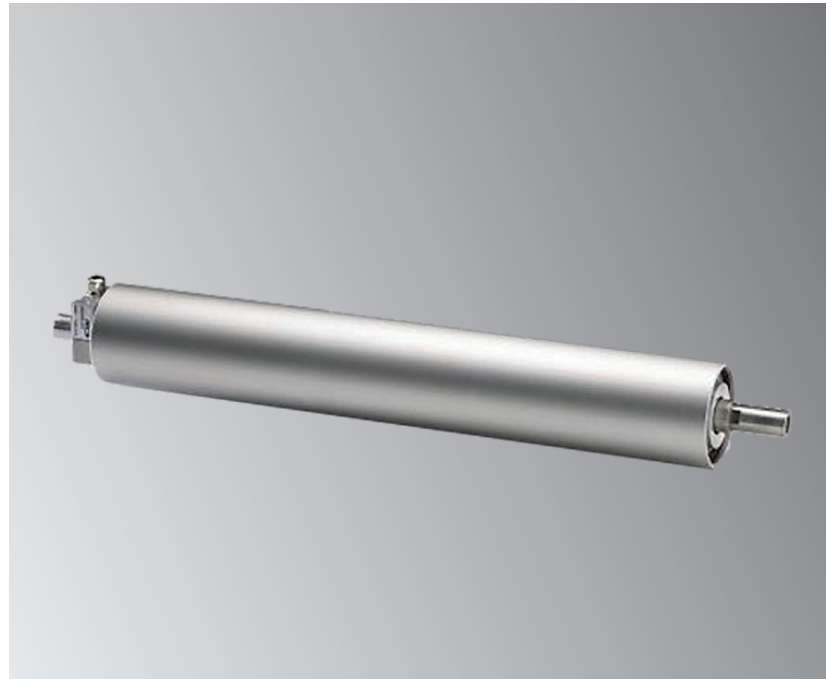




FMS Tension Monitoring / Force Sensors

IMGZ-series Measuring roller with two integrated force sensors

- **No recalibration required**
10-times overload protection
- **Wide measuring range**
Nominal forces from 200 to 3000 N, 30:1 force measuring range
- **Corrosion resistant, ultra-durable**
Stainless steel sensor
- **Easy mounting and connection**
Sensor integrated in roller with only one electrical connection

