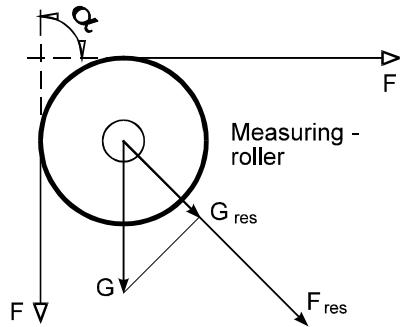


**Radial Force Sensor Series M 1100 - 6**



- $\alpha$  = angle of contact
- F = tensile force of the material to be measured
- $F_{res}$  = resulting force which is measured
- G = weight of the measuring roller
- $G_{res}$  = part of the measuring- roller weight in sphere-direction of the sensor



Radial - Force - Sensors series M 1100 - 6 are precise and reliable measuring systems, as well high overload-protected as high in long-time-stability.

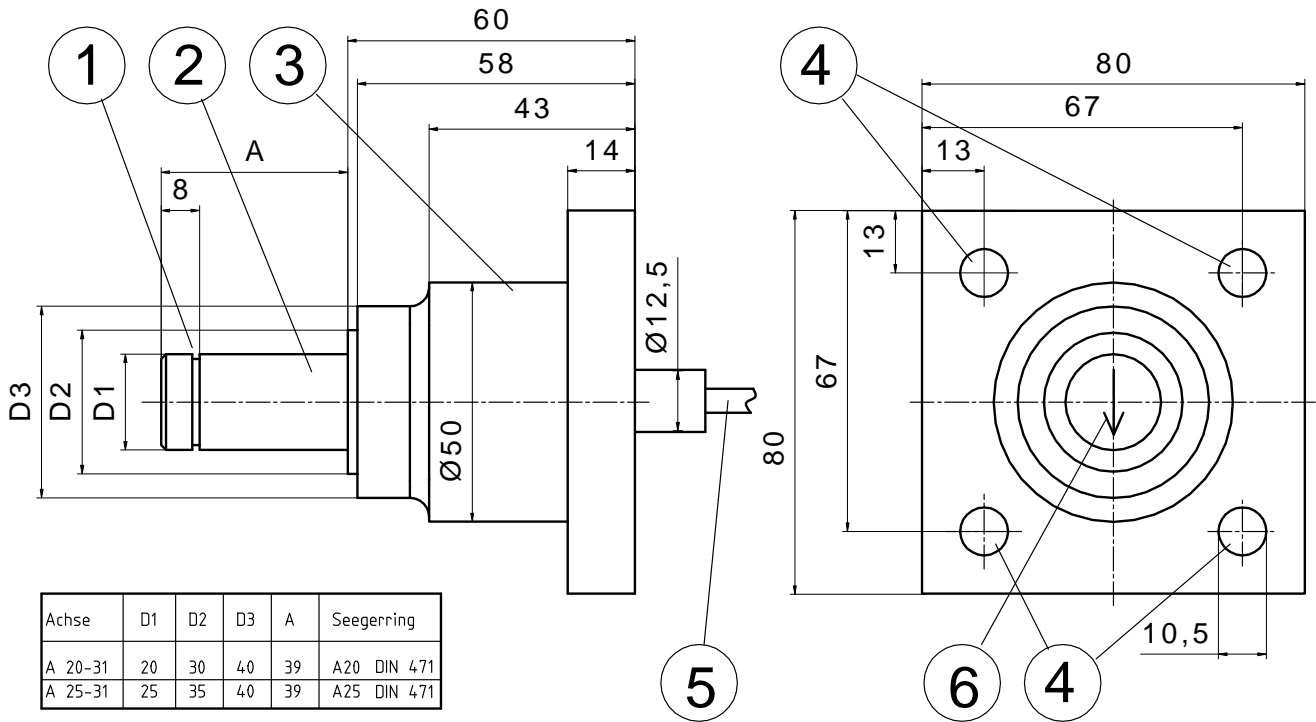
For measuring tensile forces on running material, fit a ball-bearing mounted roller on the journal-bearing. This measuring roller has to be mounted in a position, that the material which is measured, will deviated in a defined angle. Here angle of contacts, of the material which is measured - around the measuring roller, between 3° and 180° are possible. The resulting radial forces, due to the deviation, are measured by the sensor. The radial-force is proportional to the tensile force, in the material which is measured. Corresponding to this radial-force, the nominal load of the sensor is to select.

- Application:** measuring tensile forces on running material or static measurement  
p.e. : on belts, tapes, cables, wires etc.
- Characteristics:** Housing out of stainless steel, very short construction - easy mounting  
connection cable - axial , dust- and spraywater proofed  
Realisation the measured data is independent of the width of the used roller.
- Nominal loads:** **200 N, 300 N, 500 N, 1000 N, 2000 N or 3000 N**
- Measuring range:** by changing the angle of contact - around the measuring-roller -, the measuring range is variable
- Journal – bearing:** standard - journal bearing :  $\varnothing$  20 mm, for two bearings 6004
- Measuring principle:** strain - gage / full -bridge,  
the sensor transforms the - on the measuring-roller- active radial forces into a proportional electric signal
- Mounting:** 4 screws M 10
- Connection:** fixed cable, 3 m long
- Accessories:** Amplifier with or without indication the tensile forces, please see corresp. data sheets

**Technical data:**

**Radial Force Sensor Series M 1100 - 6**

Dimensions:



- 1 = Seegerring
- 2 = Shaft
- 3 = Black arrow
- 4 = Mounting holes
- 5 = Connection cable
- 6 = Load in measuring direction

**Nominal load** 200 N, 300 N, 500 N, 1000 N, 2000 N or 3000 N

**Measuring principle** strain-gage, full-bridge, 350 ohm  
**Measuring range** 1 % up to approx.115% of the nominal load  
**Error in measurement** < 0,5 %  
**Overload-protection** 2 - 5 times

**Charact.range of temp.** + 5°C ...+ 60°C

|                                |                     |                             |         |
|--------------------------------|---------------------|-----------------------------|---------|
| <b>Charact.value</b>           | 1,5 mV / V          | <b>Max. service voltage</b> | 10 V    |
| <b>Charact.value tolerance</b> | < $\pm 0,2$ %       | <b>Reference voltage</b>    | 10 V    |
| <b>Max. error in linear.</b>   | < $\pm 0,5$ %       | <b>Resistance input</b>     | 350 ohm |
| <b>Coef.of temperature</b>     | < $\pm 0,03\%$ / °C | <b>Resistance output</b>    | 350 ohm |

**Protection** IP 64

**Sealing-material** Silicone rubber, non-corrosive

**Included in delivery** Sensor plus standard journal-bearing, Instruction manual