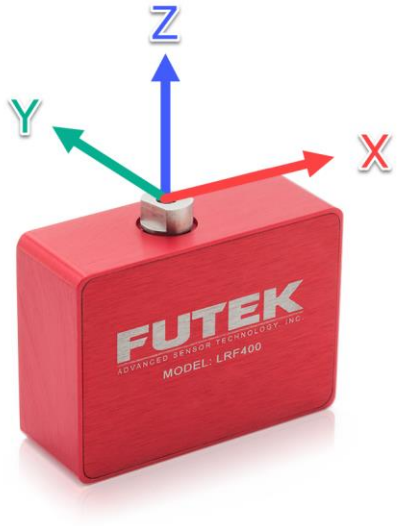
Extraneous Load Factors

Equation: $\sigma_{max} \geq AF_x + BF_y + CF_z + DM_x + EM_y + F$



Material: 2024-T4 Aluminum

Extraneous Load Coefficients:

Capacity [lb]	A	B	C	D	E	F
0.25	*2400*	*24200*	*45400*	*15500*	*1500*	*5360*
0.5	*1870*	*17000*	*24700*	*11000*	*1160*	*4010*
1	*1430*	*11600*	*12900*	*7600*	*900*	*2890*
2.2	*390*	*1800*	*6800*	*1100*	*230*	*1700*
5	*310*	*1100*	*2700*	*670*	*220*	*1000*
10	*290*	*810*	*1400*	*480*	*220*	*730*
25	*250*	*520*	*600*	*310*	*220*	*450*
50	*240*	*430*	*320*	*280*	*220*	*320*
100	*250*	*410*	*200*	*270*	*220*	*220*

***All Force and Moment to be calculated using lb and in-lb units**

σ_{max} Table:

Material	Static Load (=60% Y.S.)	Fatigue (Non-Reversing Loads)	Fatigue (Full Reversing Loads)
2024-T4/T351	28,000	18,000	15,000*

***Value is 75% of Fatigue Strength based on 10-20 x 10^6 cycles and allow for factors that influence Fatigue such as surface finish, stress concentrations, corrosion, temperature, and other variables for the production of the transducer, for infinite Fatigue Life (100 x 10^6) use 75% of values shown.**

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