Product description

to

cone clamping element

Patent number: DE 102021105279

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Technical overview:

- Double cone with multiple slots at both ends in axial direction
- for highly accurate concentricity
- Patent publication: 09.2022
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Beschreibung:

Previous shaft-hub connections for rotary encoders require a high level of fitting and dimensional accuracy on the shaft and bore. With a standard clearance fit connection, good concentricity results are only achieved to a limited extent. This runout problem is solved by our patented double cone element.

The double slotted method allows the elasticity of the cone element in radial direction. Due to the length, number, arrangement and geometry of the slots and the cone, the elasticity of the cone element acts on the shaft as an absolutely backlash-free connection with excellent concentricity properties.

Application:

Excellent for:

- Hubs for clock discs
- Hubs for round magnets
- Hollow shaft mounting for rotary encoders

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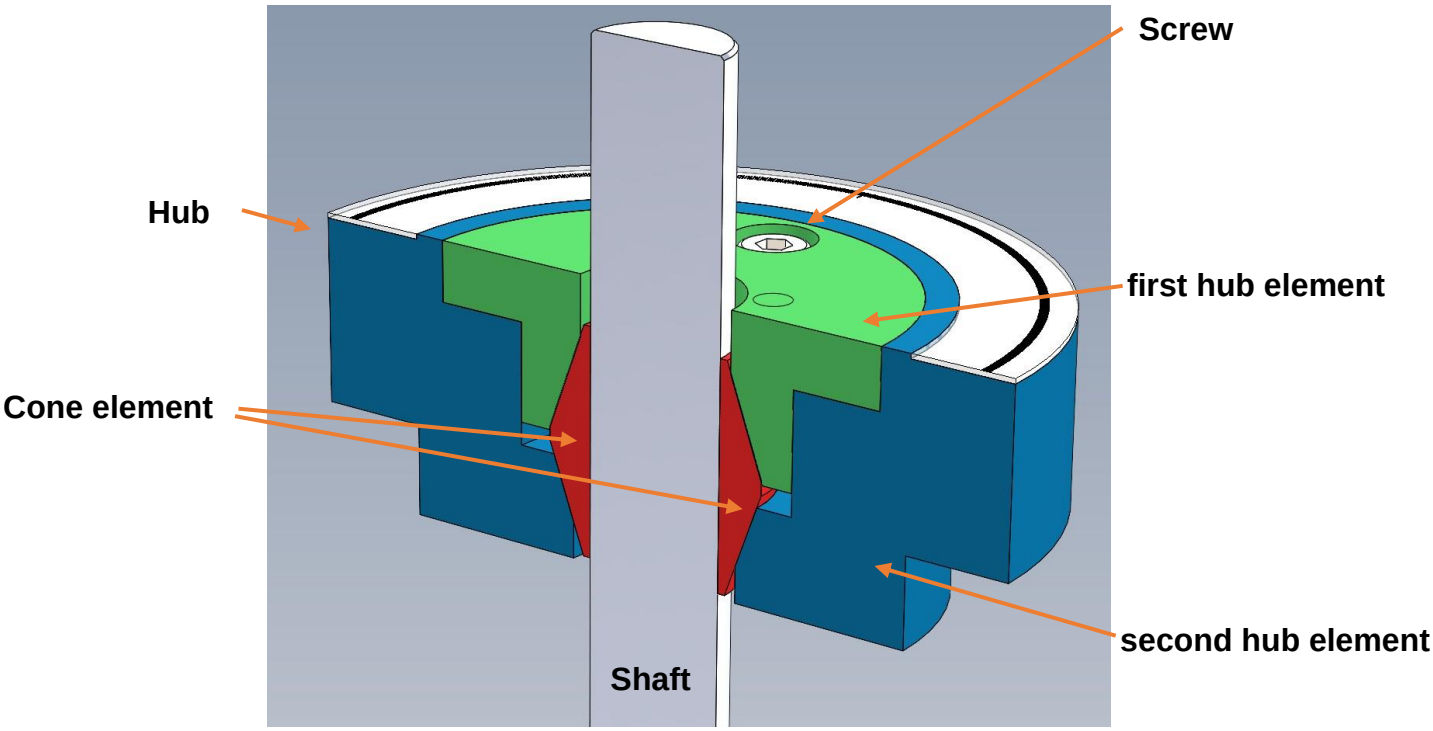
Structure:



A sectional view of a shaft-hub connection with the cone element shown

Installation:

second hub element, cone element and first hub element

Inserting the cone element

Advantages:

- Significant improvement in signal quality
- Particularly good concentricity and concentricity between shaft and hub
- Concentricity error ≤ 0.005 mm
- Lower signal sitter
- Application on different shaft diameters possible, e.g., 9.5 mm to 10 mm
- Up to 0.5 mm shaft tolerances are bridged
- Tolerance compensation takes place without concentricity losses
- Simple and inexpensive design of the evaluation electronics
- Shaft diameters from ⌀ 6 to ⌀ 60, others on request

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