



Advanced Mounting System for Reverse Mount Eddy Current Probes

Oil-tight, with Insulating Connection Head
and Once-for-all Gap Adjustment



Reverse Mount Eddy Current Probes

Eddy Current probes are used in rotating equipment to monitor vibration, axial position or absolute and relative expansion.

Basically there are two different types: "standard mount probes" which are screwed directly into to the machine housing and "reverse mount probes", which are installed by means of a mounting sleeve.

The reverse mount type has several advantages:

- Since there is only one type of length, the spares management for reverse mount probes becomes very easy.
- The reverse mount probes are properly installed by using the right length of the mounting sleeve. Using the standard mount probes you would have to consider the installation location by using a certain probe length or thread length each time.

Disadvantages of Conventional Probe Holder Systems

- So far it was common practice to completely readjust the gap after each disassembly.
- The probe is always connected to a transmitter via an extension cable. Humidity at the contacts as well as ground fault caused by touching the housing leads to measurement errors. Conventional connection heads are made out of aluminum or other conductive material.
- Common connection heads offer only little volume to store the excess length of the probe cable. Thus cables often get squeezed and damaged during installation.
- The crimped connection between cable and plug sometimes breaks if the tensile load causes an incorrect bend radius. Without special tools the crimp connection cannot be repaired.
- Shaft vibration sensors are typically installed in bearing housings with a hot oil atmosphere inside. Often it is a problem that the thread is not oiltight.

