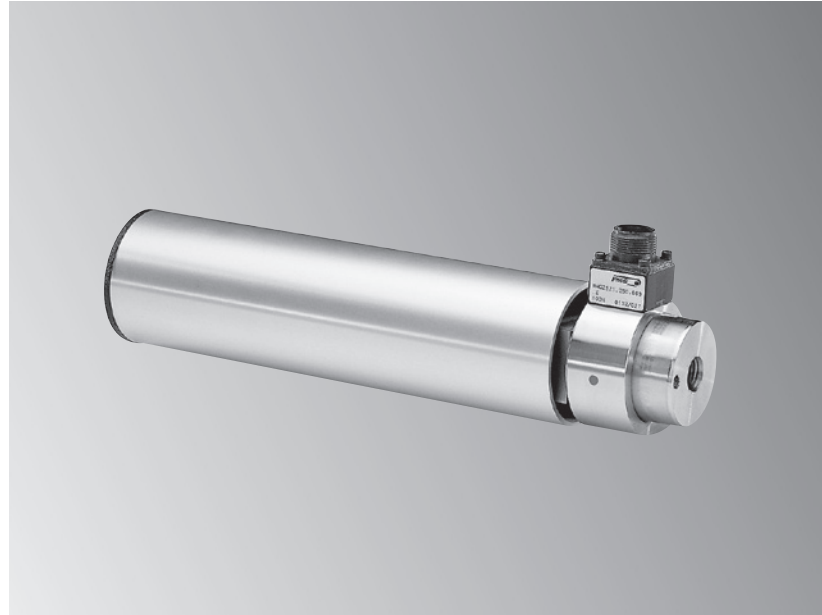


FMS Tension Control / Force Sensors

RMGZ 900 Cantilever Force Measuring Roller

- **10 times overload protection:**
No recalibration required
- **20 : 1 force measuring range:**
Wide measuring capability
- **Nominal forces from 50 to 1000 N**
[11 to 225 lbf]:
Sizes available for every application
- **Stainless steel sensor, anodised roller:**
Corrosion resistant, ultra-durable



RMGZ 900

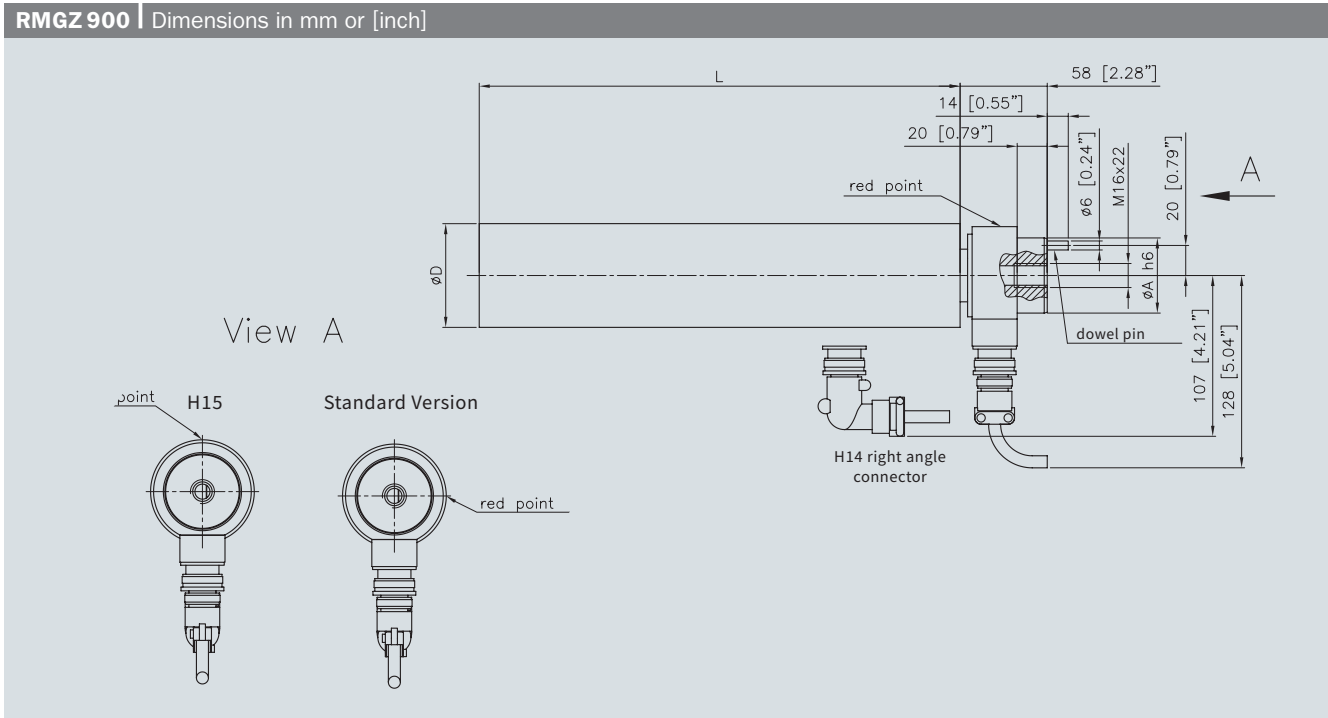
The RMGZ 900 Series force measuring rollers are designed as self contained cantilever mount force sensors that minimise machine space requirements in continuous material processing applications. They can be mounted horizontally or vertically directly to the machine frame. The red point on the base of the sensor indicates the positive measuring direction. Even with low material wrap angles, the design of the RMGZ 900 Series offers high accuracy measuring capability.

