

RMGZ 800 Force Measuring Roller

**Medium to high tension forces
(100 – 8000 N) [22 – 1799 lbf]**
Wide material processing range

10 times overload protection
Recalibration is not required

Accuracy class 0.5 %
**Wide measuring capability
at high resolution**

Lifetime lubricated ball bearings
No maintenance necessary



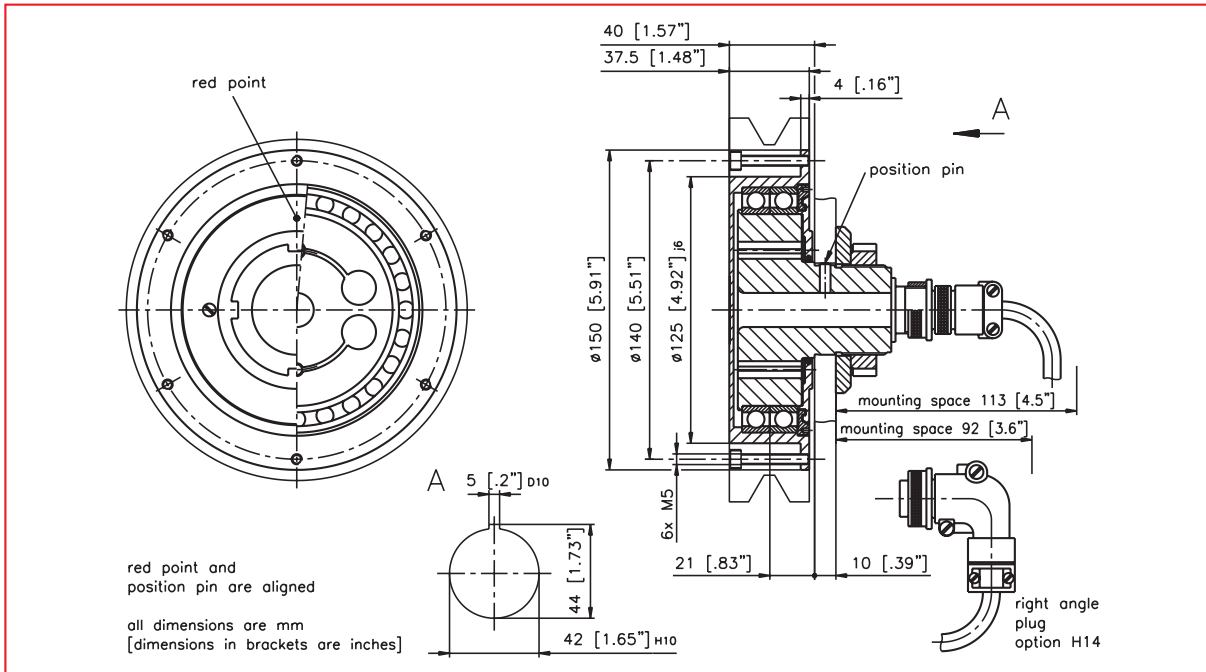
● Functional Description

FMS force measuring roller RMGZ 800 series is used to measure the tension in wire, cable and narrow flat materials. An application specific sheave or pulley is mounted to the covering of the two lifetime 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.

● Measuring principle

The force measuring rollers apply the force to the measuring web in a parallel plane as opposed to a typical bending beam. This ensures maximum accuracy and 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 guarantees the highest accuracy and reliability without the need for recalibration.

RMGZ 800 Force measuring roller • Dimensions in mm



RMGZ 800 Force measuring roller • Nominal force / Dimensions

Nominal force N [lbf]	Order code FMS	Load rating C dyn kN [lbf]	Speed limit Rev/min	Weight kg [lbs]
100 [22]	RMGZ821	19.6 [4362]	5300	3.0 [6.6]
200 [45]	RMGZ822			
500 [112]	RMGZ825			
1000 [225]	RMGZ831			
2000 [450]	RMGZ832			
4000 [899]	RMGZ834			
6000 [1349]	RMGZ836			
8000 [1799]	RMGZ838			

Options:

- H14** = Right angle connector
- H16** = Temperature range up to 120 °C [248 °F]
- H18** = Straight waterproof connector
- H29** = For use in aggressive media

Order code (example):

RMGZ822.H14

Scope of delivery:

Connector
(Sheaves are available options and not typically included)

RMGZ 800 Force measuring roller • 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) 14... 140 °F (option H 16: 14...248 °F)
Input resistance	350 Ω
Supply voltage	1...12 VDC
Overload protection	10 times the rated nominal force
Material	Force sensor: steel Rotating flange: aluminium
Protection class	Sealed against dust IP 40

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