
4000 Series Force Washer Transducers

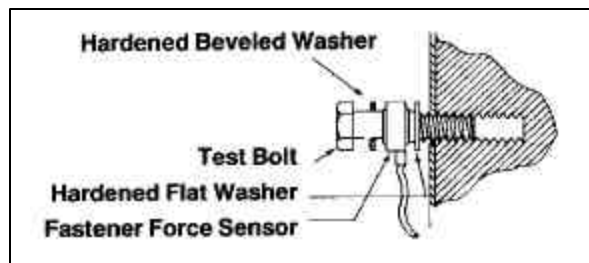
The 4000 Series Force Washer Transducers are ideal for use in threaded fastener torque-angle-tension testing!



- **Measure and record tension characteristics of threaded fasteners**
- **Verify threaded fastener tension calculations**
- **Test actual fasteners in a laboratory or assembly environment**

The Model 4000 Force Washer Transducers are miniature load cells designed specifically for measuring fastener clamping forces. The design provides high stiffness in a small package, making these load cells ideal for static and dynamic measurements on fasteners, tie rods, or similar structural test applications where space limitations exist. Force washer transducers come in a variety of English and metric sizes.

All transducers are carefully sealed and thoroughly tested prior to shipment. Two hardened steel washers are provided with each unit and should be mounted on either side of the transducer to minimize any transmitted rotational effects or spot loading. Refer to the illustration below. All units are furnished with a 5-foot long cable with pigtail leads.



SPECIFICATIONS

Construction	Steel flexure, aluminum cover
Overload Capacity	50% of rated load
Output at Rated Capacity	1.25 to 2.00 mV/V nominal
Nonlinearity	±2.0% of Full Scale, as manufactured
Bridge Resistance	350 Ohms
Excitation Voltage	15 vdc, maximum
Zero Offset	±5.0% of Full Scale
Operating Temperature Range	0-200 °F

4000 Series Force Washer Transducers

CAPACITIES

FWT, English Sizes					
PART NO.	SIZE	ID	OD	HT	CAPACITY
054103-01252	#10	.196 in. (4.98 mm)	.682 in. (17.3 mm)	.255 in. (6.47 mm)	2,500 lbf (11.1 kN)
054104-01502	¼ inch	.256 in. (6.50 mm)	.674 in. (17.1 mm)	.255 in. (6.47 mm)	5,000 lbf (22.2 kN)
054105-01802	5/16 inch	.319 in. (8.10 mm)	.809 in. (20.5 mm)	.317 in. (8.05 mm)	8,000 lbf (35.6 kN)
054106-01103	3/8 inch	.381 in. (9.67 mm)	.842 in. (21.3 mm)	.380 in. (9.65 mm)	10,000 lbf (44.5 kN)
054107-01153	7/16 inch	.443 in. (11.2 mm)	.943 in. (23.9 mm)	.420 in. (10.7 mm)	15,000 lbf (66.7 kN)
054108-01203	½ inch	.506 in. (12.8 mm)	1.111 in. (28.22 mm)	.455 in. (11.6 mm)	20,000 lbf (89.0 kN)
054109-01253	9/16 inch	.569 in. (14.5 mm)	1.213 in. (30.81 mm)	.495 in. (12.6 mm)	25,000 lbf (111.2 kN)
054110-01303	5/8 inch	.631 in. (16.0 mm)	1.348 in. (34.24 mm)	.525 in. (13.3 mm)	30,000 lbf (133.4 kN)
054112-01403	¾ inch	.756 in. (19.2 mm)	1.618 in. (41.09 mm)	.595 in. (15.1 mm)	40,000 lbf (177.9 kN)
054114-01603	7/8 inch	.881 in. (22.4 mm)	1.888 in. (47.95 mm)	.665 in. (16.9 mm)	60,000 lbf (266.9 kN)
054116-01803	1 inch	1.006 in. (25.5 mm)	2.158 in. (54.81 mm)	.735 in. (18.7 mm)	80,000 lbf (355.6 kN)
FWMT, Metric Sizes					
PART NO.	SIZE	ID	OD	HT	CAPACITY
054206-01203	M-6	6.16 mm (.243 in.)	17.12 mm (.674 in.)	6.48 mm (.255 in.)	20 kN (4,496 lbf)
054208-01353	M-8	8.16 mm (.321 in.)	20.52 mm (.808 in.)	9.65 mm (.380 in.)	35 kN (7,869 lbf)
054210-01543	M-10	10.16 mm (.400 in.)	23.95 mm (.943 in.)	10.67 mm (.420 in.)	54 kN (12,140 lbf)
054212-01084	M-12	12.16 mm (.479 in.)	28.22 mm (1.111 in.)	11.56 mm (.455 in.)	80 kN (17,986 lbf)
054214-01114	M-14	14.16 mm (.557 in.)	30.81 mm (1.213 in.)	12.57 mm (.495 in.)	110 kN (24,730 lbf)
054216-01144	M-16	16.16 mm (.636 in.)	34.24 mm (1.348 in.)	13.34 mm (.525 in.)	140 kN (31,475 lbf)
054218-01184	M-18	18.16 mm (.715 in.)	41.14 mm (1.620 in.)	15.11 mm (.595 in.)	180 kN (40,468 lbf)
054220-01224	M-20	20.16 mm (.794 in.)	41.14 mm (1.620 in.)	15.11 mm (.595 in.)	220 kN (49,460 lbf)
054222-01274	M-22	22.16 mm (.872 in.)	47.95 mm (1.888 in.)	16.89 mm (.665 in.)	270 kN (60,701 lbf)
054224-01324	M-24	24.16 mm (.951 in.)	54.86 mm (2.160 in.)	18.67 mm (.735 in.)	320 kN (71,942 lbf)
054230-01404	M-30	30.18 mm (1.188 in.)	71.45 mm (2.813 in.)	25.40 mm (1.000 in.)	400 kN (89,928 lbf)

The 4000 Series Fastener Force Washers can be used along with rotary torque or torque-angle torque sensors and a data acquisition instrument to acquire fastener testing data. Recommended is the Model 960 Data Recorder.

Additional information on fastener force washers and related instrumentation is available from:

RS Technologies, Ltd.
24350 Indoplex Circle
Farmington Hills, MI 48335
Telephone: 248-888-8260
Fax: 248-888-8266
Email: info@rstechltd.com
www.rstechltd.com