Functional Description

Foil type strain gauges mounted in a full Wheatstone bridge configuration perform the actual tension measurement. The dual flexion beam design ensures accurate measurement at any position on the roller while maintaining the parallel position of the material and eliminating angular deflection. An integrated mechanical hard-stop provides high overload protection ensuring that frequent calibration is not required.

DATA SHEET

FMS Tension Control | Force Sensors | **RMGZ 900 Cantilever Force Measuring Roller**



RMGZ 900 | Dimensions / Nominal force

| Sensor Type | Nominal force N [lbf] | Dimensions in mm [in] | | | | | | | |
|-----------------|--------------------------|-----------------------|------------|-------------|-------------|------------|------------|------------|--|
| | | L = | 320 [12.6] | 400 [15.75] | 500 [19.67] | 630 [24.8] | 800 [31.5] | 900 [34.4] | |
| | | D = | 69 [2.72] | 69 [2.72] | 99 [3.9] | 99 [3.9] | 119 [4.69] | 119 [4.69] | |
| | | A = | 50 [1.97] | 50 [1.97] | 75 [2.95] | 75 [2.95] | 75 [2.95] | 75 [2.95] | |
| RMGZ 915 | 50 [11.2] | ● | ● | — | — | — | — | — | |
| RMGZ 921 | 100 [22.5] | ● | ● | ● | ● | — | — | — | |
| RMGZ 922 | 200 [45] | ● | ● | ● | ● | ● | ● | ● | |
| RMGZ 925 | 500 [112] | ● | ● | ● | ● | ● | ● | ● | |
| RMGZ 928 | 750 [169] | ● | ● | ● | ● | ● | ● | ● | |
| RMGZ 931 | 1000 [225] | ● | ● | ● | ● | ● | ● | ● | |

● = Standard

RMGZ 900 | Options

| | |
|-------------|---|
| H 12 | Axial connector type «Mini M18 x 0.75» |
| H 14 | Right angle connector |
| H 15 | Connector opposite to the red point |
| H 16 | Temperature range up to 120 °C [248 °F] |
| H 18 | Straight waterproof connector |
| H 31 | For vacuum applications down to 10 ⁻⁷ hPa, 10 ⁻⁵ Torr, incl. H 16 |

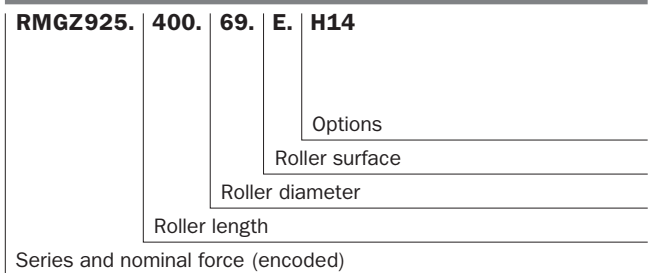
RMGZ 900 | Scope of delivery

● Measuring roller ● Straight connector ● Fixing screw

RMGZ 900 | Roller material and surface

| | |
|-------------|---|
| .D = | Aluminum machined surface |
| .E = | Aluminum machined surface, anodized |
| .B = | Aluminum machined surface, black anodized |
| .S = | Stainless steel, machined surface |
| .A = | Aluminum machined surface, plasma coated |
| .K = | Aluminum cork coated surface |

