



## Flange Mounted Transducers - MT

Flange Mounted Transducers incorporate mounting points for securely fixing the transducer to the working surface. The transducer lead is also included and is fitted with a high quality Lemo connector, suitable for attachment to TST and TTT instruments.

- Classified to BS7882:2008, typically better than Class 1 for the primary classification range ( $\pm 0.5\%$  of reading from 20% to 100% of full scale).
- SMART™ – TST and TTT instruments will automatically recognise calibration details.
- Joint Simulation Rundown Assembly is included on transducers up to 150 N.m (100 lbf.ft) allowing joint simulation for power tool testing.
- Supplied with UKAS calibration certificate.
- Transducers are supplied with precision made square drive adaptors.



### S.I Calibrated Transducers

Capacity	Part No.	Range	Square Drives Supplied - in
2 N.m	50671.xxx	0.04-2 N.m	¼
10 N.m	50672.xxx	0.5-10 N.m	¼
25 N.m	50673.xxx	1.25-25N.m	¼ ⅜
150 N.m	50674.xxx	7.5-150 N.m	⅜ ½
400 N.m	50675.xxx	20-400 N.m	½ ¾
1500 N.m	50676.xxx	30-1500 N.m	½ ¾ 1

### Imperial Calibrated Transducers

Capacity	Part No.	Range	Square Drives Supplied - in
20 lbf.in	50677.xxx	0.4-20 lbf.in	¼
100 lbf.in	50678.xxx	5-100 lbf.in	¼
250 lbf.in	50679.xxx	12.5-250 lbf.in	¼ ⅜
100 lbf.ft	50680.xxx	5-100 lbf.ft	⅜ ½
250 lbf.ft	50681.xxx	12.5-250 lbf.ft	½ ¾
1000 lbf.ft	50682.xxx	20-1000 lbf.ft	½ ¾ 1

Select part no. suffix .LOG if the transducer is to be connected to TST or TTT (example: 50671.LOG). For connection to a non Norbar instrument or when a mV/V certificate is required, select .IND.

### Joint Simulation Rundown Assemblies for Flange Mounted Transducers

Part No.	Range	A/F Size of Hex Screws
50539	0.04 – 2 N.m 0.4 – 20 lbf.in	¼"
50540	0.5 – 10 N.m 5 – 100 lbf.in	¼"
50541	1.25 – 25 N.m 12.5 – 250 lbf.in	¼"
50692	7.5 – 150 N.m 5 – 100 lbf.ft	14 mm

The above Joint Simulation Rundown Assemblies are supplied with the Flange Mounted Transducer as standard, but can also be ordered separately.



Large Mounting Bracket, Part No. 62220 suitable for 150 N.m to 1500 N.m Transducers

Small Mounting Bracket, Part No. 62221 suitable for 2 N.m to 400 N.m Transducers

### SMART Torque lock - ST

- Classified to BS7882:2008, typically better than Class 1 for the primary classification range ( $\pm 0.5\%$  of reading from 20% to 100% of full scale).
- SMART™ – TST and TTT instruments will automatically recognise calibration details.
- Supplied with UKAS accredited calibration certificate.

There are two models, STB1000 and STB3000. Transducer Lead is incorporated and is terminated in a Lemo connector suitable for the TST and TTT.

### S.I. Calibrated Transducers

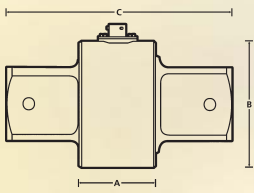
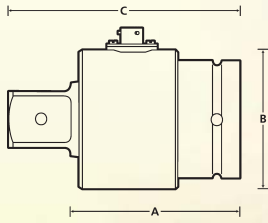
Model	Part No.	Range	Square Drives - in
STB1000	50683.xxx	20-1000 N.m	$\frac{1}{8}$ $\frac{3}{8}$
STB3000	50684.xxx	150-3000 N.m	$\frac{3}{8}$ 1

Select part no. suffix .LOG if the transducer is to be connected to TST and TTT (example: .LOG). For connection to a non Norbar instrument or when a mV/V certificate is required, select .IND.

### Joint Simulation Rundown Assemblies for STB1000

Part No.	Range	A/F Size of Hex Screws - mm
50693	10 – 140 N.m 10 – 100 lbf.ft	12
50694	100 – 700 N.m 70 – 500 lbf.ft	19





## Static Torque Transducer

The accuracy and quality of the Norbar Static Torque Transducers has made them the first choice of many calibration laboratories throughout the world.

