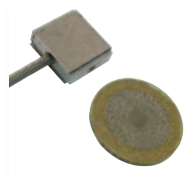


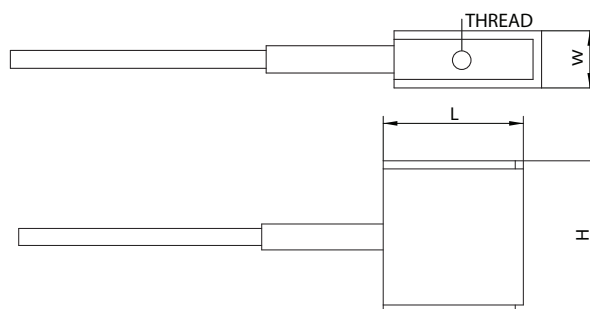
Tension & Compression Sensors

“Smart” Sensors for use with AFTI display or Advanced Force Gauge (AFG)

Junior S-Beam - ‘Smart’



The Junior S-Beam is suitable for measuring tension and compression. Ideal for applications where available space is limited. Dedicated fixtures can be fitted via threaded holes.



Model	Part No.	L (mm)	W (mm)	H (mm)	Thread
1 N 100 gf 3.5 ozf	870-101	17	7	19	M3 x 0.5
2.5 N 250 gf 9 ozf	870-102	17	7	19	M3 x 0.5
5 N 500 gf 18 ozf	870-103	17	7	19	M3 x 0.5
10 N 1 kgf 2.2 lbf	870-104	17	7	19	M3 x 0.5
25 N 2.5 kgf 5.5 lbf	870-105	17	7	19	M3 x 0.5
50 N 5 kgf 11 lbf	870-106	17	7	19	M3 x 0.5
100 N 10 kgf 22 lbf	870-107	17	7	19	M3 x 0.5
250 N 25 kgf 55 lbf	870-108	17	7	19	M3 x 0.5
500 N 50 kgf 110 lbf	870-109	17	7	19	M3 x 0.5

Accuracy $\pm 0.25\%$ of full scale



S-Beam - ‘Smart’

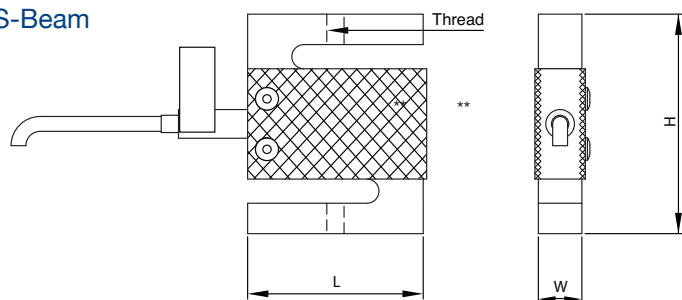
The S-Beam provides an economical solution to general force measurement applications where space is not restricted. Dedicated fixtures can be fitted via threaded holes.

Model	Part No.	L (mm)	W (mm)**	H (mm)	Thread
100 N 10 kgf 22 lbf	870 - 002	51	13	64	M6 x 1
200 N 20 kgf 44 lbf	870 - 004	51	13	64	M6 x 1
500 N 50 kgf 110 lbf	870 - 009	51	19	76	M6 x 1
1000 N 100 kgf 220 lbf	870 - 001	51	19	76	M10 x 1.5
2500 N 250 kgf 550 lbf	870 - 006	51	25	76	M12 x 1.75
5000 N 500 kgf 1100 lbf	870 - 008	51	25	76	M12 x 1.75
10 kN 1000 kgf 2200 lbf	870 - 003	51	25	76	M12 x 1.75
25 kN 2500 kgf 5500 lbf	870 - 007	76	25	108	M16 x 2

Cylindrical	Part No.	Ø (mm)	H (mm)	Thread
*50 kN 5000 kgf 11000 lbf	870 - 011	70	120	M36 x 3
*100 kN 10000 kgf 22000 lbf	870 - 010	70	120	M36 x 3

