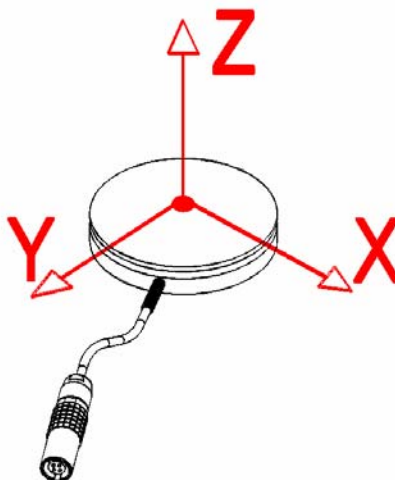


## Deflection & Natural Frequency



Material	Capacity (lb)	Fz Deflection (in.)	Natural Frequency (Hz)	$\beta$
17-4 S.S.	10	0.002	550	0.1600
	25	0.002	850	0.1547
	50	0.002	1,300	0.1492
	100	0.002	1,800	0.1406
	300	0.005	2,300	0.1181

\*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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