

# Ex Mineral Insulated Thermocouple model 2F

for operation in the hazardous areas with gas or dust

In general



The temperature sensors manufactured by Reckmann GmbH (R58®) are solely intended for the measurement of process temperatures in solid, liquid and gaseous media. This design allows a direct flanging to the weld-neck-flange of a process vessel or a pipeline

## Application area:

Autoclave, machine and plant engineering, chemicals industry, power plant technology, industry of building materials, recycling.

Depended on electrical and thermal parameters for operating with the following types of protection:

II 1/2G Ex ia IIC T1...T6 Ga/Gb or

II 1/2D Ex ia IIIC T135 °C Da/Db.

**For installation please see our operating instructions.**

**Stock-number-code: TR15-E.**

## Technical datas

- **Connection head** (fig. 1/1) according to DIN EN 50446.  
Standard connection heads: Form B-G12, B-KL, B-VA, BA-KL, BA-KLH, B-KUKL, B-KUHKL. Dimension see page 2.
- **Protection shell** (fig. 1/3 up to 5) according or similar to DIN 43772.  
Standard material 1.4571.  
Standard diameter 9 or 11 mm.
- **Process connection** (fig.1/4) by welded blind flange according to DIN EN 1092-1 Typ 05 or ASME B 16.5.  
Standard flange DN25 / DN50 PN40 model B1.
- **Measuring insert** (fig.1/2) replaceable according or similar to DIN 43735.  
Sensor depended on use:  
with 1 or 2 thermocouples according to IEC / EN 60584-1.  
Recommended operating temperature MIT (fig. 1/5) depended on the thermocouple type and diameter:  
Type J: Ø 3,0 mm up to 520°C, Ø 4,5 up to 620°C, 6,0 und 8,0 mm up to 720°C.  
Type K: Ø 3,0 mm up to 1070°C, Ø 4,5; 6,0 and 8,0 mm up to 1100°C.  
Type N: Ø 3,0 mm bis 1070°C, Ø 4,5; 6,0 and 8,0 mm up to 1100°C.  
Type E: Ø 3,0 mm up to 650°C, Ø 4,5 up to 730°C, 6,0 und 8,0 mm up to 820°C.  
Type T: Ø 3,0 mm up to 315°C, Ø 4,5 / 6,0 and 8,0 mm up to 350°C.  
**Notice:** Process temperatures above 450 °C are only possible with appropriate process decoupling. Double sensor with exi-transmitter only on request.
- **Sheath material** according to IEC / EN 61515.  
Standard material 1.4404,  
Standard diameter 3 or 6 mm.
- **Protection shell** (fig. 1/3 up to 5) the following demension are acceptable:  
outer diameter(D) ≥ 6,0 mm, wall thickness(S) ≥ 1,0 mm, ground hight ≥ 1,3 x S [mm].  
neck tube length (HLR) max. 2000 mm.  
fitting length (EBL) max. 6000 mm.
- **Optional materials** for gas and dust explosion protection:  
see ex operating instructions chapter 4 X-Conditions .