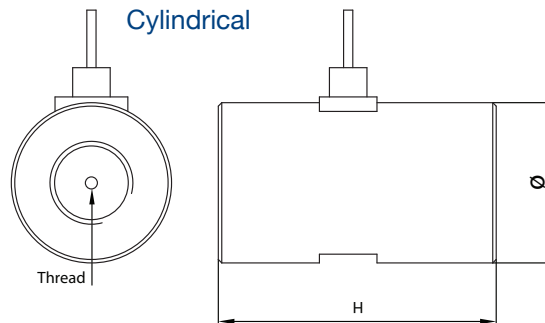
Accuracy $\pm 0.25\%$ of full scale * Uni-directional calibration (please specify tension or compression)

S-Beam



** 6mm added to the overall width of the central portion due to the protective cover

Cylindrical



Compression Only Sensors



Load Button Cell - 'Smart'

The Load Button Cell is a miniature sensor for compression measurement only, where available space is very limited. For optimum results apply compressive load to the top of the sensor's central dome.

Miniature Series

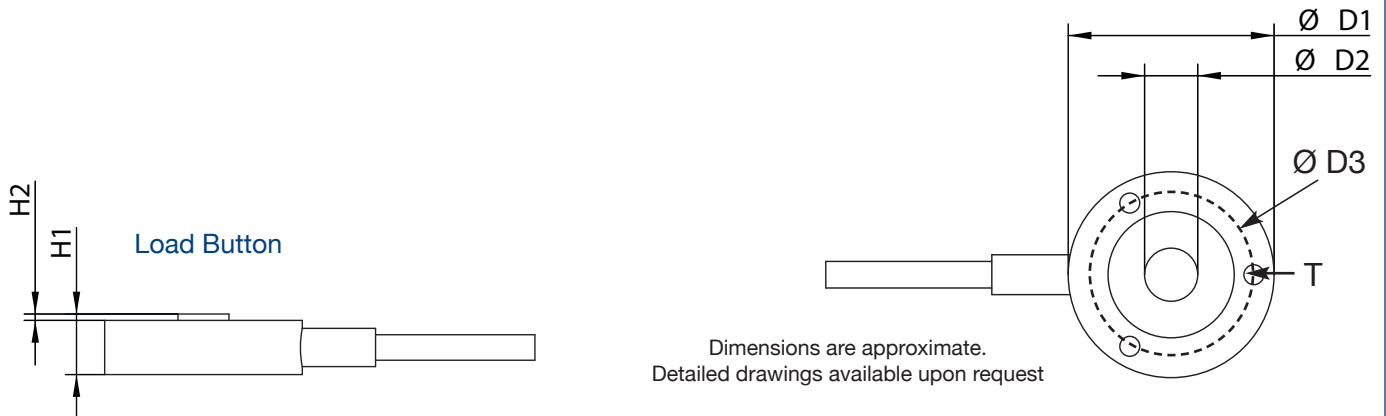
Model	Part No.	Capacity					ØD1 (mm)	ØD2 (mm)	ØD3 (mm)	H1 (mm)	H2 (mm)	T	
L16010	878 - 008	100	N	10	kgf	22	lbf	25	5	19	8	1	4/40UNC
	878 - 009	250	N	25	kgf	55	lbf	25	5	19	8	1	4/40UNC
	878 - 010	500	N	50	kgf	110	lbf	25	5	19	8	1	4/40UNC
L16020	878 - 011	1000	N	100	kgf	220	lbf	31	8	25	10	1	6/32UNC
	878 - 012	2500	N	250	kgf	550	lbf	31	8	25	10	1	6/32UNC
	878 - 013	5000	N	500	kgf	1100	lbf	31	8	25	10	1	6/32UNC
	878 - 014	10	kN	1000	kgf	2200	lbf	31	8	25	10	1	6/32UNC
L16030	878 - 015	20	kN	2000	kgf	5500	lbf	38	11	32	16	2	6/32UNC
	878 - 016	50	kN	5000	kgf	11000	lbf	38	11	32	16	2	6/32UNC

