



Model 2080 & 2090/2092 Precision, High Capacity Hollow Flanged Reaction Torquemeters

These large bore, high capacity torquemeters use 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.

Torsional 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)
2080(3-5)	300,000	33,900	600,000	67,790	925,000,000	104,500,000	120,000	533,800	120,000	13,560
2092(12-5)	1,200,000	136,000	2,400,000	271,000	3,500,000,000	395,000,000	480,000	2,140,000	480,000	54,200
2092(18-5)	1,800,000	203,000	3,600,000	407,000	3,900,000,000	441,000,000	600,000	2,670,000	600,000	67,800
2092(24-5)	2,400,000	271,000	4,800,000	542,000	4,300,000,000	486,000,000	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.

	2080	2090	2092
A	18.25	21.005/20.995	21.005/20.995
B	15.00	17.25	17.25
C	12.828/12.830	14.245/14.255	14.495/14.505
D	15.25	17.50	17.50
E	20	32	32
F	0.65625	0.812	0.765
G	17.000	19.000	19.000
H	9	15	15
I	6.110	5.000	5.000
J	0.650	0.750	0.750
K	3-1/16	2-5/16	2-5/16

All dimensions in inches.

PINOUT			
A	+Exc.	D	-Exc.
B	+Exc. Sen.	E	-Sig.
C	-Exc. Sen.	F	+Sig.

Use Model 708+ to display one Torque or Model 788+ for two Torques.

Specifications

Bridge Impedance: (Ohms, Nominal) 350
Output: (mV/V, Nominal) 1.5
Zero Unbalance: (% of Full Scale) ≤±1
Combined Error: (% of Full Scale) ≤±0.1
(Includes effects of nonlinearity, hysteresis and return to zero load)
Nonrepeatability: (% of Full Scale) ≤±0.05

Zero Drift: (% of Full Scale/Degree F) ≤±0.002
Span Drift: (% of Reading/Degree F) ≤±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.

S. Himmelstein and Company

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