- Up to 6800 N.m (5000 lbf.ft) classified to BS7882:2008, typically Class 1 or better for the primary classification range ( $\pm 0.5\%$  of reading from 20% to 100% of full scale).
- From 6800 N.m (5000 lbf.ft) up to 108,500 N.m (80,000 lbf.ft) classified to BS7882:2008, Class 1 to Class 5 for the classification range ( $\pm 0.5\%$  to  $-2.5\%$  of reading) dependant on the type of transducer.
- Robust, heat treated, alloy steel torsion shaft design.
- Designed to ignore non torsional forces.
- Operates in clockwise and anti-clockwise directions.
- Calibration up to 108,500 N.m (lbf.ft) with a UKAS accredited calibration certificate.
- Calibrated in clockwise direction as standard. Anti-clockwise calibration provided on request.
- 'SMART' transducers have built in memory circuit which contains essential information about the transducer. This information can be read by Norbar's TST and TTT instruments meaning that when the transducer is connected, it is immediately recognised and ready for use. When ordering for a TST or TTT, use part no. suffix '.LOG' (eg. 50659.LOG) if you require a torque units calibration certificate.
- 'SMART' transducers can also be used with many instruments not of Norbar manufacture. However, these will operate as normal ratio calibrated (mV/V) transducers – the 'SMART' data will not be read. For non Norbar instruments or for when a mV/V certificate is required, use part code suffix '.IND'.

### S.I Calibrated Transducers

Capacity	Part No.	Sq. Drive	Dimensions mm			Bench Stand
		in	A	B	C	
1 N.m	50587.IND*	¼ m/f	79	36.5	86	50211
2.5 N.m	50588.xxx	¼ m/f	79	36.5	86	50211
5 N.m	50589.xxx	¼ m/f	79	36.5	86	50211
10 N.m	50590.xxx	¼ m/f	79	36.5	86	50211
25 N.m	50591.xxx	⅜ m/f	79	36.5	89.5	50212
50 N.m	50592.xxx	⅜ m/f	79	36.5	89.5	50212
100 N.m	50593.xxx	½ m/f	79	36.5	92.8	50213
250 N.m	50594.xxx	½ m/f	79	36.5	92.8	-
250 N.m	50701.xxx	¾ m/f	118	54	141	50220
500 N.m	50596.xxx	¾ m/f	118	54	141	50220
1000 N.m	50772.xxx	1 m/f	118	54	146	50221
2500 N.m	50703.xxx	1½ m/f	117	95	160	50127
5000 N.m	50599.xxx	1½ m/f	117	95	160	50127
7000 N.m	50669.xxx	1½ m/f	117	95	160	50127
10000 N.m	50776.xxx	2½ m/f	145.5	130	209	-
25000 N.m	50603.xxx	2½ m/m	68.5	110	200	-
25000 N.m	50778.xxx	2½ m/f	145.5	130	209	-
50000 N.m	50781.xxx	2½ m/f	145.5	130	209	-
80000 N.m	50783.xxx	3½ m/m	205	160	291.5	-
100000 N.m	50607.xxx	3½ m/f	98	165	271	-

\*Not suitable for TST and TTT.

Select part no. suffix .LOG if the transducer is to be connected to TST or TTT (example: 50588.LOG). For connection to a non Norbar instrument or when a mV/V certificate is required, select .IND.

