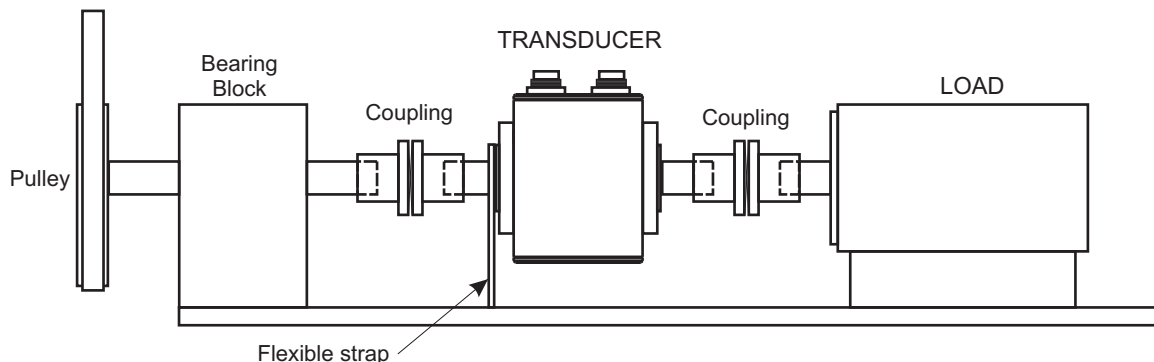
When using a pulley or pulleys it is recommended a bearing block or blocks should be used to ensure bending loads are not transmitted to the transducer. Care should be taken not to induce any end loads or bending moments to the shaft, as these may induce inaccuracies to the torque measurement and in extreme cases damage the transducer.

5) Avoiding End Loads

The transducer shaft is preloaded to ensure that the bearings are running at the correct preload. Care must be taken to ensure that, especially if the transducer is mounted rigidly, no end load is applied to the shaft as this may cause damage and will affect the bearings performance. For applications where end loads cannot be avoided please consult our Sales Department for advice prior to ordering.
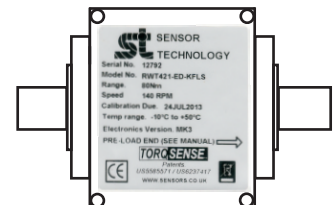
6) Avoiding EMC Problems

Whilst the transducer is resistant to EMC interference (BS EN 61326:2006), the sensible routing of cables is important to avoid possible EMC interference. Avoid running the transducer cables close, and/or parallel, to high voltage cables, solenoid valves, generators or inverters etc. If the cables must follow the same route as interfering cables then additional screening such as metal conduit should be used to provide isolation. If using an E200 Series or RWT Series rotary transducer with an ETD Display Interface do not attempt to lengthen, shorten or modify the cable between the transducer and the ETD Display Interface. Contact our Sales Department if a longer cable is required.

If in doubt, please ask for advice on the installation of your Rotary Torque Transducer via our Sales Department.
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Data parameters measured at 20ºC
Sensor Technology Ltd reserves the right to change specification and dimensions without notice.
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