Accuracy ±1% of full scale

Sub-miniature Series

Model	Part No.	Capacity					ØD1 (mm)	ØD2 (mm)	H1 (mm)	H2 (mm)	
L1630	878 - 002	100	N	10	kgf	22	lbf	19	4.5	7	0.5
	878 - 003	250	N	25	kgf	55	lbf	19	4.5	7	0.5
	878 - 004	500	N	50	kgf	110	lbf	19	4.5	7	0.5
	878 - 005	1000	N	100	kgf	220	lbf	19	4.5	7	0.5
	878 - 006	5000	N	500	kgf	1100	lbf	19	4.5	7	0.5

Accuracy ±1% of full scale



Static Torque Sensors

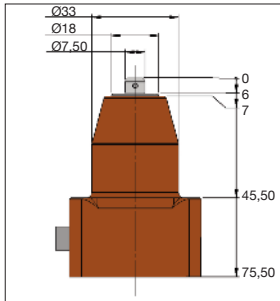
“Smart” Sensors for use with AFTI display or Advanced Force Gauge (AFG)



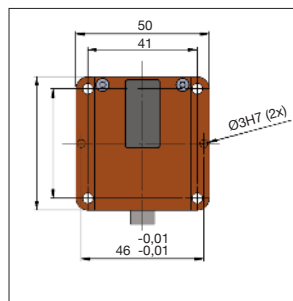
Static Torque Transducer – ‘Smart’ (low-torque)

For mounting to a bench or integrating into a complete test rig.
Equipped with ¼” HEX Socket or 3mm bore for fitting of adaptors.

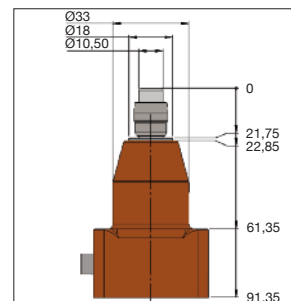
Model	Part No.	Capacity	Drive	H (mm)	W (mm)	D (mm)
TT-ST0.05	872 - 030	50 mN.m 500 gf.cm 7 ozf.in	Bore Ø3 H7	75	50	50
TT-ST0.20	872 - 032	200 mN.m 2000 gf.cm 28 ozf.in	Bore Ø3 H7	75	50	50
TT-ST0.50	872 - 033	500 mN.m 5 kgf.cm 4.5 lbf.in	¼” HEX Socket	91	50	50
TT-ST1	872 - 034	1 N.m 10 kgf.cm 9 lbf.in	¼” HEX Socket	91	50	50
TT-ST2	872 - 035	2 N.m 20 kgf.cm 18 lbf.in	¼” HEX Socket	91	50	50



Side view of
TT-ST0.05 and TTST0.20
(Ø3 H7 bore)



Top View of all TT models



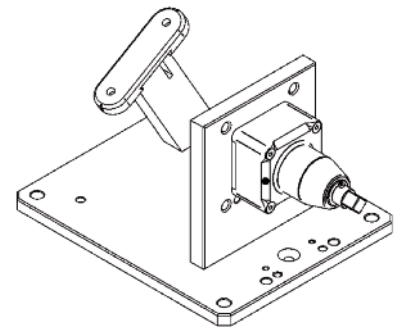
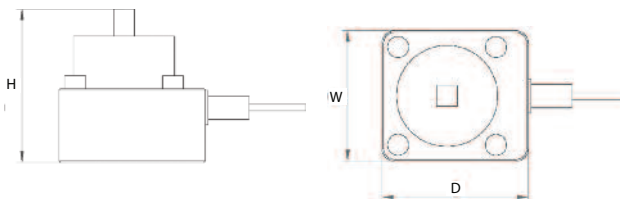
Side view of
TT-ST0.50, TT1 and TT-ST2
(¼” HEX Socket)

Accuracy ±0.5% of full scale



Static Torque Transducer - ‘Smart’ (mid & high-torque)

For mounting to a bench or integrating into a complete test rig.
Equipped with male square drive for easy fitting of adaptors.



