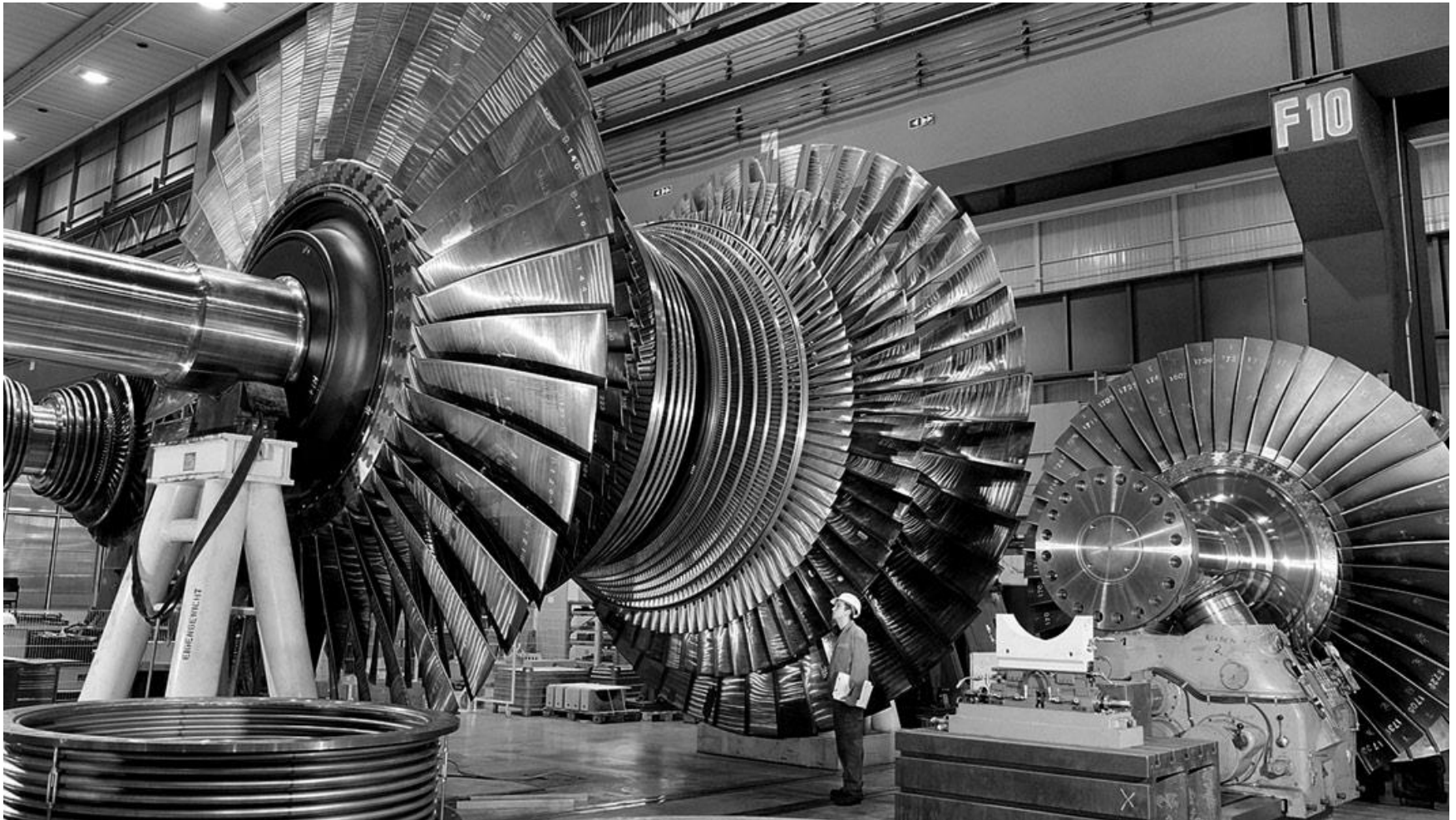

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Accelerometer mounting and installation techniques Wilcoxon Research® products

