

# Vibration Tester

FLUKE®

810

Quick  
Reference  
Guide

## Sensor Placement and Orientation

### Mounting Options



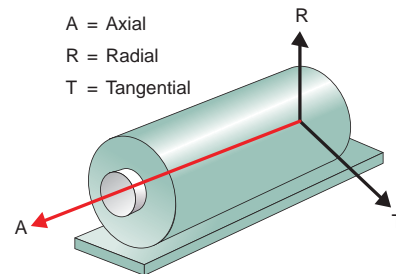
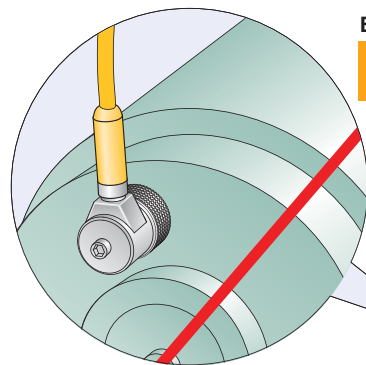
### Top/Bottom



### Side

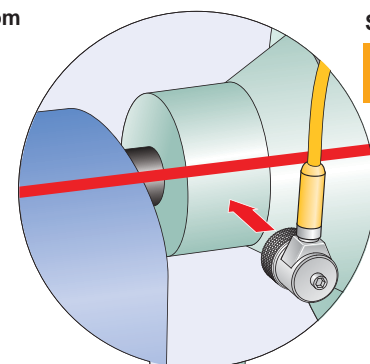
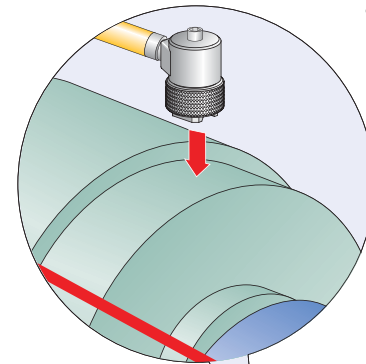
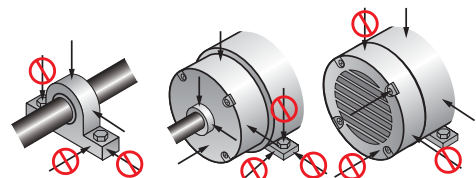


### End

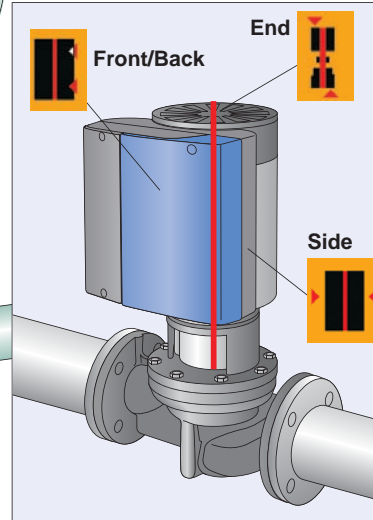


A = Axial  
R = Radial  
T = Tangential

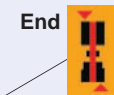
### Measurement Locations



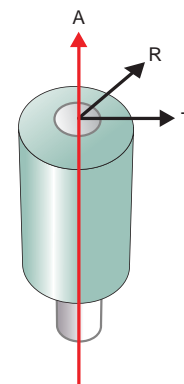
### Vertical Motor Mount



### Front/Back



### Side



KW = Other than US  
HP = US

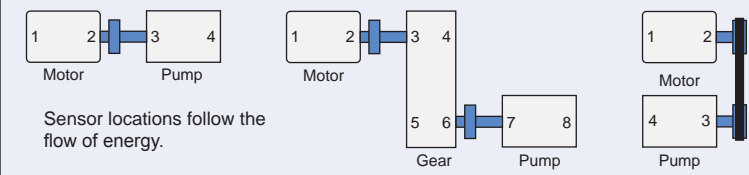
Motor Nameplate									
MODEL NO.	12345 k	VOLTS	VOLTS						
HP	3/4	AMP	2.7 - 2.8 / 1.4 & 3.0 - 3.6 / 1.9						
FR	56 C	HZ	60 & 50	SFA	2.7 - 2.8 / 1.4 & 3.0 - 3.6 / 1.9				
RPM	1725 & 1425	BRGS	BALL	NEMA	B	PH	3	208-230 VOLTS	440 VOL
MAX	40° C	DUTY	CONT	INS	CL	A			
TYPE	PF	LR KVA	CODE	K	SF	1.0	NEMA	MOM EFF	78.5
ENCL	TEFC	MTR REF	R12345K	K1028					

RPM

Bearing Type

Hz

## Sensor Location Numbering



## Measurement Tips

- If the driving motor has >40 HP (29.8 kW) and is >40 inches (101.6 cm), take two measurements from each component in the drive train. If not, one measurement per component is sufficient.
- Place the triaxial Sensor on a solid metal surface (not fan shrouds or cooling fins) as close to the machine bearings as possible. Use the same locations and Sensor orientations over time to ensure consistent diagnoses.
- Attach the Sensor to a clean, flat, bare metal surface if possible.
- Sensor position should be parallel or perpendicular to the floor whenever possible.
- Hold the Sensor firmly and carefully roll the Sensor onto the test surface to minimize the potential for impact.