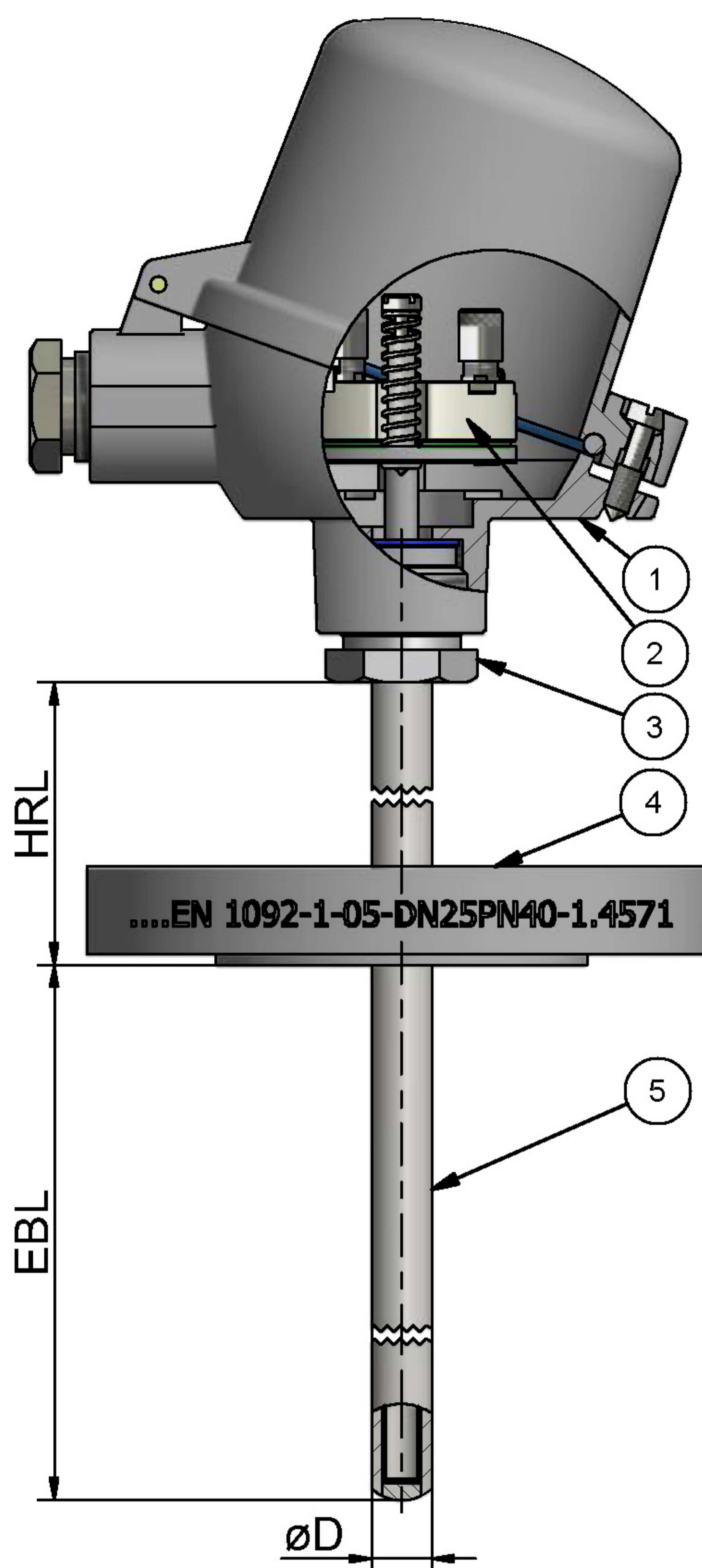
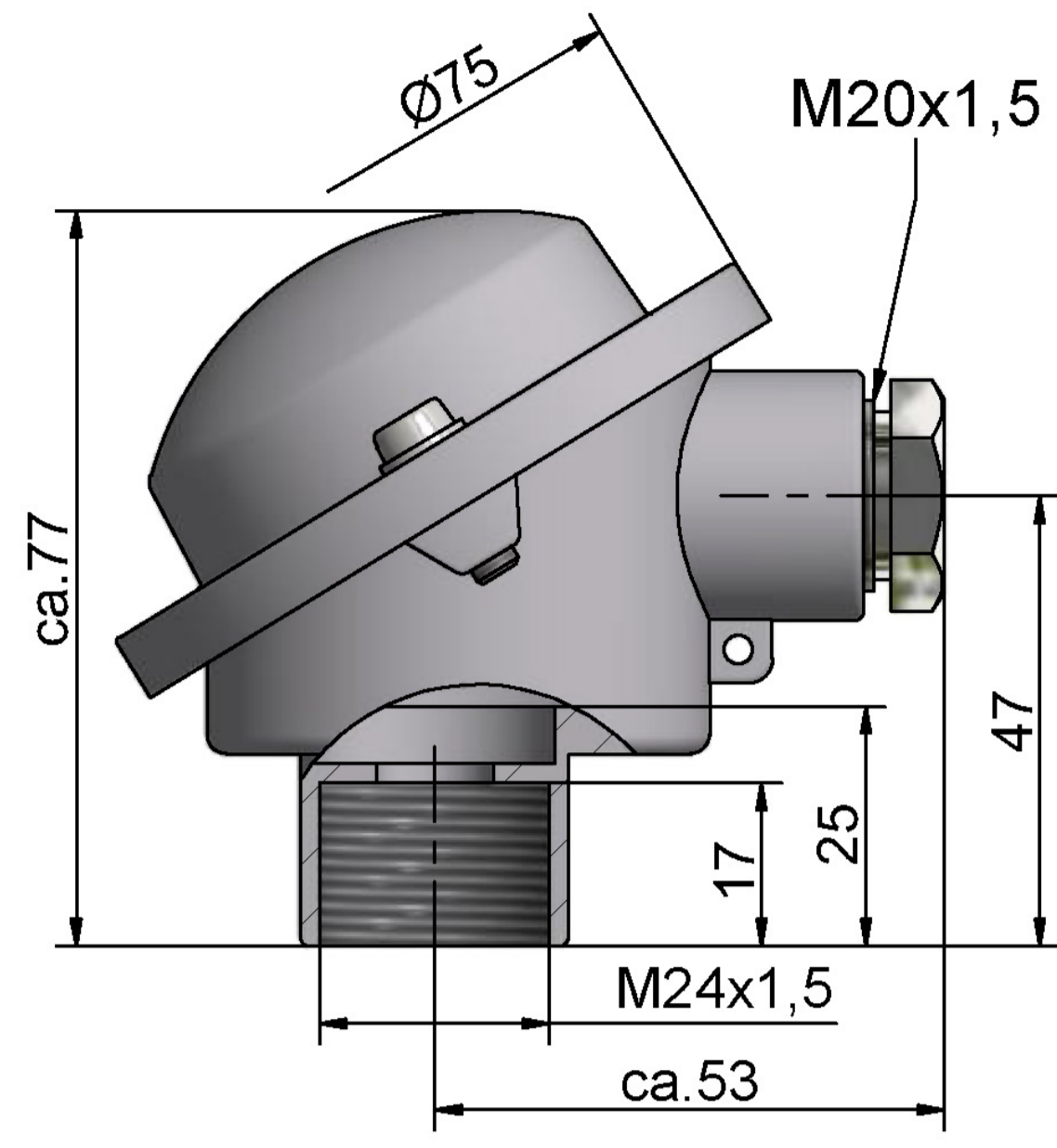