August 20124

MEGGITT

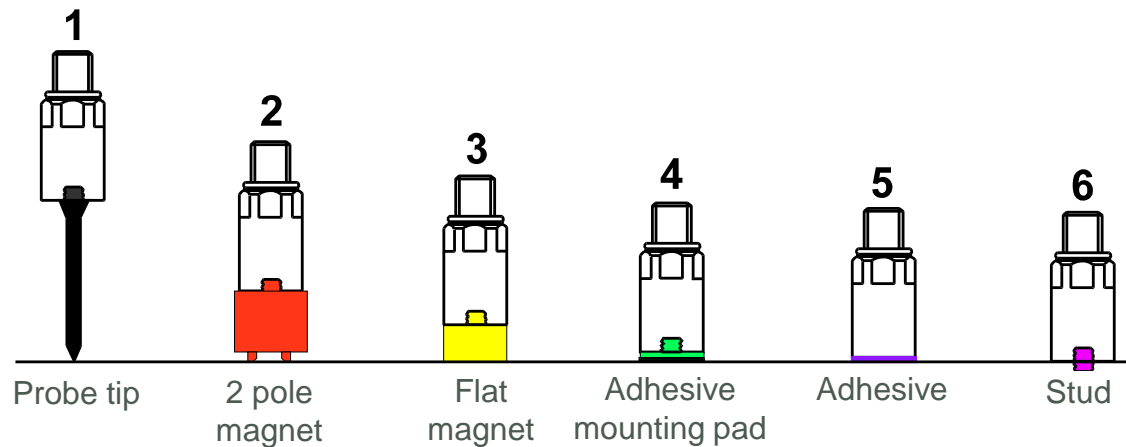
Mounting considerations

- » Is the location for monitoring in a safe, accessible location?
- » Can the accelerometer be permanently mounted?
 - Can the machine be faced properly?
- » Mounting location
 - Where is the best location?
 - Are there obstacles?
- » What are the frequencies of interest?

