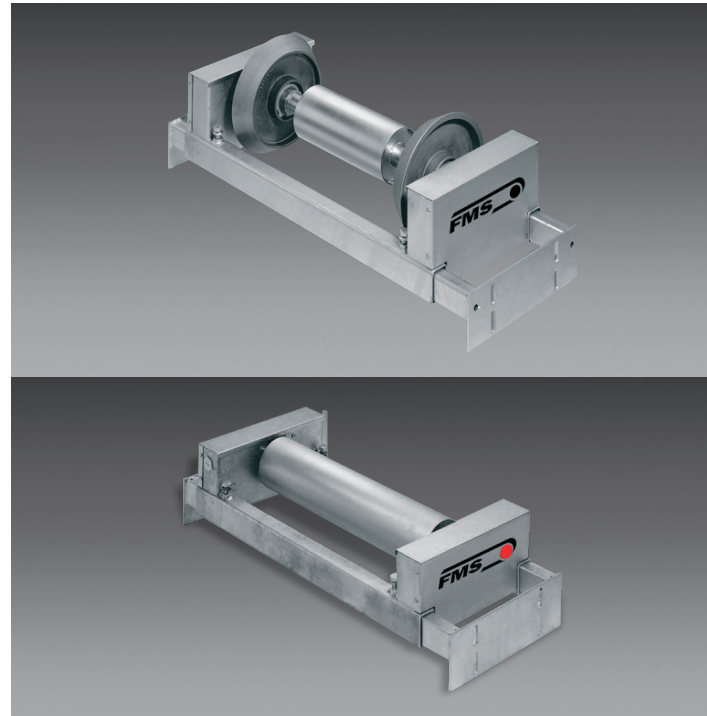


FMS Belt Scales / Measuring Rollers

## **BMGZ 021; BMGZ 041** Robust Measuring Rollers for flat and troughed conveyor belts

- **Longest Lifetime:**  
Robust design, all components enclosed, integrated, contact-less speed detection
- **Precise Measuring Results:**  
10'000-times proven force measuring technology, direct force monitoring on the shaft, without deflection or additional braces to the frame
- **Compact, Maintenance-free:**  
Integrated rpm detection without friction wheel, dual shaft sealings
- **Simple and Universal Retrofit:**  
Sophisticated and proven concept with multiple installation options, flat or troughed (20° to 40°) versions



### **BMGZ 021 and BMGZ 041**

The flat measuring rollers of the series BMGZ 021 are designed for operation in most severe conditions and under steady load in mobile and stationary plants that process heavy, bulky goods, such as sand, gravel, broken stones, coal, building rubble etc.

The measuring rollers of the series BMGZ 041 are suitable for troughed conveyors. A wide portfolio of sizes for standard belts offers solutions for most applications. In combination with the matching electronics unit, there is also a calibratable version of the troughed measuring roller available. This includes an additional speed sensor as well as a temperature sensor for automatic compensation of the environmental temperature.

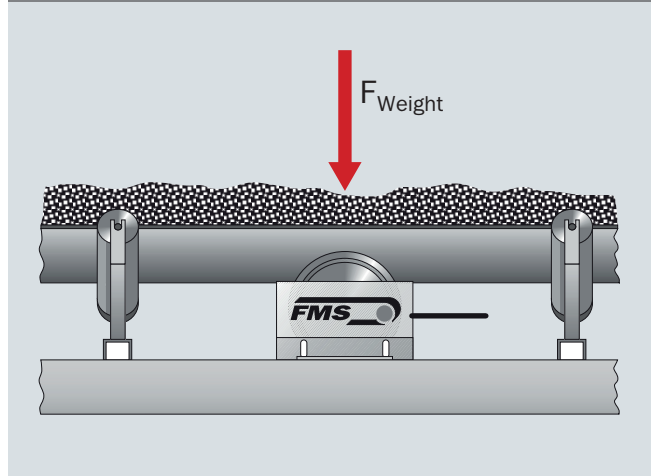
### **Functional Description**

The FMS measuring roller normally substitutes a regular idler roller station of the conveyor belt. The shape of the conveyor belt itself can be adapted by applying the most suitable version of FMS measuring roller design. Both sides of the measuring roller axis are supported by force measuring sensors. This direct measurement at the point of load transmission makes the measuring system insensitive to forces that act in direction of the moving belt. Additional components (guiding beams and connections to the frame, etc.) to isolate the force are not required and lead to an extremely slim design. The integrated, sealed and contact-less speed detection is not subject to any wear. It is also installed directly on the axis of the measuring roller.