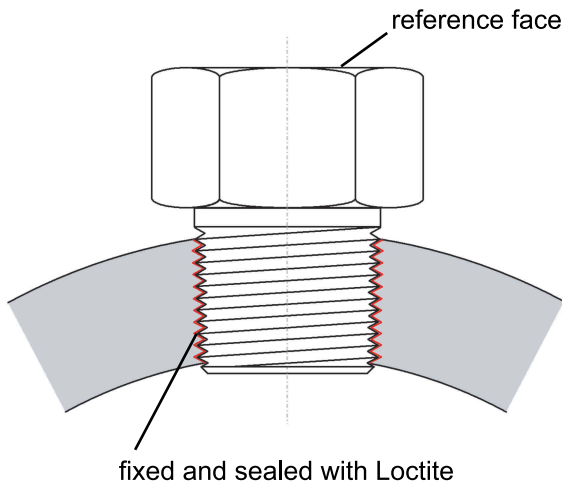


Highlights of the Probe Mounting System

Made by kmo turbo

1. Easy Mounting due to a Threaded Insert

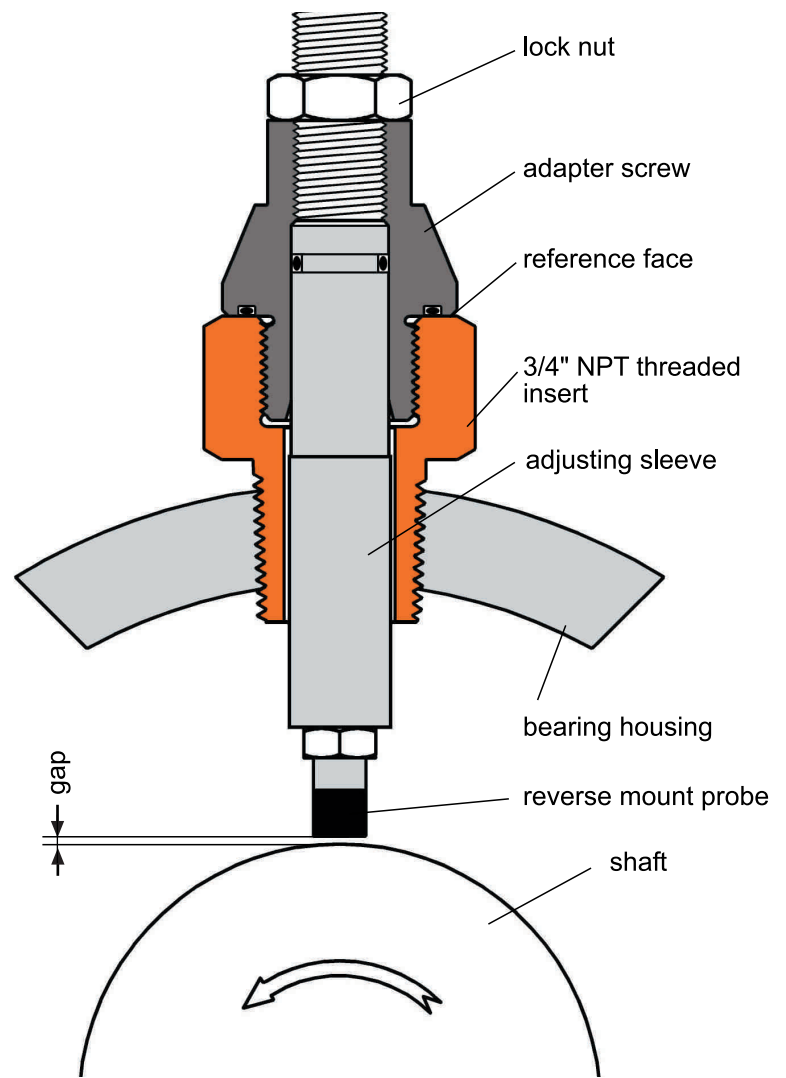
Even a thin-walled casing is sufficient for installation of the 3/4" NPT threaded insert. Due to the conical NPT thread and the additional sealing with Loctite the threaded insert will be absolutely oiltight.



2. Once-For-All Gap Adjustment

The reverse mount probe is screwed into the the adjusting sleeve. The adjusting sleeve is screwed into the adapter screw. The adapter screw is screwed into the insert. The flat top of the insert is the reference face.

The gap between probe and shaft surface is adjusted for the first time by turning the adjusting sleeve and then fixed with a lock nut. **At future disassemblies not the adjusting sleeve but the adapter screw is released.** This ensures exactly the same gap after reassembling without any need for readjustment.