fig. 1

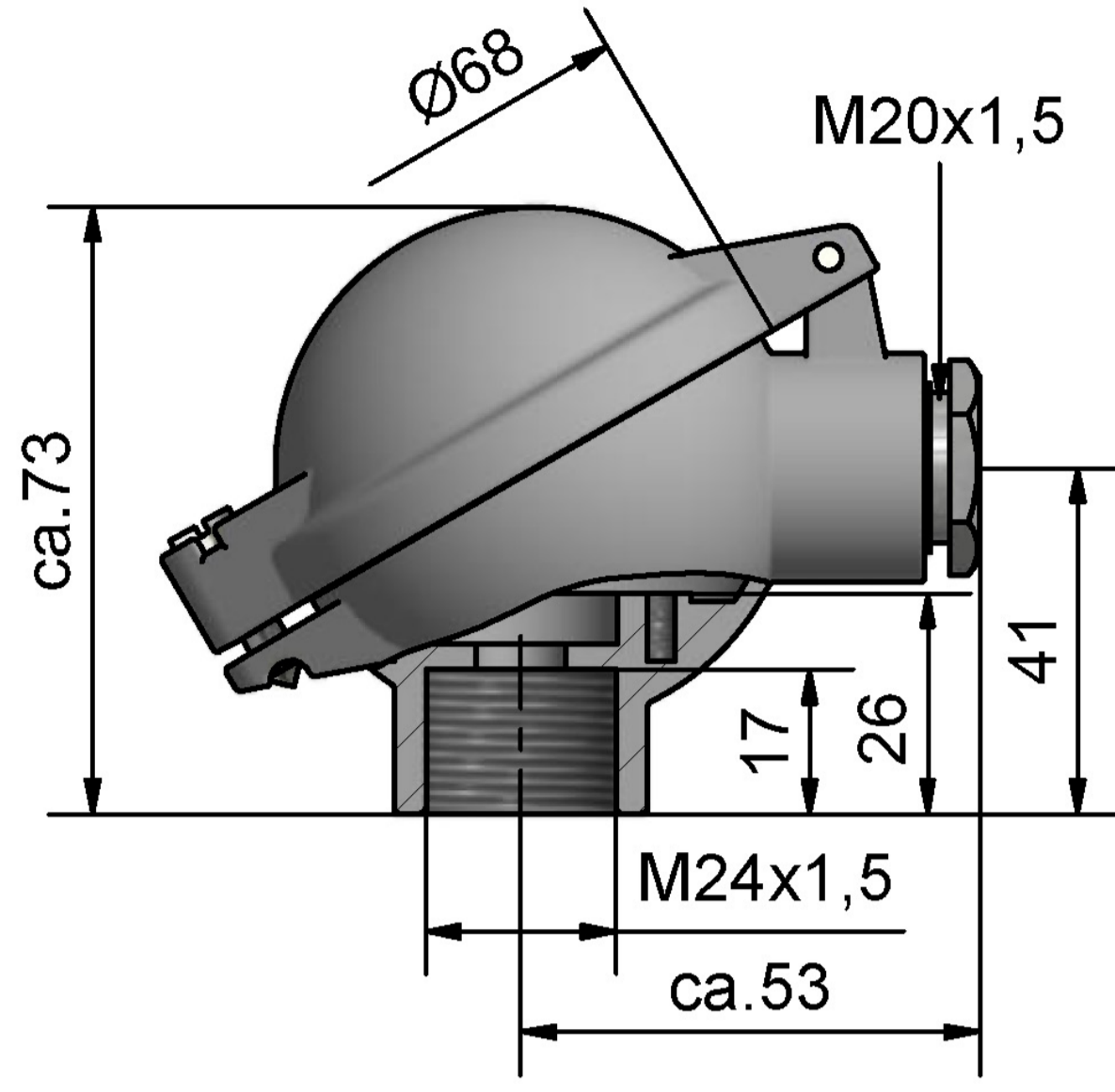


# Optional Connection heads / wiring diagramm

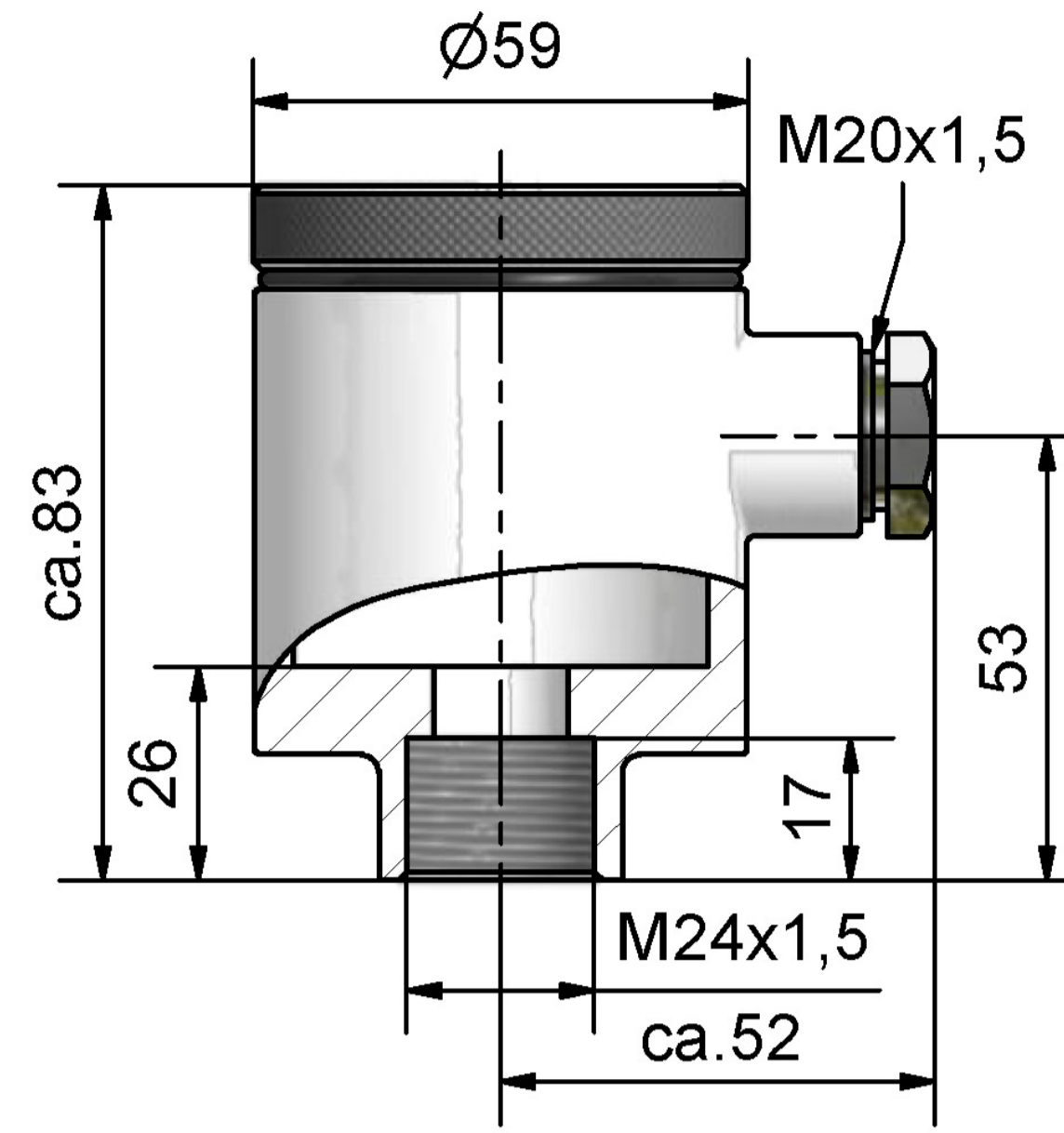
As an alternative to the cable gland, an M12 flush-type connector is possible.