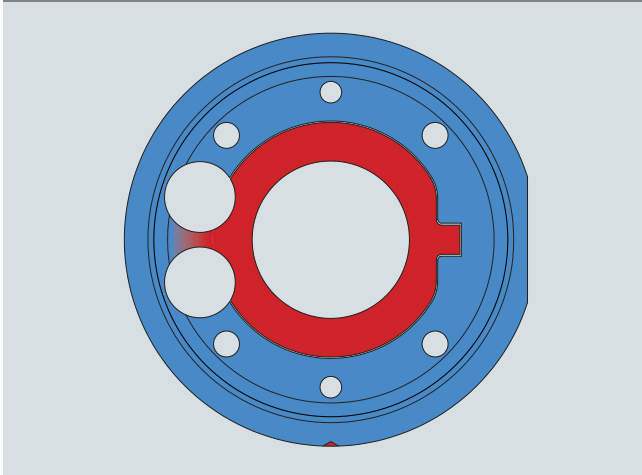
**Fully encapsulated, integrated speed detection**



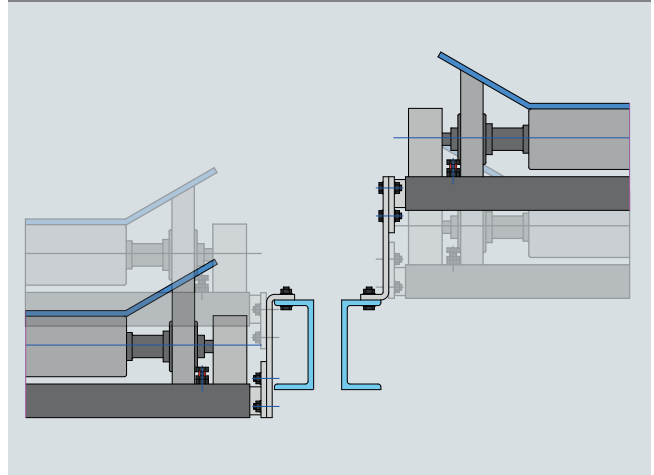
**Direct measurement at the point of force transmission**



**Proven technology with integrated overload protection**



**Versatile installation options**



**BMGZ 021 and BMGZ 041** | Order Code

<b>BMGZ</b>	<b>041.</b>	<b>05.</b>	<b>6.</b>	<b>2.</b>	<b>4</b>
					Increment of speed detection
				Nominal force of the force sensor (encoded)	
			Troughed angle (0 to 40°, 0° for at measuring roller)		
		Belt width (encoded)			
Series (021 flat, 041 troughed, 061 troughed, calibratable)					
FMS Product group belt scales					

**BMGZ 021 and BMGZ 041** | Options

**Calibratable version** | troughed, electronics unit BMGZ 650

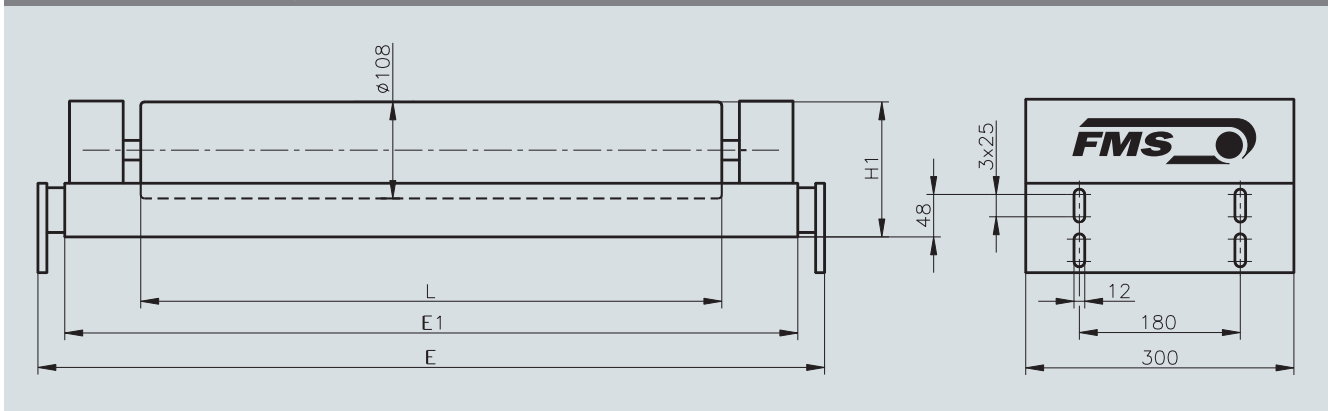
**BMGZ 021 and BMGZ 041** | Scope of supply

- Measuring roller
- Electronics unit (additional order)
- Installation bracket
- Additional installation material not included

**BMGZ 021 and BMGZ 041** | Accessories

- Connecting cable from measuring roller to electronics, 15 m (other lengths on request)