Bench Mounting Stand
Part No 432-401 suitable for ‘mid & high-torque’
ST Torque Sensors

Model	Part No.	Capacity	Sq Drive Male	H (mm)	W (mm)	D (mm)
ST1.5	872 - 001	1.5 N.m 15 kgf.cm 13 lbf.in	1/2”	87	80	90
ST6	872 - 009	6 N.m 60 kgf.cm 53 lbf.in	1/2”	87	80	90
ST10	872 - 004	10 N.m 100 kgf.cm 90 lbf.in	1/2”	87	80	90
ST15	872 - 006	15 N.m 150 kgf.cm 133 lbf.in	3/8”	87	80	90
ST60	872 - 008	60 N.m 600 kgf.cm 530 lbf.in	3/8”	87	80	90
ST100	872 - 003	100 N.m 1000 kgf.cm 870 lbf.in	1/2”	93	80	90
ST150	872 - 005	150 N.m 1500 kgf.cm 1300 lbf.in	1/2”	93	80	90
ST600	872 - 007	600 N.m 6000 kgf.cm 5200 lbf.in	3/4”	113.5	78.7	100
ST1000	872 - 002	1000 N.m 10000 kgf.cm 8850 lbf.in	1”	124	78.7	100

Accuracy ±0.5% of full scale

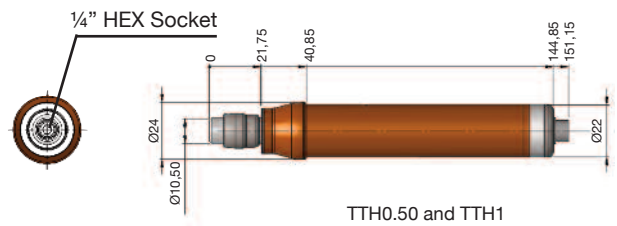
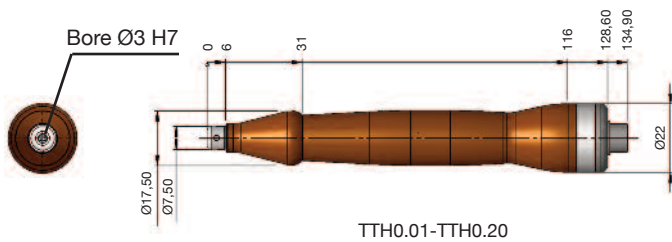


Static 'Mini' Torque Screwdriver - 'Smart' (low-torque)

For hand-held applications requiring the measurement of miniature torque below 1 N.m.

Not suitable for applications, which require multiple rotations of the sensor - use Rotary Torque Transducers (see page 9).

Model	Part No.	Capacity			Drive	L1 (mm)	Ø (mm)
TTH0.01	871 - 100	10 mN.m	100 gf.cm	1 ozf.in	Bore Ø3 H7	135	22
TTH0.05	871 - 101	50 mN.m	500 gf.cm	7 ozf.in	Bore Ø3 H7	135	22
TTH0.10	871 - 102	100 mN.m	1000 gf.cm	14 ozf.in	Bore Ø3 H7	135	22
TTH0.20	871 - 105	200 mN.m	2000 gf.cm	28 ozf.in	Bore Ø3 H7	135	22
TTH0.50	871 - 103	500 mN.m	5 kgf.cm	4.5 lbf.in	¼" HEX Socket	151	22
TTH1	871 - 104	1 N.m	10 kgf.cm	9 lbf.in	¼" HEX Socket	151	22



Accuracy ±0.5% of full scale

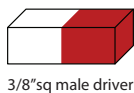
Static Torque Screwdriver - 'Smart' (mid-torque)

For mid capacity applications. Used as hand-held devices or may be mounted in a bench stand for stationary use Part No 432-402. Not suitable for applications, which require multiple rotations of the sensor - use Rotary Torque Transducers (see page 9).