RMGZ 900 | Texture of the order code

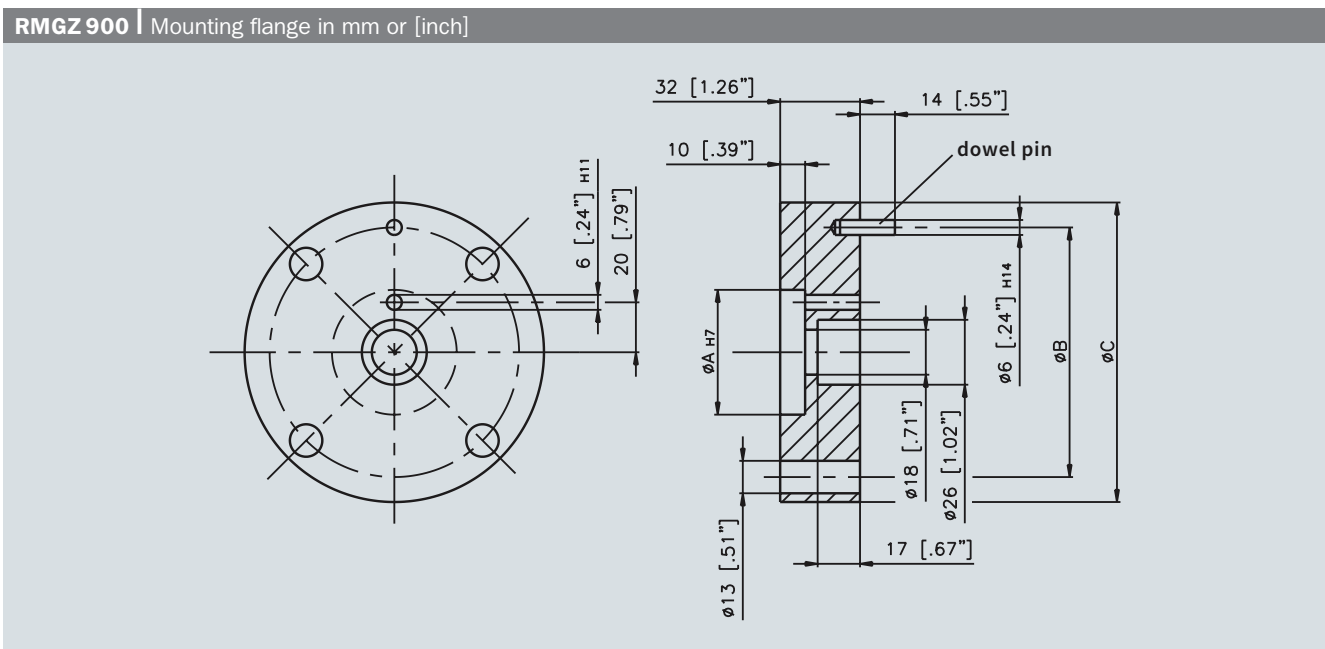


Other dimensions, roller material and surface treatments available on request.

| RMGZ 900 Technical data | |
|---------------------------------|-------------------------------|
| Sensitivity | 1.8 mV/V |
| Tolerance of sensitivity | < ±0.2% |
| Accuracy class | ±0.5% (F _{nominal}) |
| Tolerance concentricity | 0.15 mm |
| Temperature coefficient | ±0.1% / 10 K |
| Temperature range | -10 to +60 °C [14 to 140 °F] |
| Input resistance | 350 Ω |
| Supply voltage | 1 to 12 VDC |
| Overload protection | 10-times nominal force |
| Sensor body | Stainless steel |
| Protection rating | IP42 |