### Static Torque Transducer



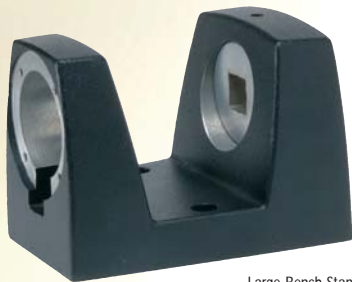
### Imperial Calibrated Transducers

Capacity	Part No.	Sq. Drive	Dimensions mm			Bench Stand
		in	A	B	C	
100 ozf.in	50609.IND*	¼ m/f	79	36.5	86	50211
1000 ozf.in	50616.xxx	¼ m/f	79	36.5	86	50211
10 lbf.in	50610.IND*	¼ m/f	79	36.5	86	50211
25 lbf.in	50612.xxx	¼ m/f	79	36.5	86	50211
50 lbf.in	50614.xxx	¼ m/f	79	36.5	86	50211
100 lbf.in	50617.xxx	¼ m/f	79	36.5	86	50211
250 lbf.in	50619.xxx	⅜ m/f	79	36.5	89.5	50212
500 lbf.in	50621.xxx	⅜ m/f	79	36.5	89.5	50212
1000 lbf.in	50623.xxx	½ m/f	79	36.5	92.8	50213
1 lbf.ft	50611.xxx	¼ m/f	79	36.5	86	50211
2.5 lbf.ft	50613.xxx	¼ m/f	79	36.5	86	50211
5 lbf.ft	50615.xxx	¼ m/f	79	36.5	86	50211
25 lbf.ft	50620.xxx	⅜ m/f	79	36.5	89.5	50212
50 lbf.ft	50622.xxx	⅜ m/f	79	36.5	89.5	50212
100 lbf.ft	50624.xxx	½ m/f	79	36.5	92.8	50213
250 lbf.ft	50625.xxx	½ m/f	79	36.5	92.8	-
250 lbf.ft	50702.xxx	¾ m/f	118	54	141	50220
500 lbf.ft	50627.xxx	¾ m/f	118	54	141	50220
1000 lbf.ft	50773.xxx	1 m/f	118	54	146	50221
2500 lbf.ft	50704.xxx	1½ m/f	117	95	160	50127
5000 lbf.ft	50630.xxx	1½ m/f	117	95	160	50127
10000 lbf.ft	50777.xxx	2½ m/f	145.5	130	209	-
25000 lbf.ft	50635.xxx	2½ m/m	68.5	110	200	-
25000 lbf.ft	50779.xxx	2½ m/f	145.5	130	209	-
30000 lbf.ft	50780.xxx	2½ m/f	145.5	130	209	-
50000 lbf.ft	50636.xxx	3½ m/m	98	165	271	-
60000 lbf.ft	50782.xxx	3½ m/f	205	160	291.5	-
100000 lbf.ft	50637.xxx	3½ m/m	98	165	271	-

\* Not suitable for TST and TTT  
 Select part no. suffix .LOG if the transducer is to be connected to TST or TTT (example: 50616.LOG). For connection to a non Norbar instrument or when a mV/V certificate is required, select .IND.

## Bench Stands

- Ensures the correct mounting of Norbar's Static Torque Transducers up to 5000 N.m (5000 lbf.ft).
- All bench stands (except Extra Large) are machined to accept Norbar Joint Simulation Rundown Assemblies for power tool testing and calibration.
- For transducers in the range 1 N.m to 10 N.m (100 ozf.in to 100 lbf.in), Torque Limiting Bench stands are available. These are designed to prevent transducer over-load.
- All 'Small Frame Size' Bench Stands can be mounted horizontally or vertically.



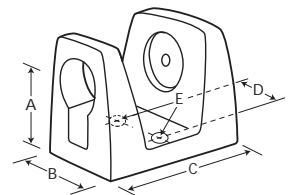
Large Bench Stand



Extra Large Bench Stand

## Transducer Bench Stands

Part No.	Model Description	Sq. Drive	Dimensions mm				
		in	A	B	C	D	E
60210	Torque Limiting (set to 1.6 N.m)	¼	50	65	96	56	8.5
60211	Torque Limiting (set to 8.1 N.m)	¼	50	65	96	56	8.5
60212	Torque Limiting (set to 16 N.m)	¼	50	65	96	56	8.5
50211	Small Frame Size (10 N.m)	¼	50	65	96	56	8.5
50212	Small Frame Size (50 N.m)	¾	50	65	96	56	8.5
50213	Small Frame Size (100 N.m)	1	50	65	96	56	8.5
50220	Large Frame Size (500 N.m)	¾	70	87	150	79	13.5
50221	Large Frame Size (1000 N.m)	1	70	87	150	79	13.5
50127	Extra Large Size (5000 N.m)	1½	105	280	152	240	16.5



## Transducer Leads

Part No.	Description	For use with
60152.225	ETS to 6 way transducer	Post 1994 ETS and 5 way Switch Box Model 60163
51067.225	ETS to 6 way transducer	Pre 1994 ETS and 5 Way Switch Box Model 60055
60217.200	Pro-Log, TST & TTT to 6 way transducer	All 'Smart' Static and Annular transducers
60216.200	Pro-Log, TST & TTT to 10 way transducer	All Rotary transducers with .IND or .LOG Part No. suffix
60223.200	Pro-Log, TST & TTT to no connector	Non Norbar transducers
60225.200	6 way transducer to no connector	Norbar 6 way connector to a non Norbar instrument
60224.200	10 way to no connector	Norbar Rotary transducer to a non Norbar instrument



The Part No. suffix indicates the length of the cable, ie. .225 is 225cm (2.25m). Other cable lengths available on request. Please use suffix to indicate required length (preferably in whole meter increments).