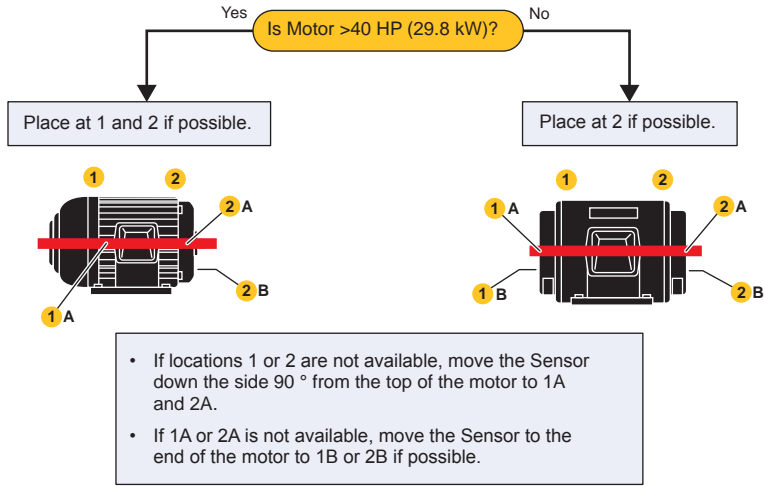
## Severity Scale



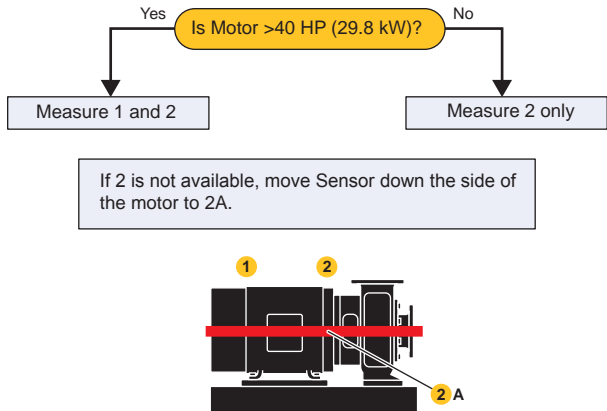
<b>Slight</b>	No repair action is recommended. Retest the machine and monitor the condition after maintenance.
<b>Moderate</b>	(Months, even up to a year) – No immediate repair action is required. Increase the frequency of measurements and monitor the condition of the machine.
<b>Serious</b>	(Weeks) – Take maintenance action during the next planned downtime or maintenance period.
<b>Extreme</b>	(Days) – Immediate action is required. Consider shutting down the equipment and taking repair action now to avoid failure.

Motor Input (Driver)