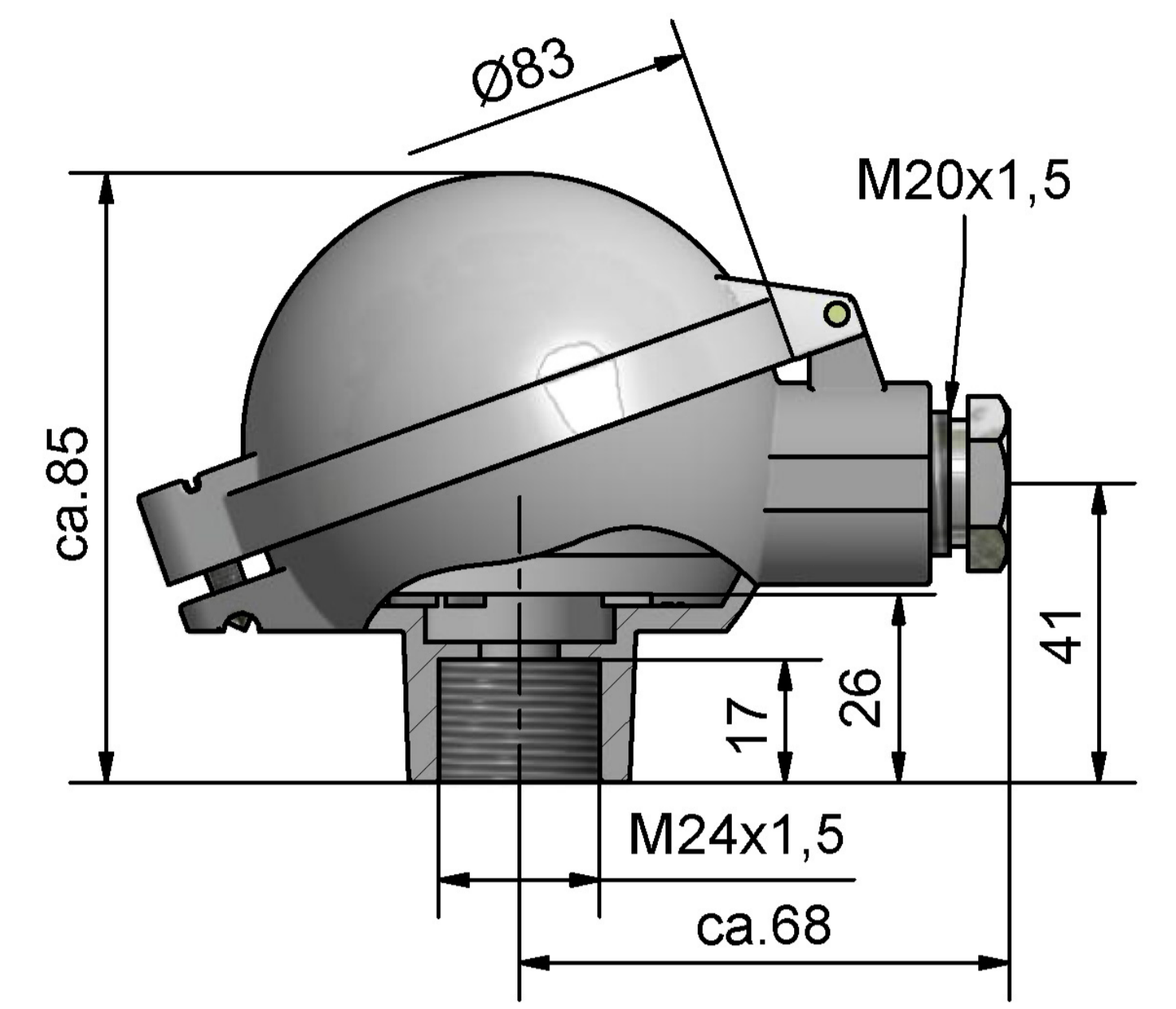
head model B-G12  
M24 x 1,5



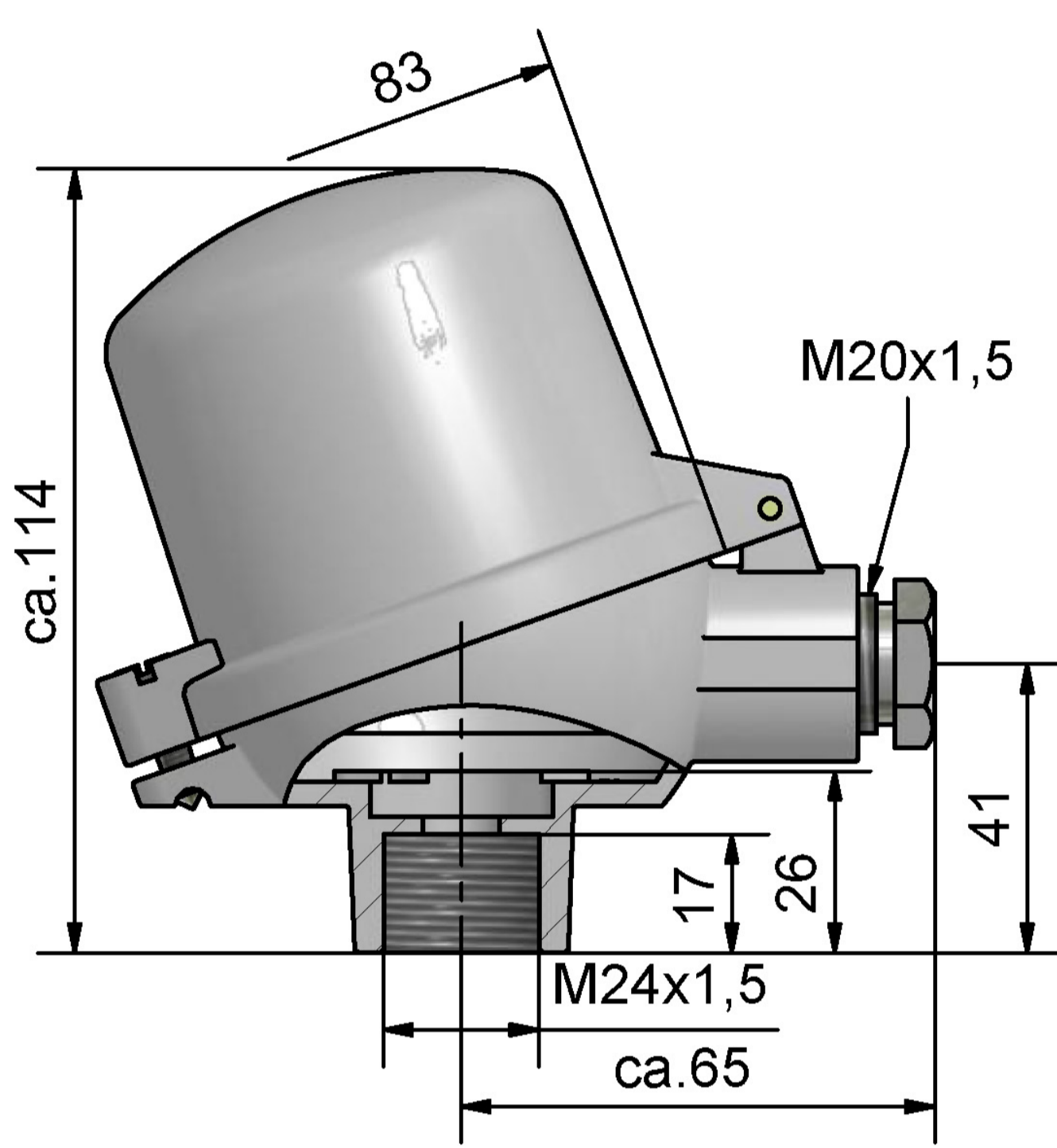
head model B-KL  
M24 x 1,5



