

RMGZ 300A Series Force Measuring Roller

Engineered to work in high revolution applications

Resistant against Centrifugal and Coriolis forces

Sheave support by single or double bearing
High measuring accuracy even with heavy sheaves and high strand tensions

20 : 1 force measuring range
Wide measuring capability

Nominal forces from 50 – 1000 N
Sizes available for every application



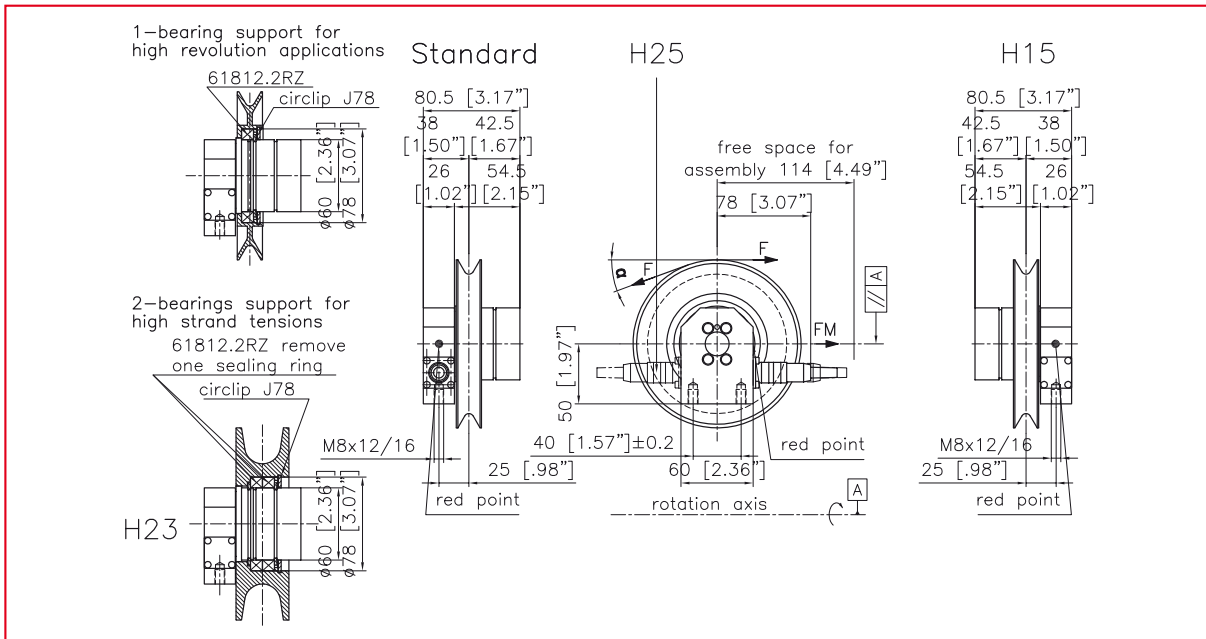
● RMGZ 300A Series

The RMGZ 300A Series force measuring roller is used to measure the tension in wires, cables and similar materials. This dedicated measuring roller family was developed to work in stranding machines with high revolutions. Its special design enables very effectively the compensation of centrifugal and coriolis forces. For applications with high strand tensions the sheave can be supported by two bearings extending considerably the range of usable sheaves and increasing the precision of the product.

● Functional Description

The RMGZ 300A works according to the dual flexion beam design with a build-in mechanical overload protection. A quadruple foil type strain gauge mounted in a full Wheatstone bridge configuration performs the actual tension measurement. This measuring principle ensures tension measurement with the highest accuracy also for low forces and at small wrap angles. Load dependent torque influences are eliminated even under high loads. The overload protection devices provide a high safety standard and ensure that frequent calibration is not required.

RMGZ 300A Series • Dimensions in mm and [inch]



RMGZ 300A Series • Forces

| Sensor Type | N | Nominal Force [lbf] | G-limits* g |
|-------------|------|---------------------|-------------|
| RMGZ 315A | 50 | 11.2 | 30 |
| RMGZ 321A | 100 | 22.5 | 40 |
| RMGZ 322A | 200 | 45.0 | 56 |
| RMGZ 325A | 500 | 112.4 | 90 |
| RMGZ 331A | 1000 | 224.8 | 125 |

* with a sheave weight of 1 kg [2.2 lbs]

RMGZ 300A Series • Technical data

| | |
|-------------------------|---------------------------------|
| Sensitivity | 1.8 mV / V |
| Sensitivity tolerance | < ± 0.2 % |
| Accuracy class | ± 0.5 % (F _{nominal}) |
| Temperature coefficient | ± 0.1 % / 10 K |
| Temperature range | - 10...+ 60°C |
| Input resistance | 350 Ω |
| Supply voltage | 1...12 VDC |
| Maximum overload | 10 times rated nominal force |
| Sensor material | Stainless steel |
| Sheave Support | 1 or 2 bearings |
| Protection class | IP 40 |
| Weight | 0.6 kg [1.32 lbs] |

Options:

- H14 = Right angle connector
- H15 = Red point left (ref. drawing)
- H21 = PG-gland connection
- H23 = 2 bearings 61812
- H25 = Connector left (ref. drawing)

Order code (example):



Scope of delivery:

- 1 Force measuring roller
- 1 Bearing 61812
- 1 Distance ring and snap ring
- 1 Straight connector

Not included:

- Sheave

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