Coupled Motors

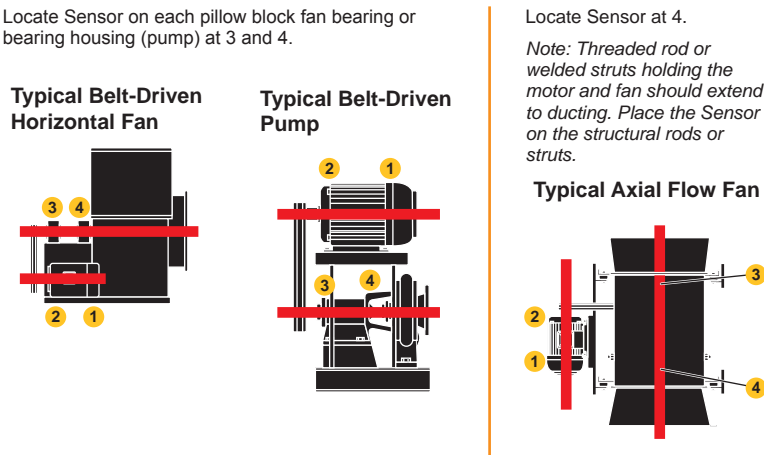


Motor Close-Coupled Pumps and Fans



Transmission

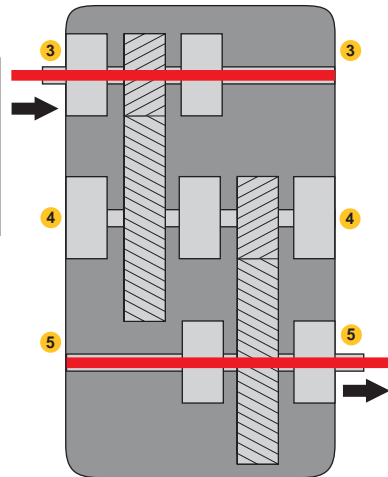
Belt/Chain Driven Machines



Gearbox

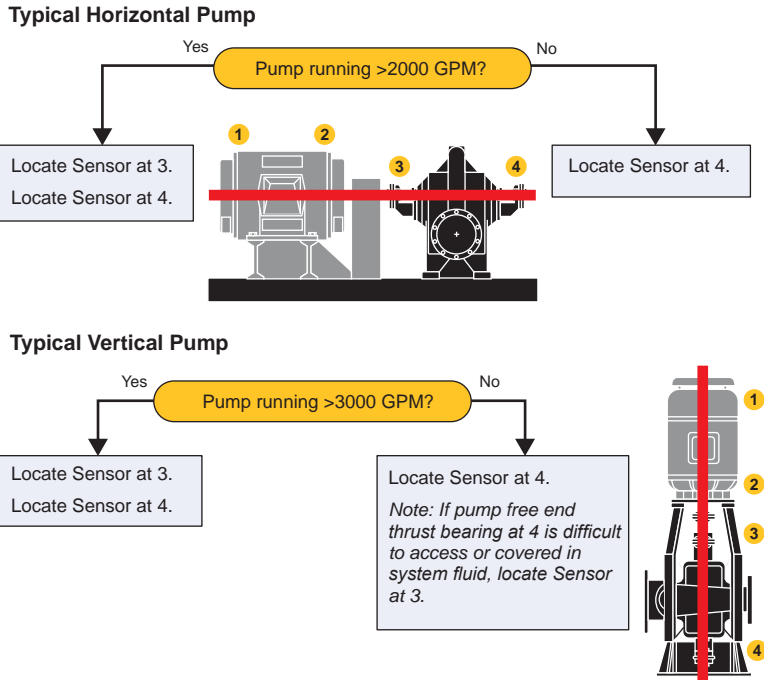
Double-Reduction Gear Internal View

- Preferred locations:
- 1st bearing on the input shaft, preferably thrust bearing at 3.
  - Last bearing on the output shaft at 5.



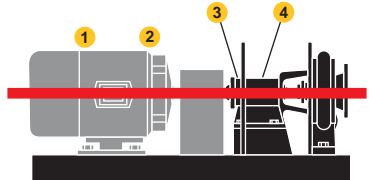
Driven Components

Centrifugal Pumps



Overhung Coupled Pumps - Horizontal

- Preferred pump locations:
- Place the Sensor as close to the bearing as possible, preferably on top at 3 and 4.
  - If 3 is not accessible, then measure at 4.

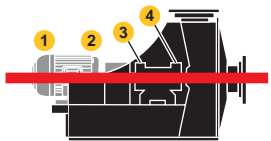


Fans

Typical Gland Exhaust Fan

Preferred location at 3 and 4

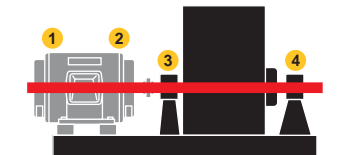
Note: If top of housing is inaccessible, select position on the side of housing.



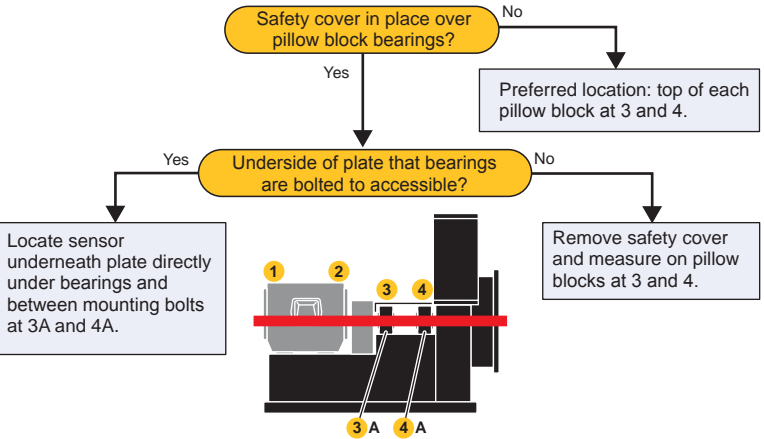
Typical fan with pedestal bearings

Preferred locations at 3 and 4

Note: Greater vibration isolation due to longer shaft and pedestal bearings requires measurement at both fan bearing locations.



Typical ventilation fan / forced shaft blower



Compressor Single Stage (Screw)

Preferred location at 3 and 4 between screw bearing at each end.

