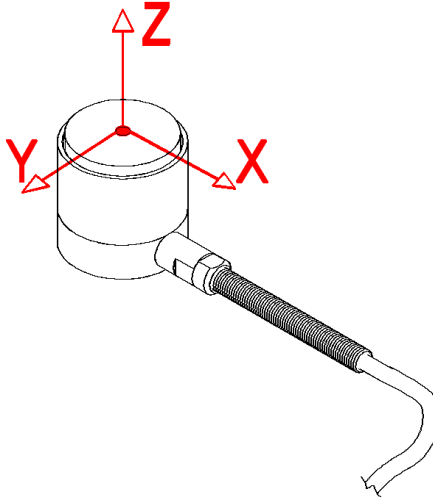


## Deflection & Natural Frequency



Material	Model	Capacity (lb)	Deflection (in.)	Natural Frequency (Hz)	$\beta$
(S.S.*)	LCA300	2,000	0.001	38,000	0.0128
		3,000	0.002	38,000	0.0128
		5,000	0.002	43,000	0.0161
	LCA305	7,500	0.001	44,100	0.0266
		10,000	0.001	50,000	0.0325
	LCA310	15,000	0.003	22,000	0.1144
		20,000	0.003	24,300	0.1303
		30,000	0.004	24,300	0.1302

\*FN results are based on calculation of deflection & weight scene on Sensor arm.

### Natural Frequency & Frequency Response Equation's:

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

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

\*Where  $\beta$  values are obtained by Futek Engineers

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