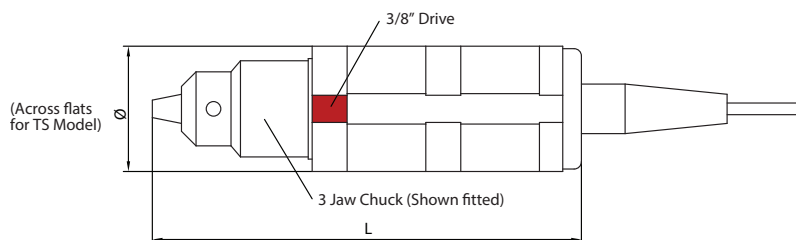
Model	Part No.	Capacity			Drive	L (mm)	Ø (mm)	Weight (g)
TS0.3	871-004	0.3 N.m	3 kgf.cm	2.6 lbf.in	3/8" sq male/3 jaw chuck	143	43	660
TS1.5	871-002	1.5 N.m	15 kgf.cm	13 lbf.in	3/8" sq male/3 jaw chuck	143	43	660
TS3	871-003	3 N.m	30 kgf.cm	26 lbf.in	3/8" sq male/3 jaw chuck	143	43	660
TS6	871-005	6 N.m	60 kgf.cm	53 lbf.in	3/8" sq male/3 jaw chuck	143	43	660
TS10	871-001	10 N.m	100 kgf.cm	90 lbf.in	3/8" sq male/3 jaw chuck	143	43	660

Supplied as standard with both 3/8" sq male drive & 3/8" opening 3 jaw chuck

Part No 432-113 1/2" opening Chuck Assembly for use with 'TS' Torque Screwdriver (optional extra)



3/8"sq male driver



Accuracy ±0.5% of full scale

Rotary Torque Sensors

“Smart” Sensors for use with AFTI display or Advanced Force Gauge (AFG)

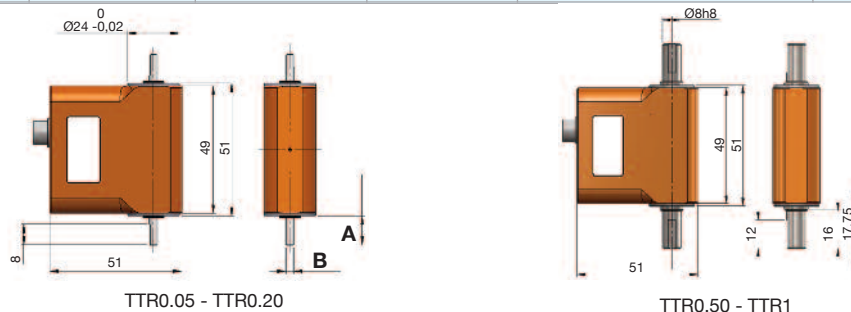


Mini Rotary Torque Transducers- ‘Smart’ (low-torque)

A complete range of mini sensors for measuring rotary torque below 1 N.m.

‘Mini’ (low-torque) TTR range

Model	Part No.	Capacity				A Shaft Length (mm)		B Shaft Ø (mm)	
TTR0.05	877 - 030	50	mN.m	500	gf.cm	7	ozf.in	11.2	Ø 3h8
TTR0.10	877 - 031	100	mN.m	1000	gf.cm	14	ozf.in	10.4	Ø 5h8
TTR0.20	877 - 032	200	mN.m	2000	gf.cm	28	ozf.in	10.4	Ø 5h8
TTR0.50	877 - 033	500	mN.m	5	kgf.cm	4.5	lbf.in	17.75	Ø 8h8
TTR1	877 - 034	1	N.m	10	kgf.cm	9	lbf.in	17.75	Ø 8h8



Accuracy ±0.5% of full scale

TTR0.05 - TTR0.20

TTR0.50 - TTR1

Rotary Torque Transducers - ‘Smart’ (mid & high-torque)

A complete range of sensors for measuring rotary torque. Suitable for dynamic torque applications with multiple revolutions (e.g. window-winder mechanism).