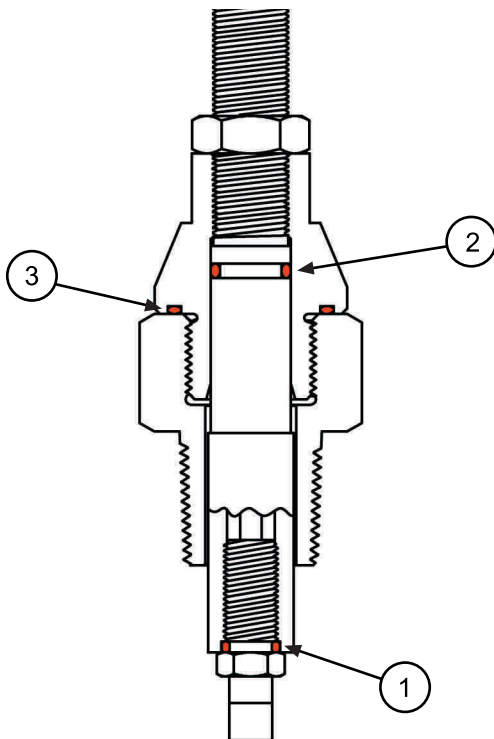


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3. Reliably Oil-Tight

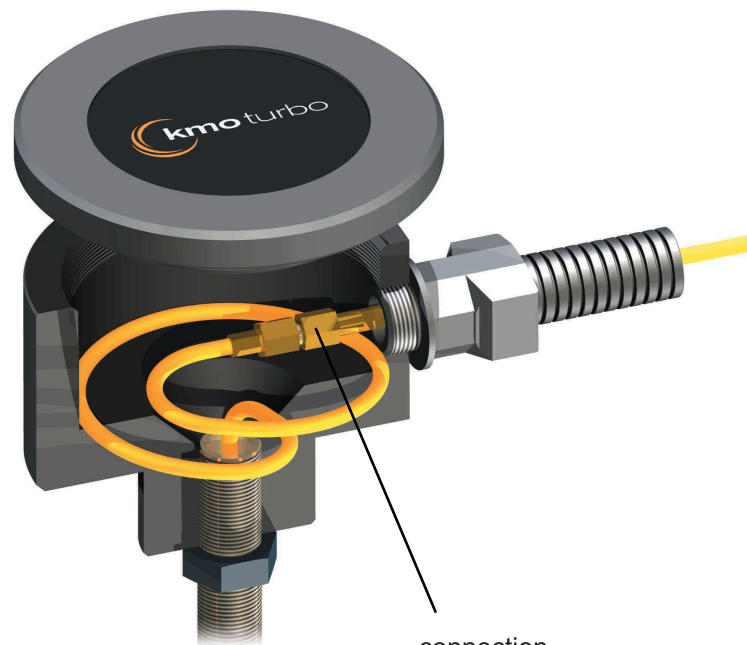
The reverse mount probe which is screwed into the adjusting sleeve is sealed with an O-ring (1). A further O-ring seal (2) is located between adjusting sleeve and adapter screw. Last but not least the adapter screw is sealed axially with an O-ring (3) against the flat top of the insert.

Even if there is hot oil mist and even overpressure inside the bearing housing, the O-rings guarantee absolute oiltightness.



4. Connection Head with Many Advantages

- Sufficiently dimensioned for safe winding of the cable without exceeding the minimum allowable bending radius.
- The connection head is adjusted so the extension cable points to the correct direction. This position then is fixed with a lock nut.
- The connection head is made of non-conductive material. Even if the connection touches the wall of the housing there is no ground fault.
- A standard conduit is fixed by a screwed cable fitting.



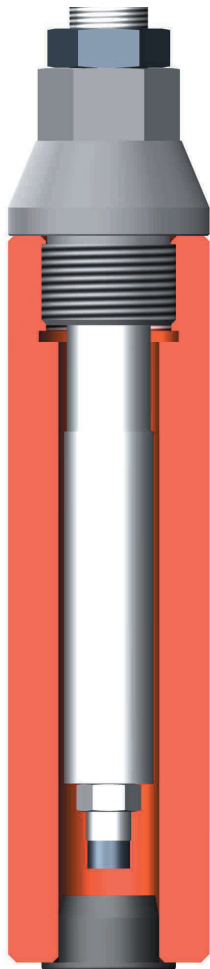
connection
between probe cable
and extension cable

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5. Rugged Protective Sleeve for Disassembled Probe

As known by experience, probes are often damaged after disassembling the probe holder due to inappropriate depositing. The **kmo** mounting system provides a rugged protective sleeve to safeguard probe and adapter screw.