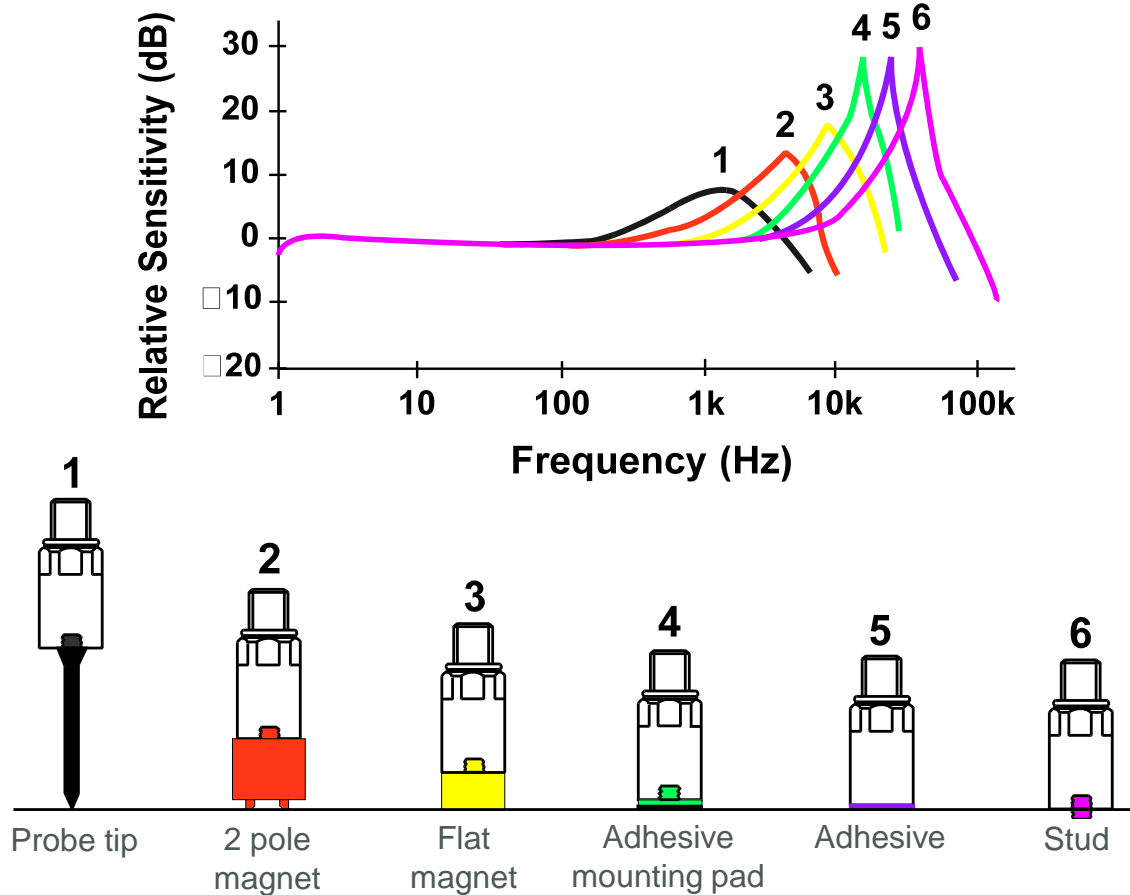


Accelerometer mounting options

- » Hardware selection
- » Mounting location
- » Surface preparation
- » Mounting resonance

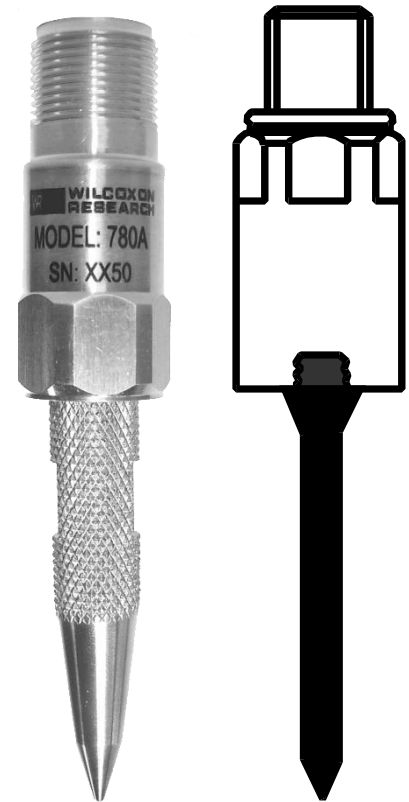


Mounting technique determines mounted resonance



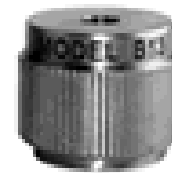
Probe tips

- » Use on difficult to reach areas and aluminum motor frames
- » Do not use for measurements less than 10 Hz
- » Mounted resonance 800 – 1,500 Hz

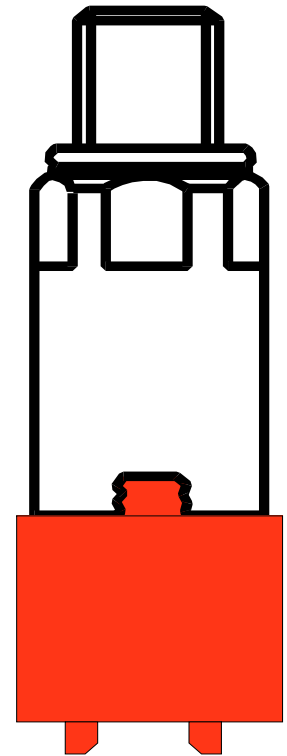


Magnets for curved surfaces

- » Use on irregular and curved surfaces
- » Made of SmCo26 (samarium cobalt)
- » Includes 1/4-28 stud
- » Mounted resonance 3,000 – 7,000 Hz



