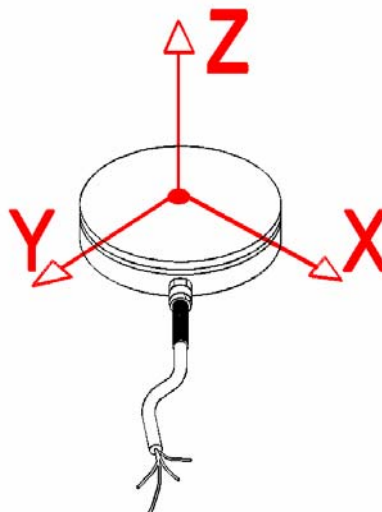


## Deflection & Natural Frequency



Material	Capacity (lb)	Fz Deflection (in.)	Natural Frequency (Hz)	$\beta$
17-4 S.S.	300	0.003	1,700	0.3707
	454	0.003	2,100	0.3691

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

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

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

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

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

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