**Joint Simulation Rundown Assemblies**

The Norbar Joint Simulation Rundown Assemblies are designed to simulate the working conditions of screwed or bolted joints. Used in conjunction with a Norbar transducer, bench stand and display instrument, the output of torque controlled power tools can be measured against a range of simulated joint rates, from hard through to soft.

- Suitable for a wide variety of power tools including pneumatic/electric screwdriver and angle wrenches with either clutch or stall torque control.
- Models available for torques from 0.2 N.m to 500 N.m (2 lbf.in to 500 lbf.ft).
- Spring washers and full instructions are provided to simulate a wide range of joint types as detailed in: BS6268:1982 , BS6544:1981, ISO5393:1981.



**Joint Simulation Rundown Assemblies for Static Transducers**

Part No.	Socket	Range	Bench Stand Required	A/F Size of Hex Screws - mm
	in			
50313	¼	0.2 - 2 N.m 2 - 20 N.m	50211	5
50251	¼	2 - 10 N.m 20 - 100 lbf.in	50211	5
50252	⅜	5 - 50 N.m 5 - 50 lbf.ft	50212	8
50253	½	10 - 100 N.m 10 - 100 lbf.ft	50213	10
50254	¾	100 - 500 N.m 100 - 500 lbf.ft	50220	19



**Power Tool Test Fixture RD 5**

The RD5000 is designed for testing the output of powered torque controlled tools up to 5000 lbf.ft (6800 N.m). A suitable 1½ square drive Norbar Static Transducer, Lead and Display Instrument are also required for a complete system. For testing tools up to 1500 N.m, please order the alternative washer stack, part number 50548.2.

**RD 5000 and Ancillaries**

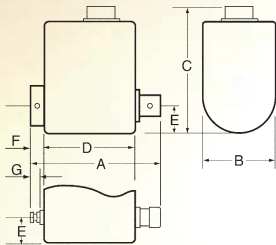
Part No.	Description
50548	135 - 6780 N.m (100 - 5000 lbf.ft) Power Tool Test Fixture
50548.1	Nut and Bolt Kit UNC
50548.2	Washer Stack 1500 N.m



## Rotar Torque Transducer

These transducers are designed to measure the torque output from rotating shafts, particularly torque controlled power tools including impulse wrenches.

- Classified to BS7882:2008, typically better than Class 1 for the primary classification range ( $\pm 0.5\%$  of reading from 20% to 100% of full scale).
- SMART™ – TST and TTT instruments will automatically recognise calibration details.
- Supplied with a UKAS accredited calibration certificate.
- Designed to give excellent performance with impulse tools.
- Optional angle measurement – contact Norbar for details.



### Rotary Torque Transducers – S.I. Calibration

Capacity	Part No.	Sq. Drive	Maximum RPM		Dimensions mm						
		in	Continuous	Intermittent	A	B	C	D	E	F	
5 N.m	50708.xxx	¼" m/f Hex	5000	11000	116	30	68	56	13	39	25.5
20 N.m	50709.xxx	¼" m/f Hex	5000	11000	116	30	68	56	13	39	25.5
20 N.m	50710.xxx	½" m/f	5000	11000	71.5	30	71.5	56	13	6	-
75 N.m	50711.xxx	¾" m/f	5000	11000	77	30	74	56	15	8	-
200 N.m	50712.xxx	½" m/f	2500	7600	87	42	82.5	58	21	12	-
250 N.m	50713.xxx	¾" m/f	2000	5000	106	52	93.5	60	26	21	-
500 N.m	50714.xxx	¾" m/f	2000	5000	106	52	93.5	60	26	21	-
1500 N.m	50715.xxx	1" m/f	1000	4400	125	63	104	64.5	31.5	29	-

