FUTEK
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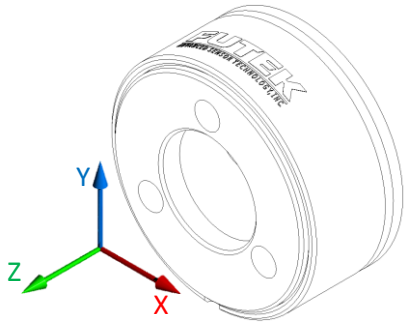
MODEL #QTA141

Extraneous Load Factors

Equation: $\sigma_{max} \geq$ (A)Fx +(B)Fy +(C)Fz +(D)Mx +(E)My +(F)Mz



Material: Aluminum 2024-T4 (*AL)

Model #	Capacity (in-lb)	A[$\frac{1}{in^2}$]	B[$\frac{1}{in^2}$]	C[$\frac{1}{in^2}$]	D[$\frac{1}{in^3}$]	E [$\frac{1}{in^3}$]	F[$\frac{1}{in^3}$]
QTA141	***8.851***	830	940	110	560	640	3,110

σ_{max} **Table**

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

*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.

Deflection & Natural Frequency

Material	Capacity (in-lb)	Torsional Stiffness (in-lb/rad)	Natural Frequency (Hz)
2024-T4/T351	8.851	3,600	7,700