Wilcoxon B13 magnet

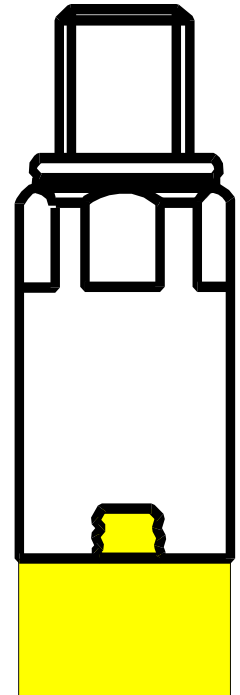


Magnets for flat surfaces

- » Use on flat surfaces or magnet pads
- » Magnet made of rare earth material
- » Some have an integral 1/4-28 mounting stud, others have a 1/4-28 tapped hole
- » Other stud sizes are available
- » Mounted resonance 5,000 - 10,000 Hz



Wilcoxon B3 magnet

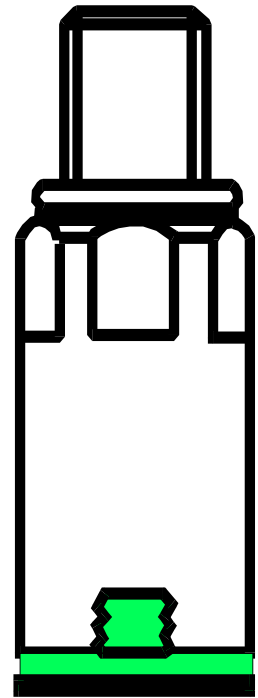


Adhesive mounting pads

- » Provides adequate frequency response
- » Models available for most common thread sizes
- » Models available with tapped holes for use with captive screw accelerometers

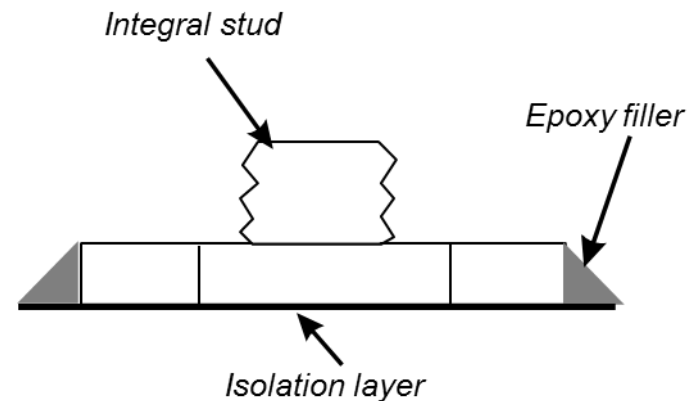


Wilcoxon SF8 mounting pad



Adhesive mounting

- » Spot face surface
- » Abrade surface
- » Clean surface
- » Use proper adhesive
 - VersiLock® 406 / Cat 19
 - Loctite® Depend
 - Loctite® Liquid Metal
- » Use proper mix ratios

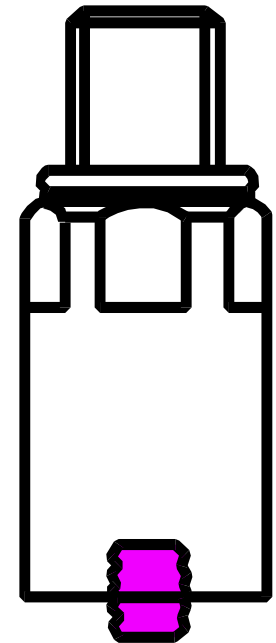


Mounting studs

- » Provides highest frequency response
- » Various stud sizes are available
- » Captive screws with are available with various mounting threads

