

## VIBRATION CALCULATION FOR BAR STOCK

According to ASME PTC 19.3 standard

$$F_w / F_n < 0.8$$

$$F_w = 2.64 (v/b)$$

$$F_n = (K / L^2) vE/R$$

Where,  $F_w$  = well frequency

$F_n$  = natural frequency,

$v$  = fluid velocity in fps,

$b$  = diameter of tip of Thermowell,

$K$  = constant obtained from table 1.4 of ASME PTC 19.3,

$L$  = length of the Thermowell,

$E$  = modulus of elasticity of Thermowell material;  $28 \times 10^6$  psi,

$R$  = specific weight of metal; 0.29 lbs/inch<sup>3</sup> ME PTC 19.3 standard.

### Temperature Sensor Technology