The Reverse Mount Probe Mounting System of kmo turbo

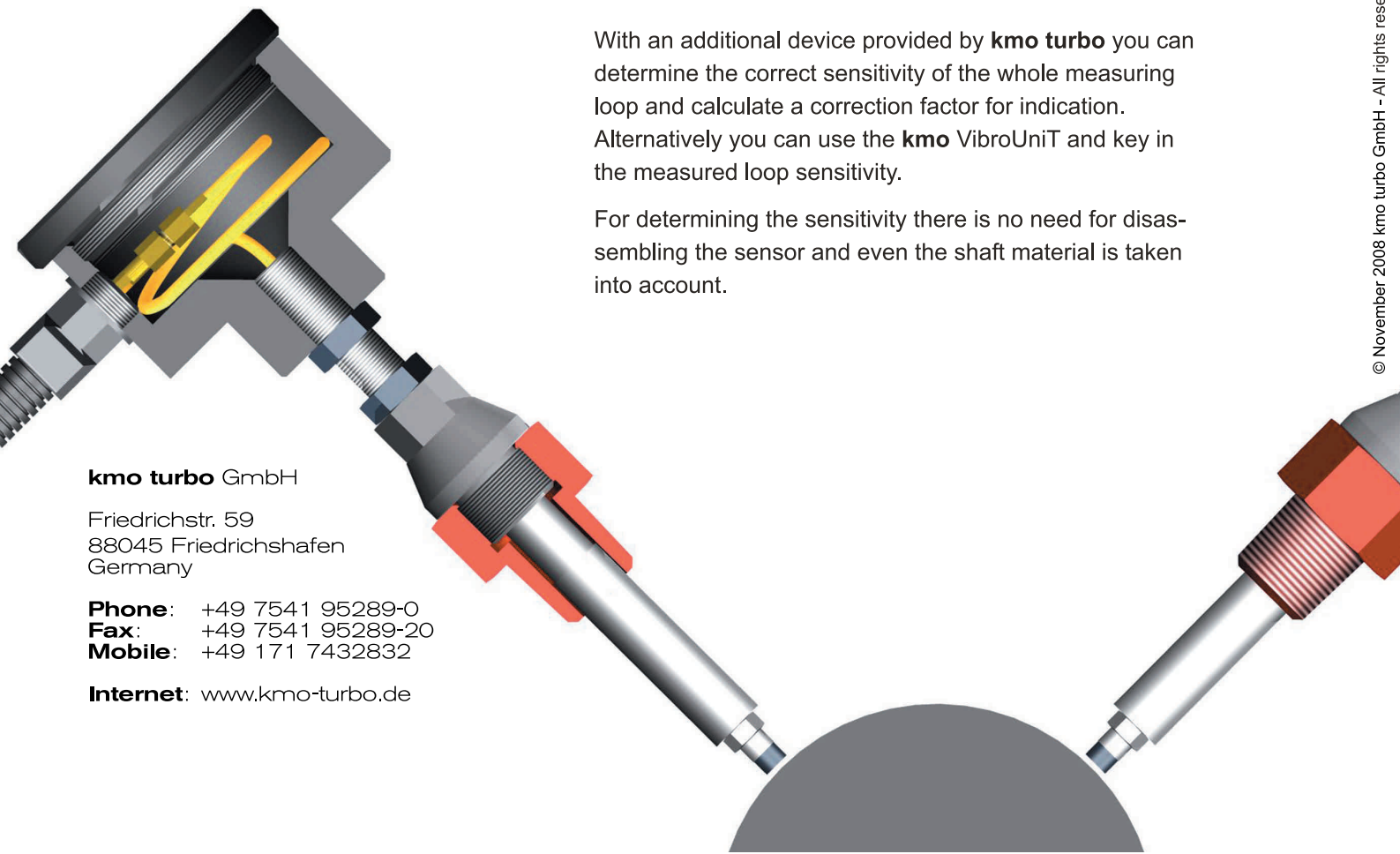
kmo turbo has developed an own mounting system for reverse mount Eddy Current probes (patent pending), which is superior to the disadvantages of conventional probe holder systems.

- Due to the reference face on a special insert the gap between probe and shaft has to be adjusted only once for all.
- Due to three O-ring seals the system is absolutely oiltight.
- A big volume connection head protects against damaging the cable by inappropriate handling.
- A non-conductive material for the connection head protects reliably against ground fault.
- Disassembled probes are protected by rugged sleeves.

With the optional **kmo** GAP Tester the user obtains a measuring equipment for most efficient adjustment of the probe gap.

With an additional device provided by **kmo turbo** you can determine the correct sensitivity of the whole measuring loop and calculate a correction factor for indication. Alternatively you can use the **kmo** VibroUniT and key in the measured loop sensitivity.

For determining the sensitivity there is no need for disassembling the sensor and even the shaft material is taken into account.



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