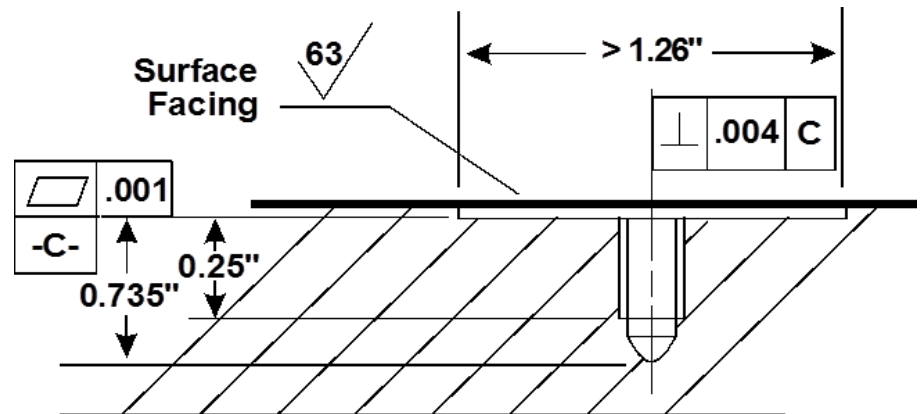


Wilcoxon SF6 mounting stud



Stud mounting

- » Tap drill hole to proper depth
- » Spot face surface perpendicular to hole
- » Tap proper threads
- » Ensure flatness, surface texture and perpendicularity



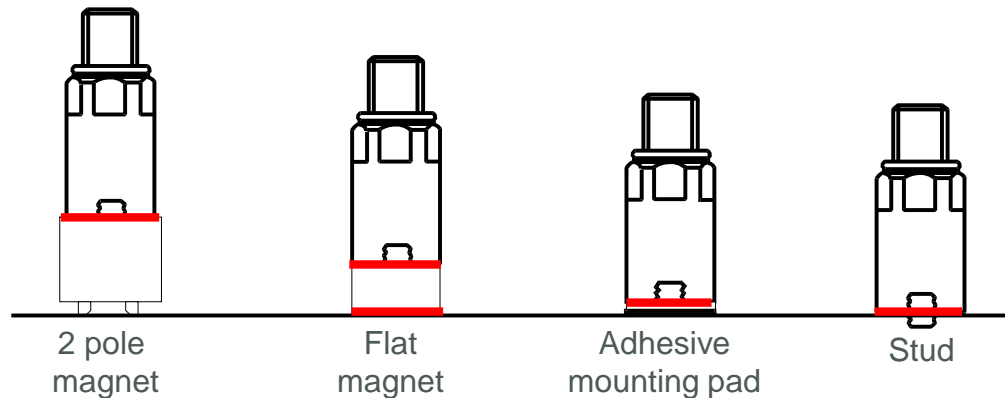
Advantages of permanently mounted sensors

- » Safety
- » Convenience
- » Repeatability of data
- » Faster data collection
- » Reduces auto collection errors