### Rotary Torque Transducers – Imperial Calibration

Capacity	Part No.	Sq. Drive	Maximum RPM		Dimensions mm						
		in	Continuous	Intermittent	A	B	C	D	E	F	
50 lbf.in	50717.xxx	¼" m/f Hex	5000	11000	116	30	68	56	13	39	25.5
15 lbf.ft	50718.xxx	¼" m/f Hex	5000	11000	116	30	68	56	13	39	25.5
15 lbf.ft	50719.xxx	½" m/f	5000	11000	71.5	30	71.5	56	13	6	-
50 lbf.ft	50720.xxx	¾" m/f	5000	11000	77	30	74	56	15	8	-
150 lbf.ft	50721.xxx	½" m/f	2500	7600	87	42	82.5	58	21	12	-
200 lbf.ft	50722.xxx	¾" m/f	2000	5000	106	52	93.5	60	26	21	-
300 lbf.ft	50723.xxx	¾" m/f	2000	5000	106	52	93.5	60	26	21	-
1000 lbf.ft	50724.xxx	1" m/f	1000	4400	125	63	104	64.5	31.5	29	-

\* Continuous is defined as 100% usage at the given speed in either direction and intermittent as usage 10% of the total time at the given speed.

## Annular Torque Transducer 72mm Series, Standard Series and Small Diameter Series

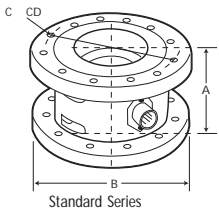
These Annular transducers are designed to fit directly to Norbar gearboxes (Pneutorque and Handtorque) and will accurately measure the torque output via a display instrument.

Up to 6800 N.m (5000 lbf.ft) classified to BS7882:2008, typically Class 1 or better for the primary classification range (+/-0.5% of reading from 20% to 100% of full scale).

From 6800 N.m (5000 lbf.ft) up to 108,500 N.m (80,000 lbf.ft) classified to BS7882:2008, Class 1 to Class 5 for the classification range ( $\pm 0.5\%$  to  $\pm 2.5\%$  of reading) dependant on the type of transducer.

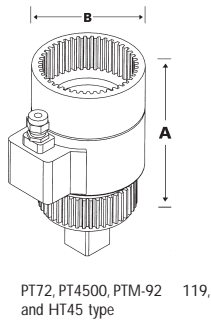


### Transducers for Remote 72mm Series and HT-72 Multipliers



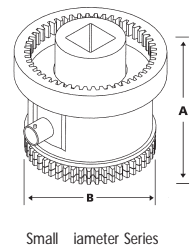
Capacity	Part No.	Dimensions mm	
		A	B
1000 N.m	50666.xxx	117	73
1500 N.m	50667.xxx	117	73
2000 N.m	50668.xxx	117	73

### Annular Torque Transducers – S.I. Calibration



Capacity	Part No.	Sq. Drive	To Fit Tool	Dimensions mm		
		in	HT/PT	A	B	C
1000 N.m	50638.xxx	¾	1, 1A & 2	61	108	99.06
1500 N.m	50639.xxx	1	1,1A & 2 (All HD Type*)	61	108	99.06
2500 N.m	50640.xxx	1	5	79.5	119	99.06
2500 N.m	50642.xxx	1½	6	79.5	119	99.06
3000 N.m	50662.xxx	1	HT30 & PT2700	82	108	-
3500 N.m	50641.xxx	1	5	79.5	119	99.06
3500 N.m	50700.xxx	1½	6	79.5	119	99.06
4500 N.m	50664.xxx	1	HT45 & PT4500	128.5	85	-
5000 N.m	50643.xxx	1½	7	83	144	125.00
6000 N.m	50663.xxx	1½	HT60 & PT5500	88	120	-
10000 N.m	50644.xxx	1½	9	90	184	152.40
20000 N.m	50645.xxx	2½	11	97	212	195.00
50000 N.m	50646.xxx	2½	13	126	315	290.00
100000 N.m	50647.xxx	3½	14	126	315	290.00

\*Gearbox must be fitted with Heavy Duty (HD) final carrier.  
Imperial Calibration models also available, contact Norbar for details.



### Annular Torque Transducers for PTM-92 and PTM-119

Capacity	Part No.	Sq. Drive	To Fit Tool	Dimensions mm	
		in	HT/PT	A	B
2700 N.m	50753.xxx	1	PTM-92	120.5	73
3500 N.m	50754.xxx	1	PTM-92	120.5	73
4500 N.m	50755.xxx	1½	PTM-119	199	86
6000 N.m	50756.xxx	1½	PTM-119	199	86

Select part no. suffix .LOG if the transducer is to be connected to TST or TTT (example: 50638.LOG). For connection to a non Norbar instrument or when a mV/V certificate is required, select .IND.  
Imperial Calibration models also available, contact Norbar for details.