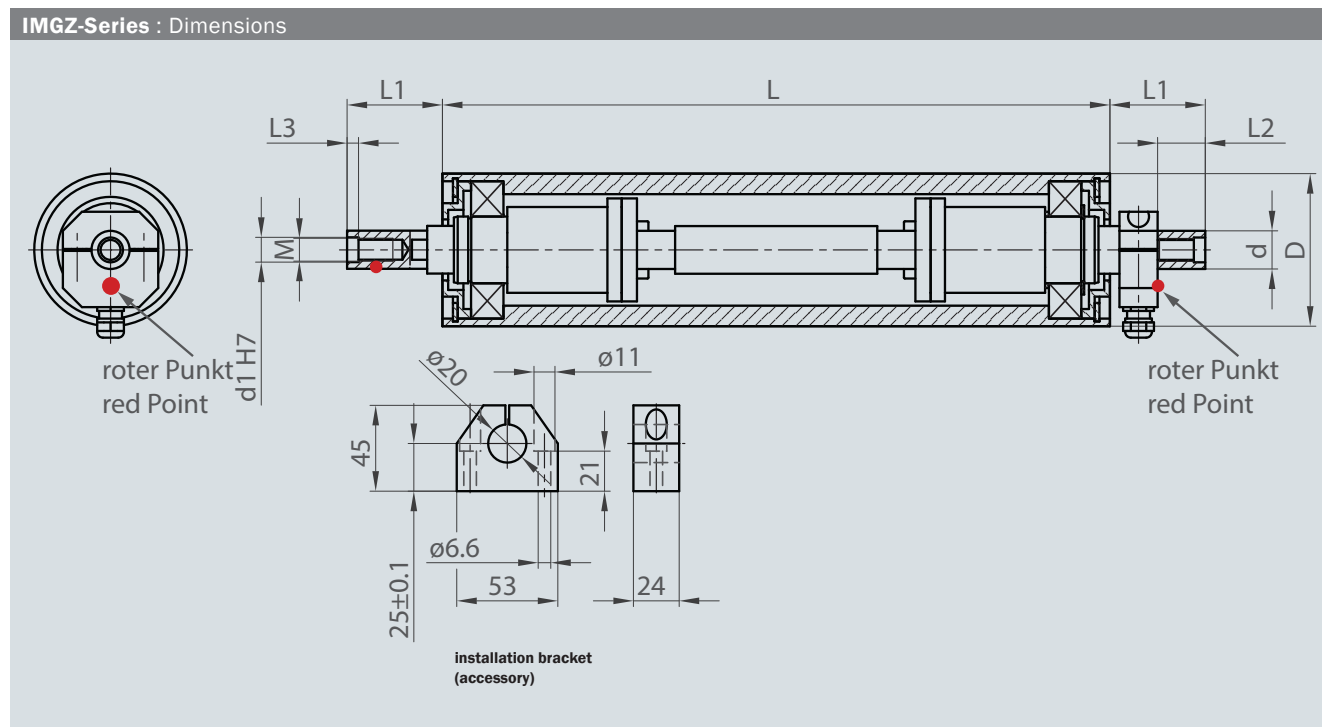


IMGZ-series

The force measuring rollers of the IMGZ035-series combines force sensor and roller. The IMGZ035-series design, incorporating dual bending beams, eliminates the load-specific influences of torque and ensures accurate measurement at any position on the roller while maintaining the parallel position of the material and eliminating angular deflection. The movement of the bending beams is detected by a set of strain gauges arranged in a full bridge bridge. The resulting electrical signal, which is proportional to the applied force, is then amplified for use in monitoring or controlling web tension. With the superior performance of the IMGZ-Series, accurate tension readings are obtained even with low web wrap angles and low material tension.

Functional descriptionktionsbeschreibung

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 material position on the roller. A built in mechanical hard-stop provides high overload protection ensuring that frequent calibration is not required. The red point on the side indicate the direction of the force for a positive measuring signal.



IMGZ-Series : Dimensions									
Series	Nominal force	Dimensions in mm (in.)							
	F_{Nom} in N (lbf)	$L^{1)}$	L_1	L_2	L_3	M	d	d_1	$D^{2)}$
IMGZ035	200 (45)	400 - 3000 (15.7 - 118)	50 (2)	25 (1)	6 (0.24)	M12 x 18 / 23	20 (0.79)	13 (0.51)	80, 100, 120, 140, 160, 200 (3, 4, 5, 6, 7, 8)
	400 (90)								
	750 (170)								
	1500 (340)								
	3000 (680)								

¹⁾ intermediate sizes in 100 mm steps, other lengths on request

²⁾ other diameters on request

IMGZ-Series : Technical data	
Sensitivity	1.8 mV/V
Tolerance of sensitivity	<±0.2 %
Measuring range	30:1
Accuracy class	± 0.5 % F _{Nom}
Temperature coefficient	± 0.1 % / 10 K
Input resistance	175 Ω
Excitation voltage	1 bis 10 VDC
Overload protection	10-times F _{Nom}
Material measuring body	stainless steel
Material and surface of roller	belt-ground (D), anodised (E), non-stick coated (A), chromium plated (V), ceramic coated (K), polyurethane coated (P), rubber coated (G)

IMGZ-Series : Order code	
IMGZ 038 .750 .800 .200 .D	
	Material and surface of roller
	Roller diameter in mm
	Roller length in mm
	Nominal force
	Series

IMGZ-Series : Scope of delivery	
● Measuring roller ● 5 m connecting cable	

IMGZ-Series : Accessories	
● Mounting brackets	



Other products : Tension Monitoring

Measuring amplifiers	Web tension controllers	Intrinsically safe barrier
		

About us
FMS Force Measuring Systems AG is the market leader in the field of web tension measurement, control and specialist for web guiding solutions. For the wire industry we are the only manufacturer offering a complete range of technologies for force measurement, data processing and radio transmission of signals.

Our in house developed products are used in the manufacturing industry, converting, metals, paper, textiles, as well as in cable and wire rope production. Utilising the latest technology, high quality components and a firm understanding of customer applications, FMS supports customers worldwide in the effort to maximize the productivity of their machines. Since 1993, our highly qualified employees have been creating high-end solutions for machine builders and plant operators. As an owner-managed company, we pride ourselves on being personal and approachable with the ability to make decisive moves fast.