

RMGZ 400/600 Series Force Measuring Roller

Nominal forces from 60 – 4000 N

Wide material processing range

10 times overload protection

Recalibration is not required

50 : 1 force measuring range

Wide measuring capability at high resolution

Lifetime lubricated ball bearings built-in

No maintenance necessary



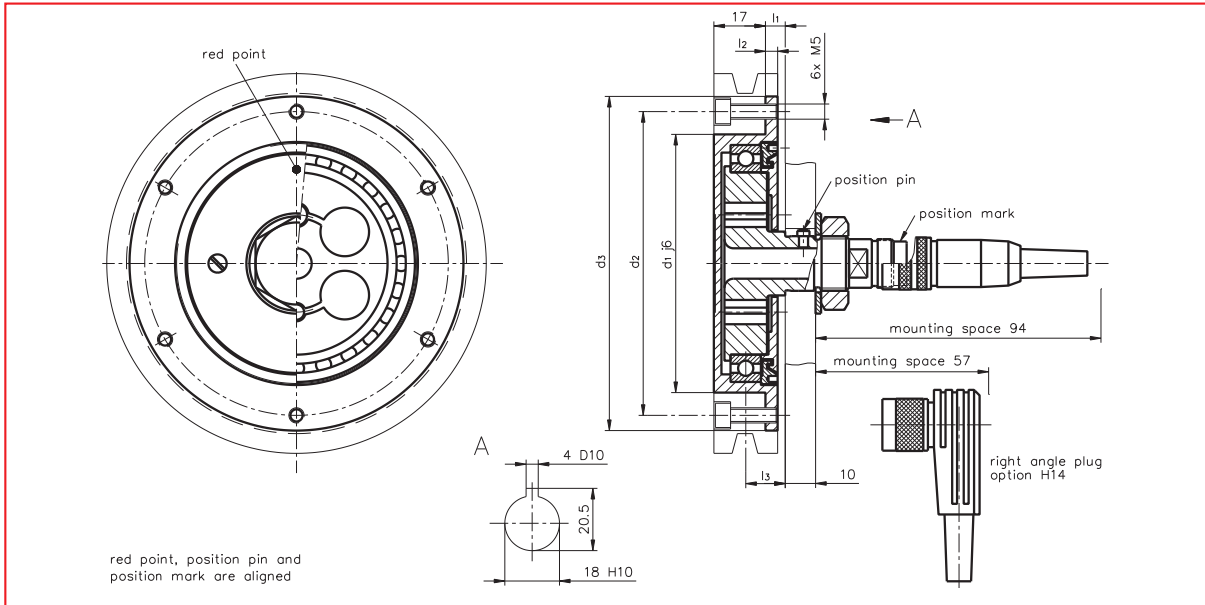
● RMGZ 400/600 Series

FMS force measuring roller RMGZ 400/600 series are used to measure the tension in wires, cables and narrow flat materials. An application specific sheave is mounted to the covering of the life-time lubricated ball bearings. A mounting hole with a key-way is required in the machine frame. The key-way holds the position pin which prevents the sensor from twisting. The location of the position pin depends on the direction of force and the position of the red point.

● Functional Description

The force measuring rollers RMGZ 400/600 work based on an enhanced bending beam principal. This ensures maximum accuracy and high measuring sensitivity. Four foil-type strain gauges configured in a full Wheatstone Bridge are utilized to measure the material tension. A mechanical hard stop ensures the highest overload protection and makes the sensor virtually indestructible. This combination provides highest accuracy and reliability without the need for recalibration.

RMGZ 400/600 Series • Dimensions in mm



RMGZ 400/600 Series • Nominal Forces / Dimensions

| RMGZ Series | Order Code FMS | Nominal Force N | Dimensions | | | | | | Load rating C dyn kN | Speed limit U/min | Weight kg |
|-----------------|----------------|-----------------|------------|-----|-----|-----|----|------|----------------------|-------------------|-----------|
| | | | d1 | d2 | d3 | l1 | l2 | l3 | | | |
| RMGZ 400 | RMGZ 416B | 60 | 85 | 100 | 110 | 6.5 | 4 | 13 | 11.8 | 8500 | 0.75 |
| | RMGZ 421B | 100 | 85 | 100 | 110 | 6.5 | 4 | 13 | 11.8 | 8500 | 0.75 |
| | RMGZ 422B | 200 | 85 | 100 | 110 | 6.5 | 4 | 13 | 11.8 | 8500 | 0.75 |
| | RMGZ 425B | 500 | 85 | 100 | 110 | 6.5 | 4 | 13 | 11.8 | 8500 | 0.75 |
| RMGZ 600 | RMGZ 631B | 1000 | 110 | 125 | 136 | 7.5 | 5 | 13.5 | 21.2 | 6700 | 0.9 |
| | RMGZ 632B | 2000 | 110 | 125 | 136 | 7.5 | 5 | 13.5 | 21.2 | 6700 | 0.9 |
| | RMGZ 634B | 4000 | 110 | 125 | 136 | 7.5 | 5 | 13.5 | 21.2 | 6700 | 0.9 |

RMGZ 400/600 Series • Technical Data

| | |
|---------------------------------|---|
| Sensitivity | 1.8 mV/V |
| Tolerance of sensitivity | < ± 0.2 % |
| Accuracy class | ± 0.5 % (F _{nominal}) |
| Temperature coefficient | ± 0.1 % / 10 K |
| Temperature range | - 10...+ 60 °C (option H16: - 10...+ 120 °C) |
| Input resistance | 350 Ω |
| Supply voltage | 1...12 VDC |
| Overload protection | 10 times nominal force |
| Material | Force sensor: stainless steel; Cover: aluminium |
| Protection class | Sealed against dust (IP 40) |

Options:

H14 = Right angle connector

H16 = Temperature range up to 120 °C

Order code (example):

RMGZ422B.H14

Sensor Type

Options

Scope of delivery:

Straight connector
(Sheave is not in the scope of delivery)

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