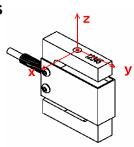


Extraneous Load Factors

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



Material: 17-4 P.H. Stainless Steel

Model #	Capacity (lb)	A	В	C	D	E	F
LSB303	10	864.52	211.78	4296.01	151.27	548.73	630.94
	25	619.71	209.95	1911.78	150.40	407.33	423.14
	50	468.92	211.46	988.27	140.61	319.68	307.82
	100	327.22	211.55	460.62	138.01	217.88	229.11
	200	265.48	210.61	264.36	133.35	194.15	169.15
	300	230.63	208.79	186.93	125.87	183.95	143.09

$\sigma_{ m max}$ 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

Deflection & Natural Frequency

Model #	Capacity (lb)	Deflection (in.)	Natural Frequency (Hz)	β
	10	0.02	160	0.2000
	25	0.02	250	0.2000
LSB303	50	0.01	500	0.2000
LSDSUS	100	0.01	700	0.2000
	200	0.01	1,000	0.2000
	300	0.01	1,200	0.2000

Natural Frequency & Frequency Response Equation's:

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

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

*Where eta values are obtained by Futek Engineers

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