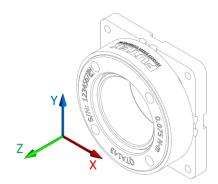


MODEL #QTA143

Extraneous Load Factors

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



Material: Aluminum 2024-T4 (*AL)

Model #	Capacity (in-lb)	$A[\frac{1}{in^2}]$	$B[\frac{1}{in^2}]$	$C[\frac{1}{in^2}]$	$D[\frac{1}{in^3}]$	$E\left[\frac{1}{in^3}\right]$	$F[\frac{1}{in^3}]$
QTA143	6.638	1,040	1,040	360	1,060	1,060	2,430

σ_{max} Table

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

^{*}Value is 75% of Fatigue Strength based on $10-20 \times 10^6$ 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 (100×10^6) use 75% of values shown.

Deflection & Natural Frequency

Material	Capacity (in-lb)	Torsional Stiffness (in-lb/rad)	Natural Frequency (Hz)
2024-T4/T351	6.638	6,300	8,790

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