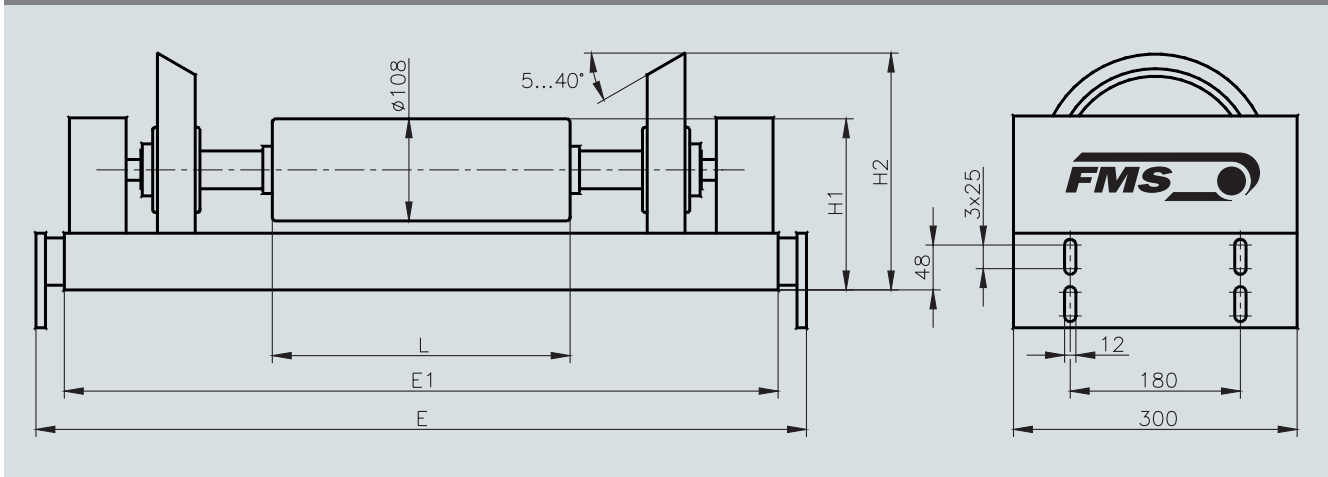
**BMGZ 021 Flat Measuring Roller** | Dimensions in mm



**BMGZ 021 Flat Measuring Roller** | Dimensions in mm [in.]

Belt width	Type	L	E	E <sub>1</sub>	H <sub>1</sub>
400	BMGZ021.020	400 [15.7]	600 – 970 [23.6 – 38.2]	580 [22.8]	150 [5.9]
500	BMGZ021.030	500 [19.7]	700 – 1070 [27.6 – 42.1]	680 [26.8]	150 [5.9]
650	BMGZ021.040	650 [25.6]	850 – 1220 [33.5 – 48.0]	830 [32.7]	150 [5.9]
800	BMGZ021.050	800 [31.5]	1000 – 1370 [39.4 – 53.9]	980 [38.6]	150 [5.9]
1000	BMGZ021.060	1000 [39.4]	1200 – 1570 [47.2 – 61.8]	1180 [46.5]	150 [5.9]

**BMGZ 041 Troughed Measuring Roller** | Dimensions in mm



**BMGZ 041 Troughed Measuring Roller** | Dimensions in mm [in.]

Belt width	Type	L	E	E <sub>1</sub>	H <sub>1</sub>	H <sub>2</sub>
500	BMGZ041.02	200 [7.9]	620 – 990 [24.4 – 39.0]	600 [23.6]	180 [7.0]	232 [9.1]
650	BMGZ041.03	250 [9.8]	720 – 1090 [28.3 – 42.9]	700 [27.6]	180 [7.0]	250 [9.8]
800	BMGZ041.04	315 [12.4]	830 – 1200 [32.7 – 47.2]	810 [31.9]	180 [7.0]	250 [9.8]
1000	BMGZ041.05	380 [15.0]	1045 – 1415 [41.1 – 55.7]	1025 [40.4]	240 [9.4]	352 [13.9]
1200	BMGZ041.06	465 [18.3]	1180 – 1550 [46.5 – 61.0]	1160 [45.7]	240 [9.4]	352 [13.9]
1400	BMGZ041.07	530 [20.8]	1395 – 1765 [54.9 – 69.5]	1375 [54.1]	240 [9.4]	352 [13.9]

**BMGZ 021 and BMGZ 041** | Typical Applications



**FMS Force Measuring Systems AG** | Other Products

**Tension Monitoring & Control**



**Web Guiding**



**Telemetry Systems**



**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.

**Local Contact** | Distribution and Service Partner for FMS Belt Scales