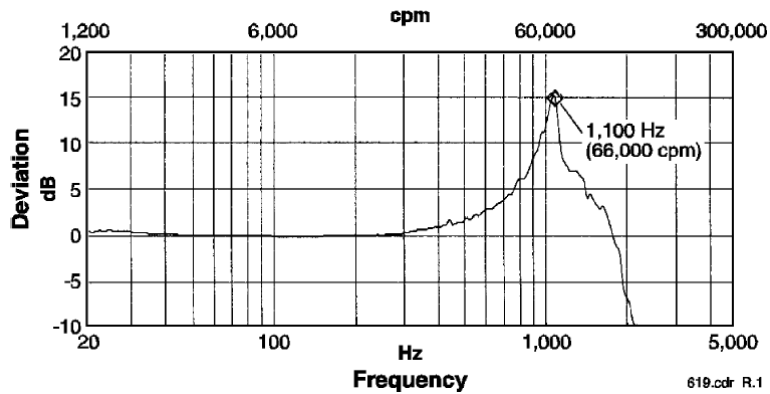


Coupling fluids

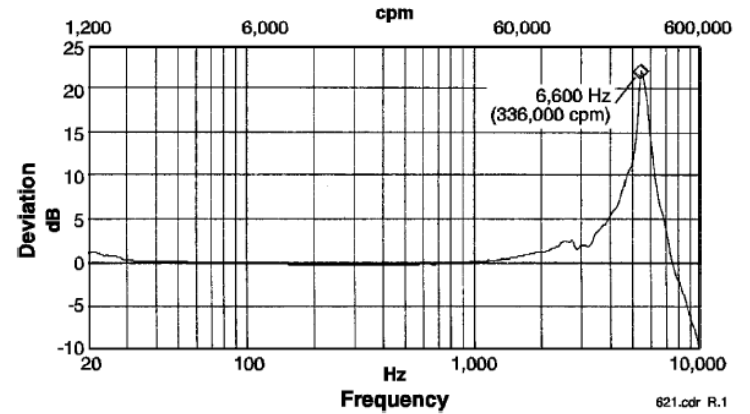
- » Coupling fluids should be used between the sensor and mounting surface interfaces
- » Coupling fluids include:
 - Silicone grease
 - Oil
 - Petroleum jelly / beeswax



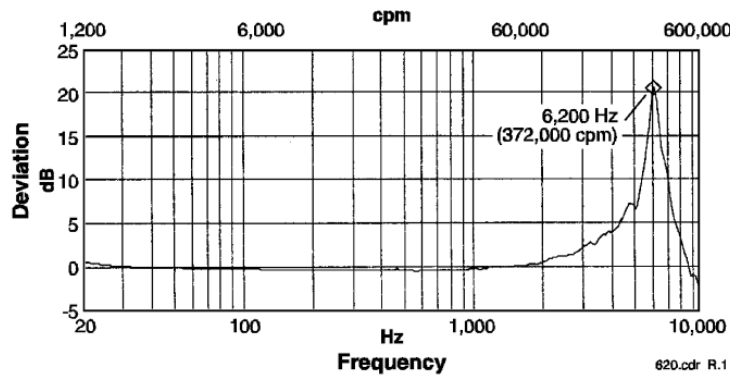
Mounting responses



Probe tip



Flat magnet



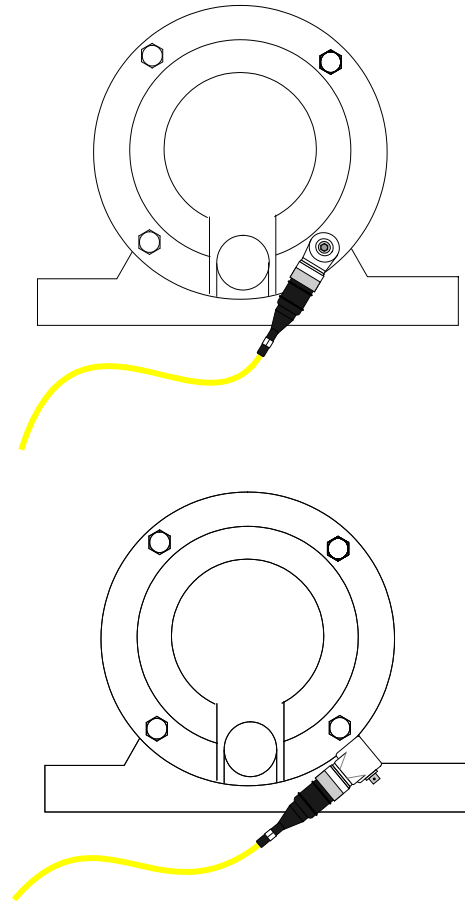
Curved surface magnet

Mounting resonance

- » Mounting resonance can amplify high frequency signals and increase overload
- » Mounting resonance can appear to be severe rolling element and gear mesh faults

Mounting location

- » Mount in the load zone
- » Mount as close to the point of interest
- » Use low profile, side exit sensors for confined areas
 - Allows for neat cable routing



Permanent monitoring solutions

Switchboxes

- » Provide connection centers for terminating cables
- » Connections to portable data collectors.
- » Used in most industrial applications



VibraLink VLS
switchbox

Thank you