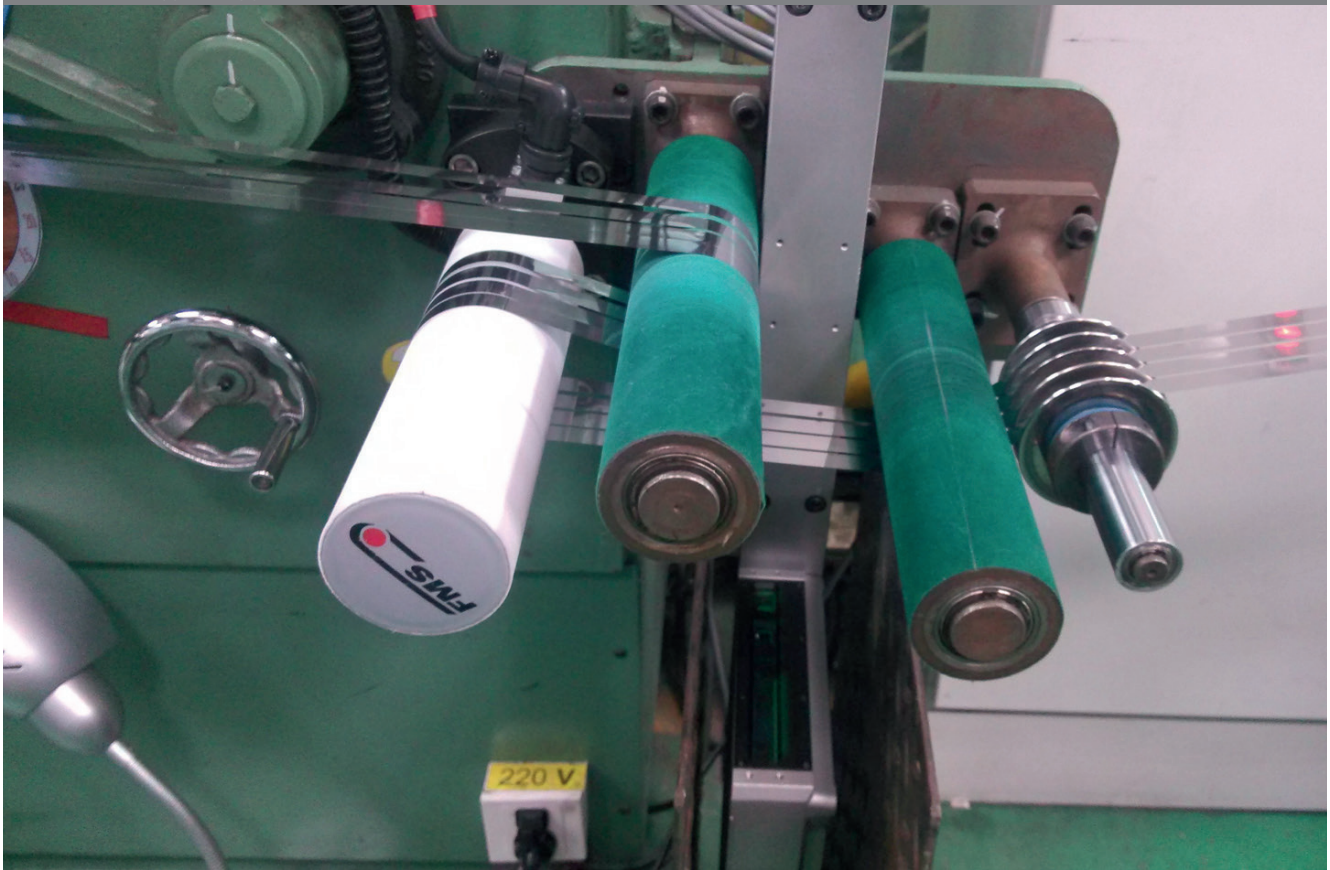
Mounting options

The RMGZ 900 Series force measuring rollers can be mounted in 2 different ways. Either directly with a location hole to the machine or with a mounting flange which can be ordered as an accessory.



| RMGZ 900 Mounting flange dimensions | | | |
|---------------------------------------|-----------|------------|------------|
| Mounting flange | A | B | C |
| Order code FMS | mm [in] | mm [in] | mm [in] |
| RMGZ900.581699 | 50 [1.97] | 100 [3.94] | 120 [4.72] |
| RMGZ900.582185 | 75 [2.95] | 125 [4.92] | 150 [5.91] |

RMGZ 900 | Typical Application



Other FMS Products | Tension Control

Measuring amplifiers



Tension controllers



ATEX-Intrinsically safe barriers



FMS Force Measuring Systems AG

FMS Force Measuring Systems AG is a worldwide market leader in the fields of tension measurement/control, web guiding, and specialized telemetry technologies. Our standard and custom solutions are applied in the converting, metals, paper, textile and wire & cable industries. FMS Force Measuring Systems AG's advanced technology, high quality components and extensive application knowledge supports customers around the world in maximizing productivity. Since 1993 our highly skilled workforce has crafted superior solutions and set the benchmark in the industry.

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