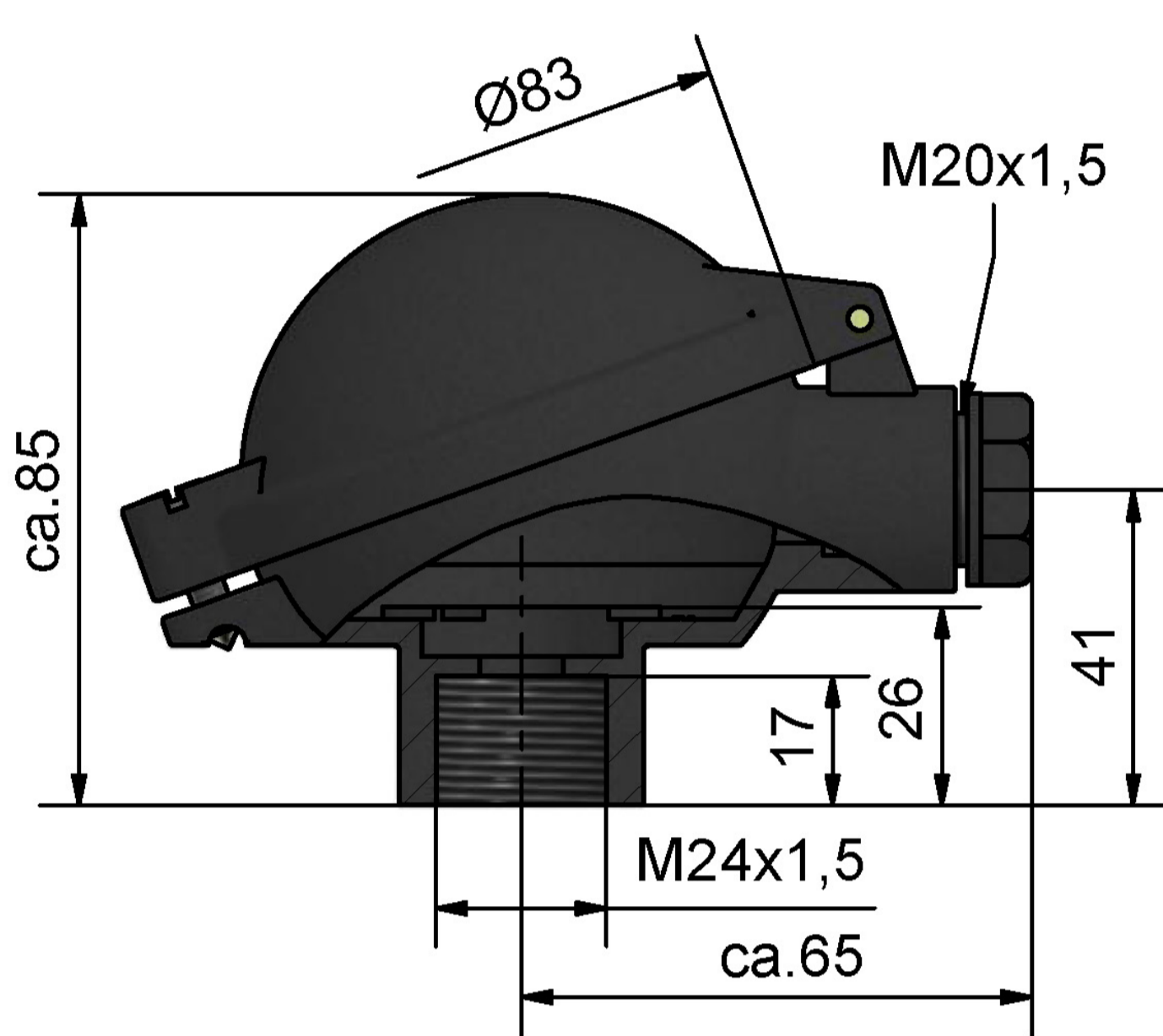
head model B-VA  
M24 x 1,5



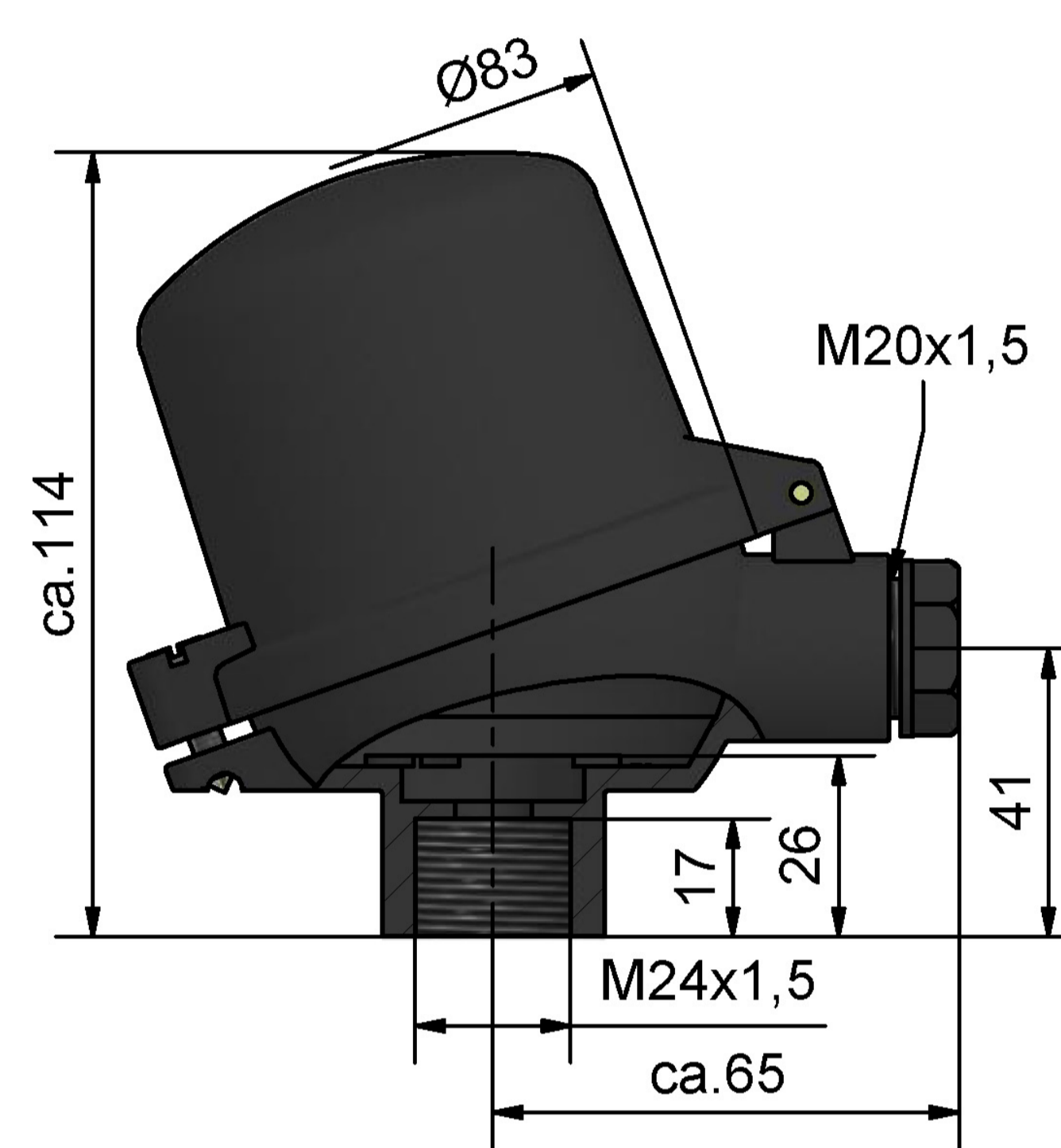
head model BA-KL  
