

## RMGZ 800 A Force Measuring Roller

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

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**10 times overload protection**  
**Recalibration is not required**

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

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**Lifetime lubricated ball bearings**  
**No maintenance necessary**

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### ● Functional Description

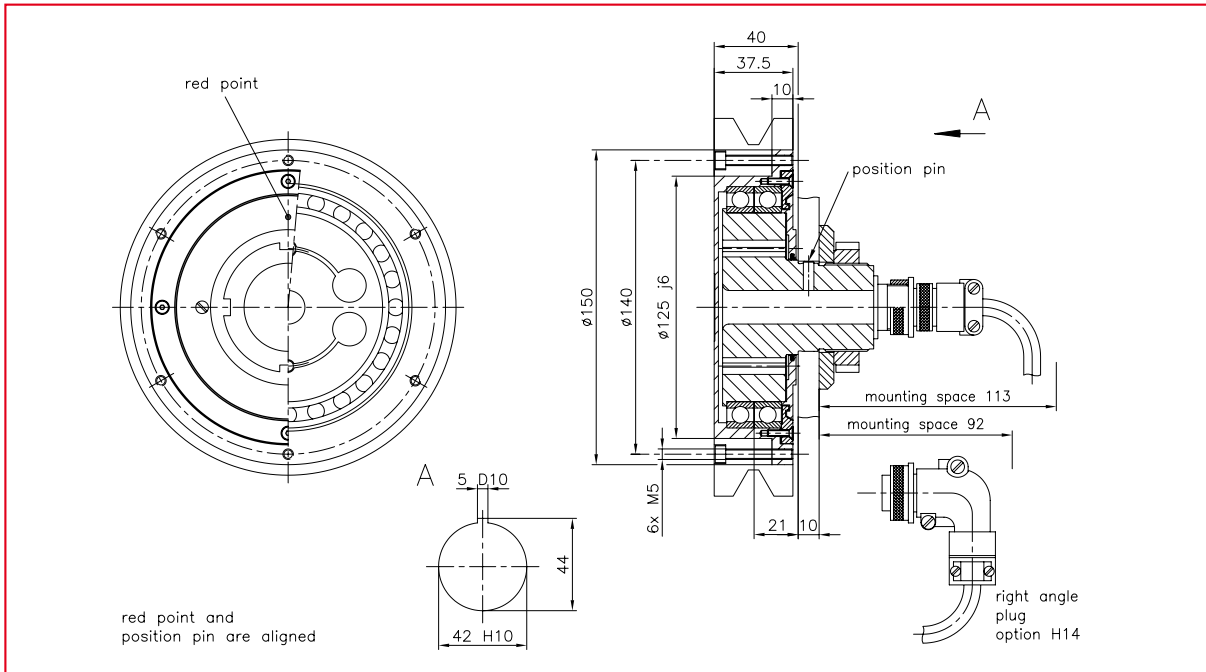
FMS force measuring roller RMGZ 800 A series is used to measure the tension in wire, cable and narrow flat materials. An application specific sheave or pulley is mounted to the covering of the two lifetime lubricated ball bearings. A mounting hole with a key-way is required in the machine frame. The 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 A Force measuring roller • Dimensions in mm or [inch]**



**RMGZ 800 A 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 A	19.6 [4362]	5300	3.0 [6.6]
200 [45]	RMGZ822 A			
500 [112]	RMGZ825 A			
1000 [225]	RMGZ831 A			
2000 [450]	RMGZ832 A			
4000 [899]	RMGZ834 A			
6000 [1349]	RMGZ836 A			
8000 [1799]	RMGZ838 A			

**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.A.H14

**Scope of delivery:**

Connector  
(Sheaves are available options and not typically included)

**RMGZ 800 A Force measuring roller • Technical data**

<b>Sensitivity</b>	1.8 mV / V
<b>Tolerance of sensitivity</b>	< ± 0.2 %
<b>Accuracy class</b>	± 0.5 % (F <sub>nominal</sub> )
<b>Temperature coefficient</b>	± 0.1 % / 10 K
<b>Temperature range</b>	- 10...+ 60 °C (option H16: -10...+ 120 °C) 14... 140 °F (option H 16: 14...248 °F)
<b>Input resistance</b>	350 Ω
<b>Supply voltage</b>	1...12 VDC
<b>Overload protection</b>	10 times the rated nominal force
<b>Material</b>	Force sensor: steel Rotating flange: aluminium
<b>Protection class</b>	Sealed against dust IP 40

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