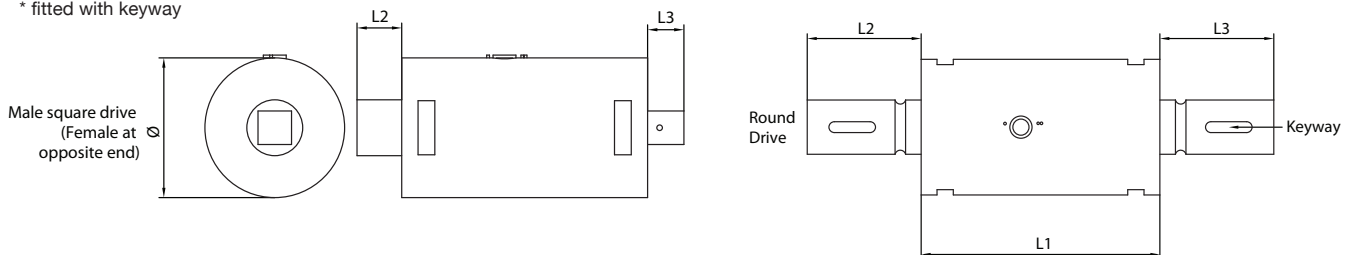
‘FAST’ (mid and high torque) range

Model	Part No.	Capacity			Drive	L1 (mm)	L2 (mm)	L3 (mm)	Ø (mm)	Max rpm			
FAST 2 N.m sq	877 - 020	2	N.m	20	kgf.cm	18	lbf.in	1/4" square	70	16	10	40	1000
FAST 2 N.m rd	877 - 021	2	N.m	20	kgf.cm	18	lbf.in	Ø 9mm round*	70	28	28	40	5000
FAST 6 N.m sq	877 - 022	6	N.m	60	kgf.cm	53	lbf.in	1/4" square	70	16	10	40	1000
FAST 6 N.m rd	877 - 023	6	N.m	60	kgf.cm	53	lbf.in	Ø 9mm round*	70	28	28	40	5000
FAST 15 N.m sq	877 - 024	15	N.m	150	kgf.cm	133	lbf.in	1/4" square	70	16	10	40	1000
FAST 15 N.m rd	877 - 025	15	N.m	150	kgf.cm	133	lbf.in	Ø 9mm round*	70	28	28	40	5000
FAST 60 N.m sq	877 - 026	60	N.m	600	kgf.cm	530	lbf.in	3/8" square*	70	24	13	50	1000
FAST 60 N.m rd	877 - 027	60	N.m	600	kgf.cm	530	lbf.in	Ø 14mm round*	70	28	28	50	5000
FAST 150 N.m sq	877 - 028	150	N.m	15.3	kgf.m	111	lbf.ft	1/2" square	70	35	19	50	1000
FAST 150 N.m rd	877 - 029	150	N.m	15.3	kgf.m	111	lbf.ft	Ø 19mm round*	70	55	55	50	5000

• Maximum axial force is 40 N • Maximum lateral radial force is 50 N

• Accuracy ±1% of full scale

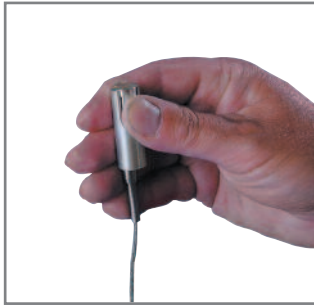
* fitted with keyway



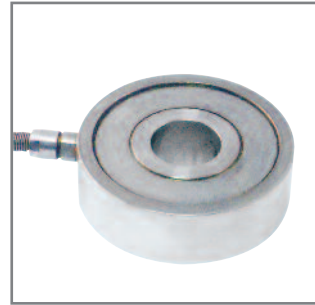
Specialised Loadcells

Specialised Loadcells - 'Smart'

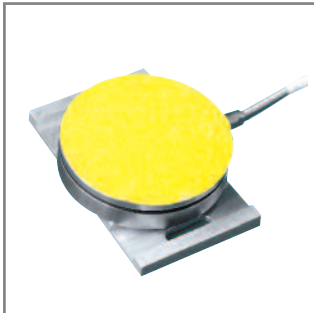
In addition to the standard range of sensors, Mecmesin also offers specialised loadcells dedicated to specific applications. A few examples are shown below. Contact our sales department for further details.



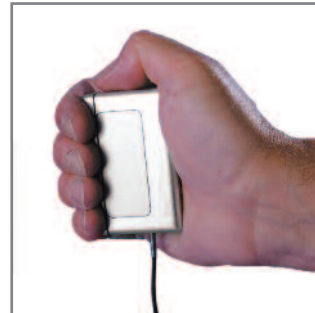
Pinch Sensor



Donut Loadcell



Pedal Force Accelerator



Hand Gripper



Pedal Force Accelerator in action