

MODEL 2090 PRECISION, HIGH CAPACITY HOLLOW FLANGED REACTION TORQUEMETERS

This large bore, high capacity torque meter uses multiple strain gage bridges to help achieve excellent performance and high torsional stiffness. Advanced design and manufacturing methods together with optimal selection of critical materials reduce the effects of temperature gradients and extraneous loads.

Torsion elements are machined from 15-5PH; a high strength stainless steel with outstanding transducer properties. The short length allows use in pump and drill rigs, etc., without major changes to existing machinery. See Bulletin 770 for the theory of reaction torque measurement and for definitions of extraneous loads.

Standard Ratings

MODEL No.	TORQUE RANGE		TORQUE OVERLOAD		TORSIONAL STIFFNESS ¹		MAXIMUM EXTRANEOUS LOADS			
	(lbf-in)	(N-m)	(lbf-in)	(N-m)	(lbf-in/radian)	(N-m/radian)	THRUST (F) ²		BENDING MOMENT (W x D) ²	
							(pound)	(Newton)	(lbf-in)	(N-m)
2090(12-5)	1,200,000	136,000	2,400,000	271,000	3,500,000,000	395,000	480,000	2,140,000	480,000	54,200
2090(18-5)	1,800,000	203,000	3,600,000	407,000	3,900,000,000	441,000	600,000	2,670,000	600,000	67,800
2090(24-5)	2,400,000	271,000	4,800,000	542,000	4,300,000,000	486,000	720,000	3,200,000	720,000	81,300

NOTES: 1. Conservatively rated from flange face-to-face. 2. See Bulletin 770 for definition of extraneous loads.

WEIGHT: 105 LBS.

PINOUT	
PIN	FUNCTION
A	+ EXC.
B	+ EXC. SEN.
C	- EXC. SEN.
D	- EXC.
E	- SIG.
F	+ SIG.

MS3101F 14S-8P CONNECTOR
PIGTAIL IS APPROX 18"

Specifications

Bridge Impedance: (Ohms, Nominal) 350
 Output: (mV/V, Nominal) 1.5
 Zero Unbalance: (% of Full Scale) $\leq \pm 1$
 Nonlinearity: (% of Full Scale, End Point Method) $\leq \pm 0.1$
 Hysteresis: (% of Full Scale) $\leq \pm 0.1$
 Nonrepeatability: (% of Full Scale) $\leq \pm 0.05$

Zero Drift: (% of Full Scale/Degree F) $\leq \pm 0.002$
 Span Drift: (% of Reading/Degree F) $\leq \pm 0.002$
 Compensated Temperature Range: (Degrees F) . . +75 to +175
 Usable Temperature Range: (Degrees F) -65 to +225
 Maximum Allowable Excitation: (Volts, ac or dc) 15
 Extraneous Load Crosstalk: (% of Full Scale, Typical) 1

Specifications and dimensions are subject to change without notice. Certified drawings are available on request.

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