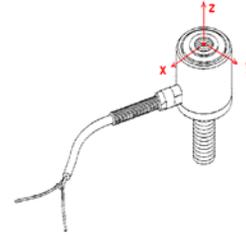


Extraneous Load Factors



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

Material: 17-4 P.H. Stainless Steel

Model #	Capacity (lb)	A	B	C	D	E	F
LCB200	1,000	435.01	435.01	47.76	561.80	561.80	511.83
	2,000	307.98	307.98	28.40	336.12	336.12	263.29
	3,000	312.84	312.84	23.53	324.73	324.73	311.93

σ_{max} **Table**

Material	Static Load (=60% Y.S.)	Fatigue (Non Reversing Loads)	Fatigue (Full Reversing Loads)
17-4PH S.S	87,000	78,000	62,000*

*Value is 75% of Fatigue Strength based on 10-20 x 10⁶ 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 10⁶) use 75% of values shown.

Deflection & Natural Frequency

Model #	Capacity (lb)	Deflection (in.)	Natural Frequency (Hz)	β
LCB200	1,000	0.0007	17,800	0.0440
	2,000	0.0010	21,100	0.0440
	3,000	0.0010	24,700	0.0481

Natural Frequency & Frequency Response Equation's:

$$\text{Natural Frequency (FN)} = 3.13 \sqrt{\frac{1}{\frac{\beta}{Capacity} \cdot Deflection}} \text{ (Hz)}$$

$$\text{Frequency Response with load (FR)} = 3.13 \sqrt{\frac{1}{\frac{\beta + AppliedLoad}{Capacity} \cdot Deflection}} \text{ (Hz)}$$

*Where β values are obtained by Futek Engineers

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