M24 x 1,5



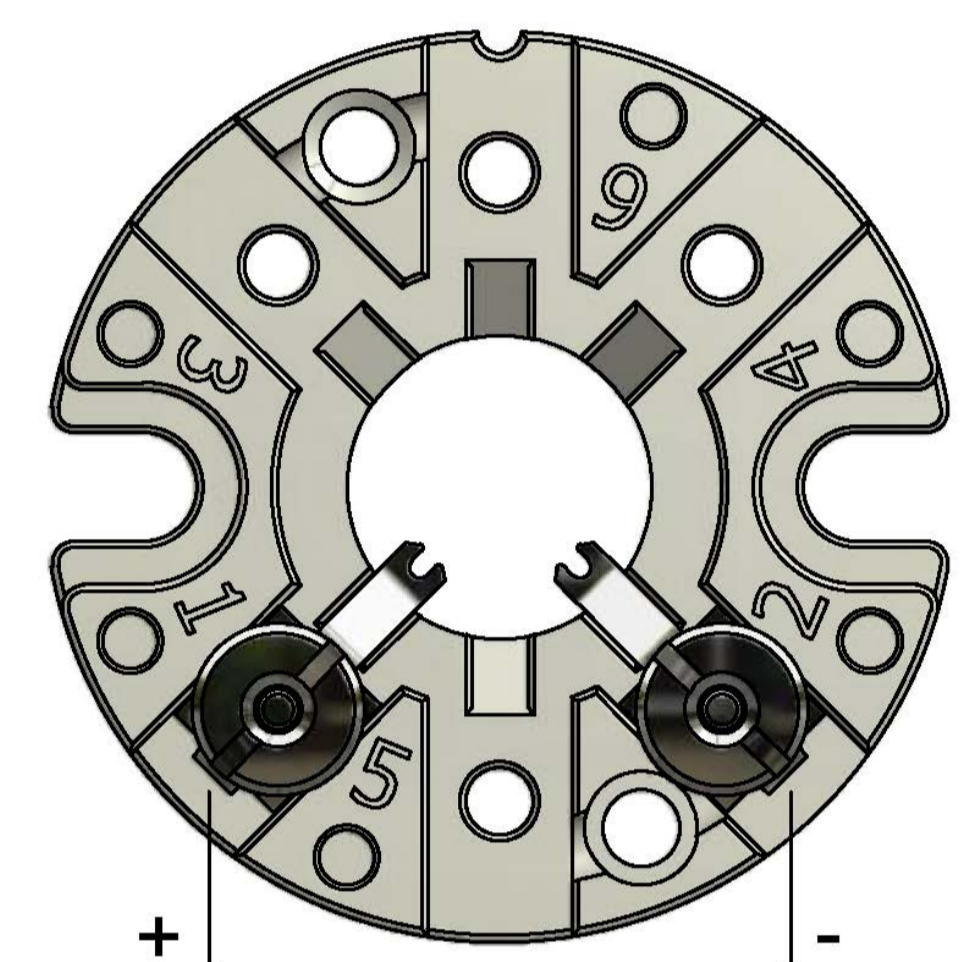
head model BA-KLH  
M24 x 1,5



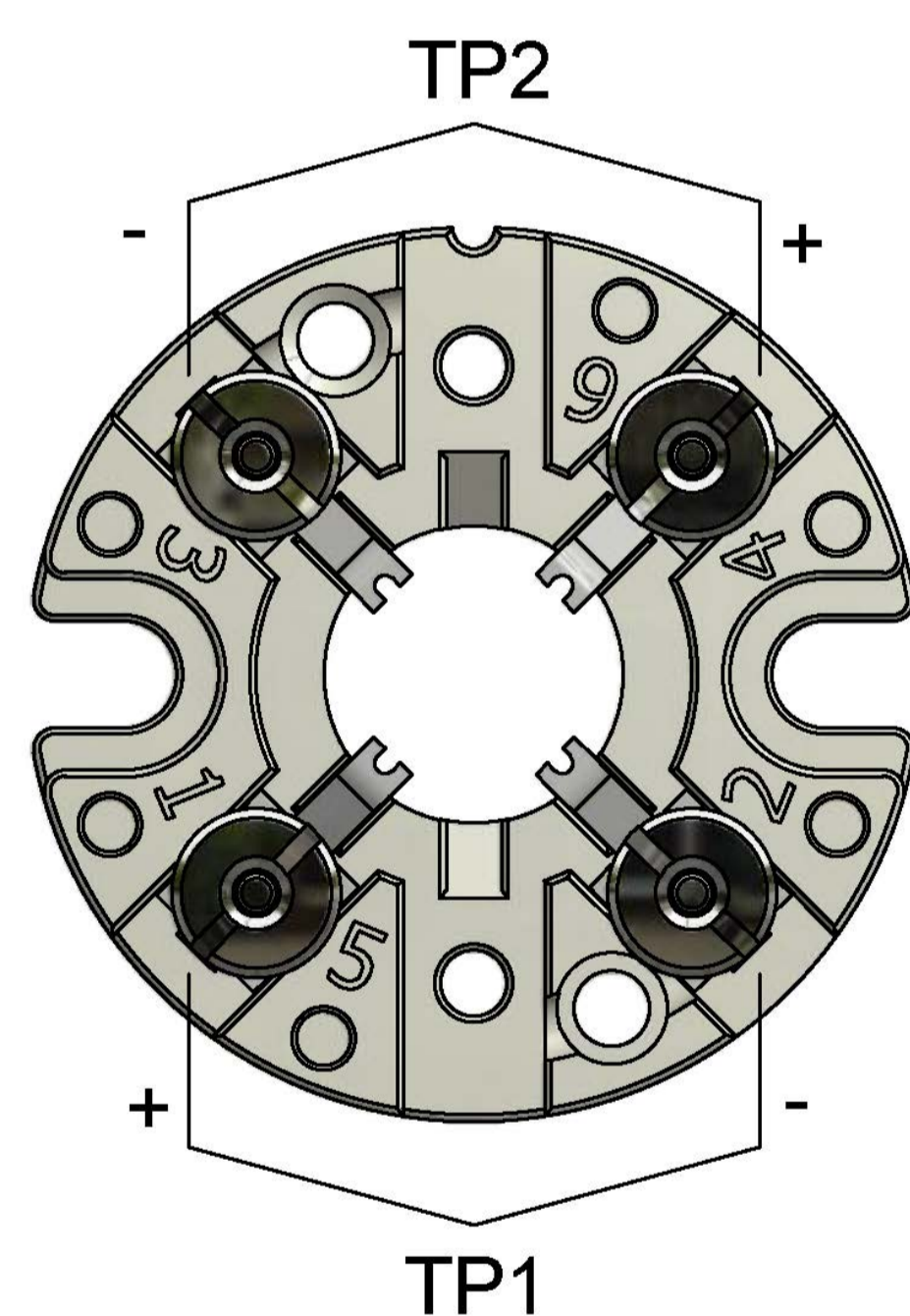
head model B-KUKL  
