

# SHEAR WEB LOAD CELLS

## FATIGUE RATED SHEAR WEB METRIC (FR - M) SERIES FORCE TRANSDUCERS

### FEATURES

- Fatigue Rated
- Guaranteed for 100 Million Fully Reversed Load Cycles
- Low Height
- Guaranteed Maximum Off-Center Load and Moment Error
- Low Creep
- Low Susceptibility to Magnetic Fields
- Temperature Compensated
- Barometric Pressure Compensation



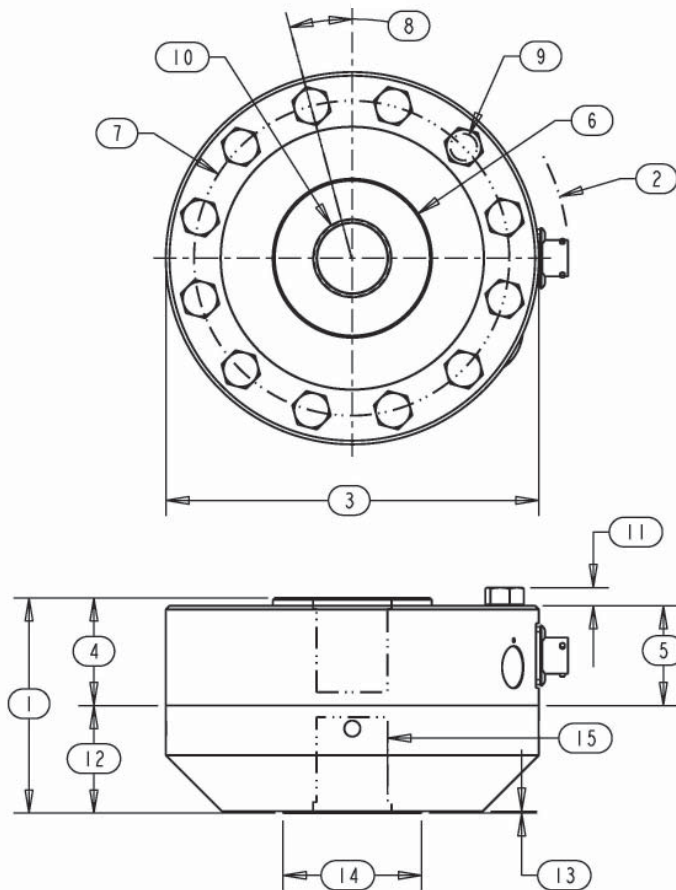
### SPECIFICATIONS

PARAMETERS	MODEL			
	FR10M	FR10M	FR20M	FR30M
	1.25	12.5, 25	50, 125	250
	2.5, 5	12.5, 25	50, 125	250
<b>CAPACITY (kN)</b>				
Accuracy				
Static Error Band, % R.O.	+/- .03	+/- .04	+/- .05	+/- .05
Nonlinearity, % R.O.	+/- .04	+/- .04	+/- .05	+/- .05
Hysteresis, % R.O.	+/- .03	+/- .04	+/- .05	+/- .05
Nonrepeatability, % R.O.	+/- .01	+/- .01	+/- .01	+/- .01
Creep, % in 20 minutes	+/- .025	+/- .025	+/- .025	+/- .025
Off-Center Load Sensitivity, %/inch	+/- .10	+/- .10	+/- .10	+/- .10
Side Load Sensitivity, %	+/- .10	+/- .10	+/- .10	+/- .10
Zero Balance, % R.O.	+/- 1.0	+/- 1.0	+/- 1.0	+/- 1.0
Temperature				
Range, Compensated, °C	-10 to +45	-10 to +45	-10 to +45	-10 to +45
Range, Operating, °C	-55 to +90	-55 to +90	-55 to +90	-55 to +90
Effect on Sensitivity, % Rdg/100°C	+/- .15	+/- .15	+/- .15	+/- .15
Effect on Zero, % R.O./100°C	+/- .27	+/- .27	+/- .27	+/- .27
Electrical				
Rated Output, mV/V, Nominal	1.0	2.0	2.0	2.0
Excitation Voltage, VDC	10	10	10	10
Input Resistance, Ohms	350	350	350	350
Output Resistance, Ohms	350	350	350	350
Insulation Resistance, Megohm	5000	5000	5000	5000
Mechanical				
Safe Overload Range, % R.O.	+/- 300	+/- 300	+/- 300	+/- 300
Weight, kg (lbs.)	.45 (1.0)	1.30 (2.9)	4.13 (9.1)	10.66 (23.5)
Weight w/base, kg (lbs.)	1.13 (2.5)	2.95 (6.5)	9.75 (21.5)	23.81 (52.5)
Flexure Material	Aluminum	Steel	Steel	Steel

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## DIMENSIONS

Review Drawing (in mm)	MODEL			
	FR10M	FR10M	FR20M	FR30M
	CAPACITY (kN)			
	1.25 2.5, 5	12.5, 25	50, 125	250
1. Height Total	65.0	65.0	93.2	118.1
2. Max. Clearance Radius	64.3	64.3	88.9	114.3
3. Cell and Base Diameter	104.8	104.8	154.0	203.2
4. Cell Height to Hub	34.9	34.9	44.5	63.5
5. Cell Body Height	31.8	31.8	41.4	57.2
6. Hub Diameter	32.8	32.8	65.5	95.5
7. Mounting B.C. Diameter	88.9	88.9	130.3	130.3
8. Symmetric B.C. Offset	22.5 degrees	22.5 degrees	15.0 degrees	11.25 degrees
9. Mounting Hole Diameter	7.1	7.1	10.4	13.5
10. Hub Thread	M12 x 1.25, 28.5 Dp.	M16 x 2, 28.5 Dp.	M33 x 2, 38.1 Dp.	M42 x 2, 55.9 Dp.
11. Bolt Head Protrusion	4.5	4.5	7.3	10.1
12. Base Thickness	28.7	28.7	44.5	50.8
13. Base Step Height	.8	.8	.8	.8
14. Base Step Diameter	31.8	31.8	57.2	76.2
15. Base Thread	M12 x 1.25, 22.4 Dp.	M16 x 2, 22.4 Dp.	M33 x 2, 38.1 Dp.	M42 x 2, 44.5 Dp.



## OPTIONS

- Additional bridges
- Output adjustment to standard
- Compression overload protection
- Integral cable
- Custom connectors

## ACCESSORIES

- Mating connector
- Loading fixtures
- Interconnect cable
- Shunt calibration resistor
- Instrumentation

**THE TECHNICAL LEADER IN LOAD CELLS AND FORCE MEASUREMENT**