M24 x 1,5



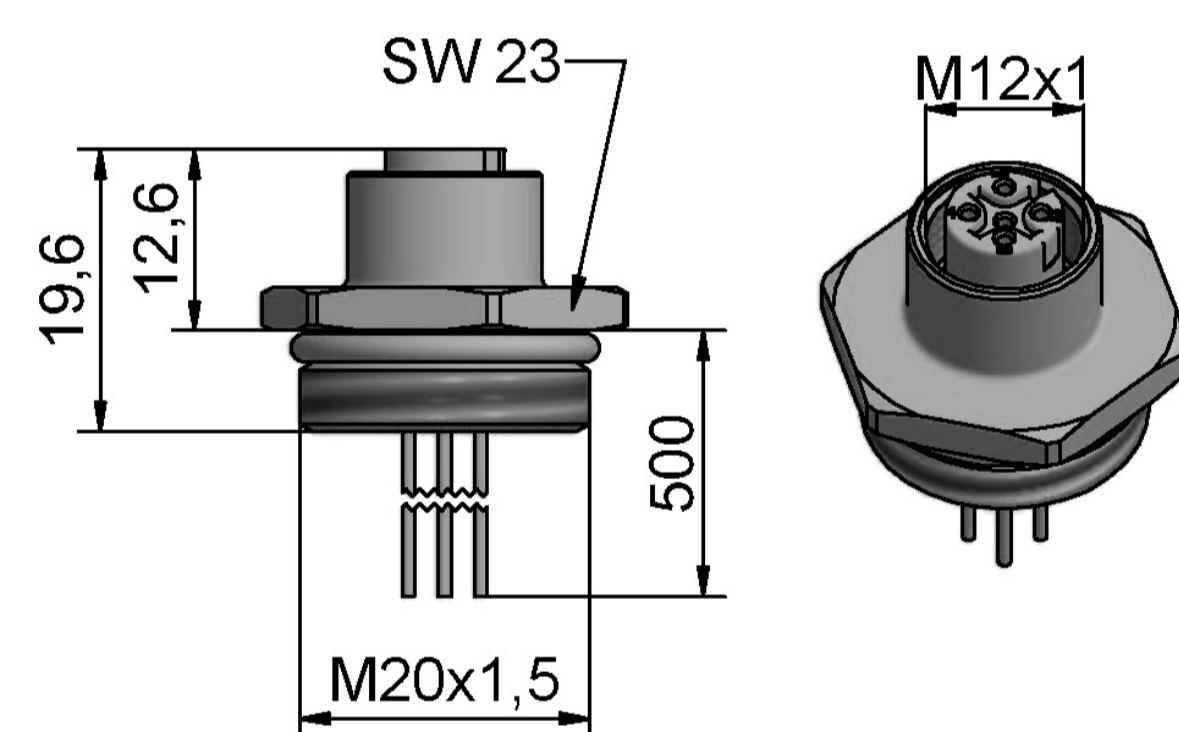
head model B-KUKLH  
M24 x 1,5



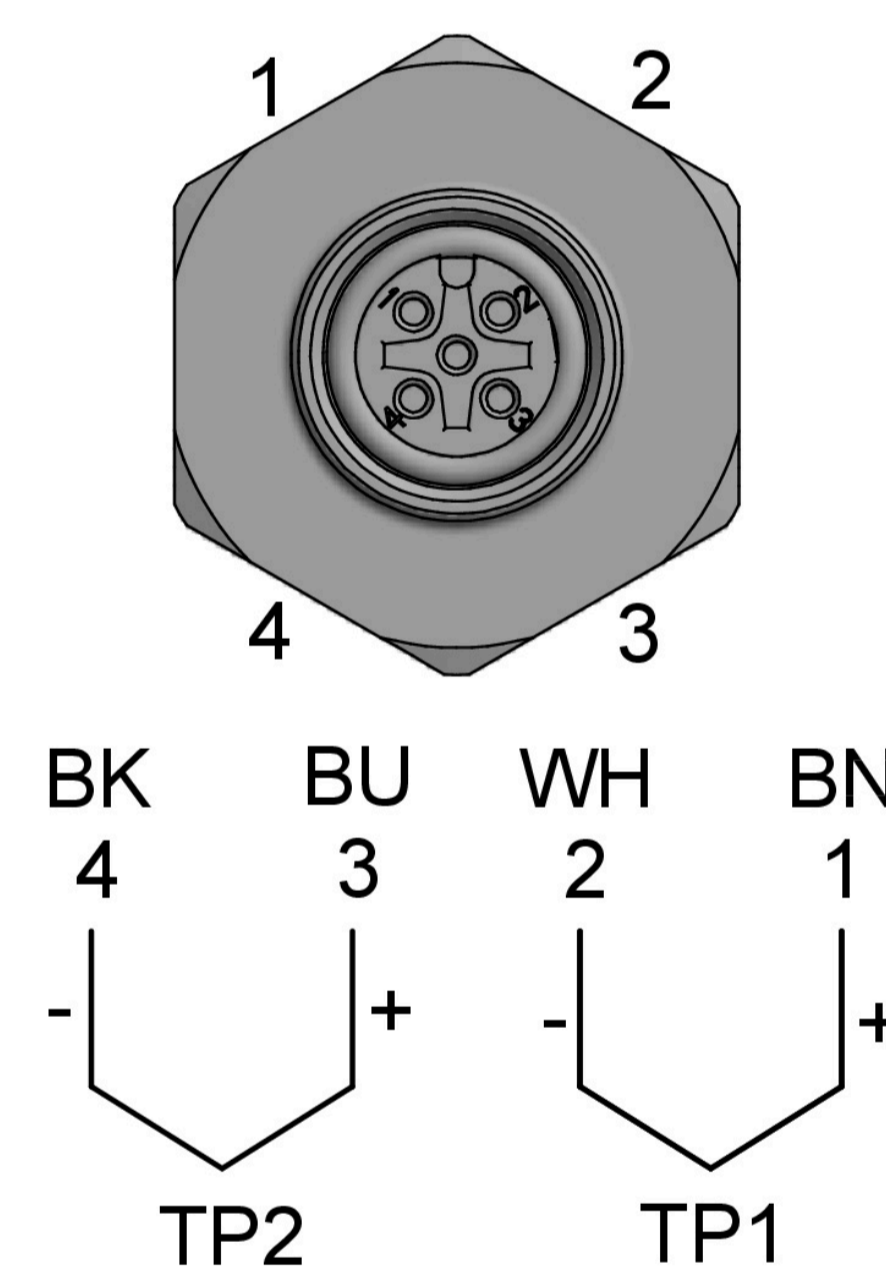
standard socket  
1 thermocouple



standard socket  
2 thermocouples



M12 insert socket  
4-terminals



M12 insert socket  
2 thermocouples