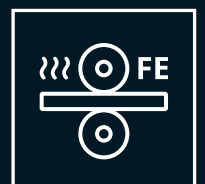
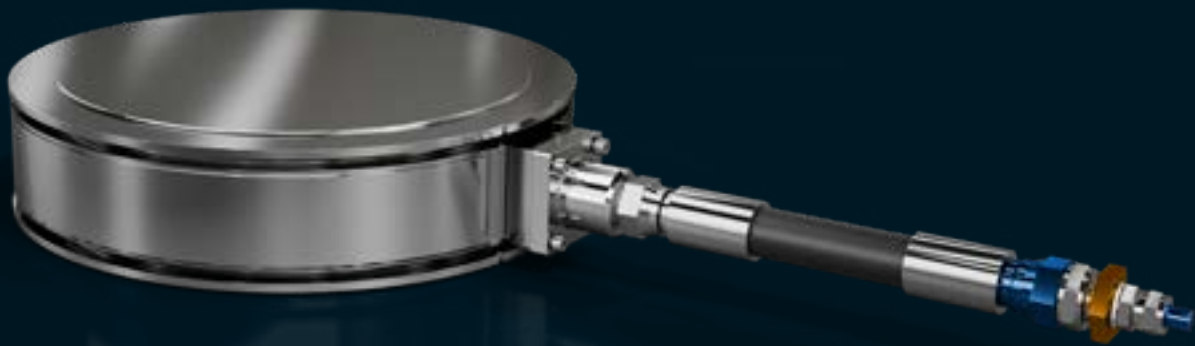


TECHNICAL SPECIFICATION

Force Measurement **EdgerKraft Circular**





EdgerKraft Circular

The IMS EdgerKraft Load Cell is a high-accuracy force measuring device specifically developed for use in vertical edger mills in steel rolling mills.

Designed in accordance with the highest engineering standards, the system ensures reliable and precise measurement of edger roll force for process control, equipment protection and product quality assurance.

Utilizing advanced strain gauge technology and a robust mechanical design, all IMS load cells deliver stable performance under severe operating conditions including high mechanical loads, vibration, temperature variations,

water, scale and environmental contamination.

When integrated with IMS measuring and automation systems, the load cell provides accurate force feedback for Automatic Width Control (AWC) and advanced process optimization functions, helping rolling mills achieve improved width accuracy, higher productivity and better product quality.

While conventional edger systems estimate rolling force from hydraulic pressure, IMS EdgerKraft provides direct force measurement for maximum width control accuracy.

Key Advantages

- precise edger force measurement with excellent repeatability and long-term stability
- improved strip width control and support for Automatic Width Control (AWC)
- reduced width deviations and improved product quality
- high-strength stainless steel construction for extreme rolling forces and shock loads
- fully sealed design for operation in water, oil, dust and scale environments
- high-temperature stability through advanced compensation techniques
- continuous overload monitoring and equipment protection

System Compatibility

- modern automation systems and mill control platforms
- automatic Width Control (AWC) systems
- IMS controllers and force measurement platforms

Typical Applications

- Roughing Mill Edger Stands
- Finishing Mill Edger Stands

Specifications

Nominal measuring range	2 – 6 MN
Maximum excitation voltage	≤ 15 VDC
Nominal resistance of strain gauge bridge	> 300 Ω
Nominal sensitivity	1.7 mV/V
Combined error ^{*1)}	≤ ± 0.5 % of full scale output
Response time	< 0.1 ms
Deflection	≤ 0.1 % at nominal load
Thermal zero drift	≤ ± 0.008 % / °C
Insulation resistance	> 2 GΩ
Operating temperature range	-20 °C ~ 150 °C
Limit load	300 % of nominal load
Breaking load	500 % of nominal load
Degree of protection	IP69K / IP68
Storage temperature range	-40 °C ~ 150 °C

^{*1)} combined error includes linearity deviation, hysteresis and repeatability error

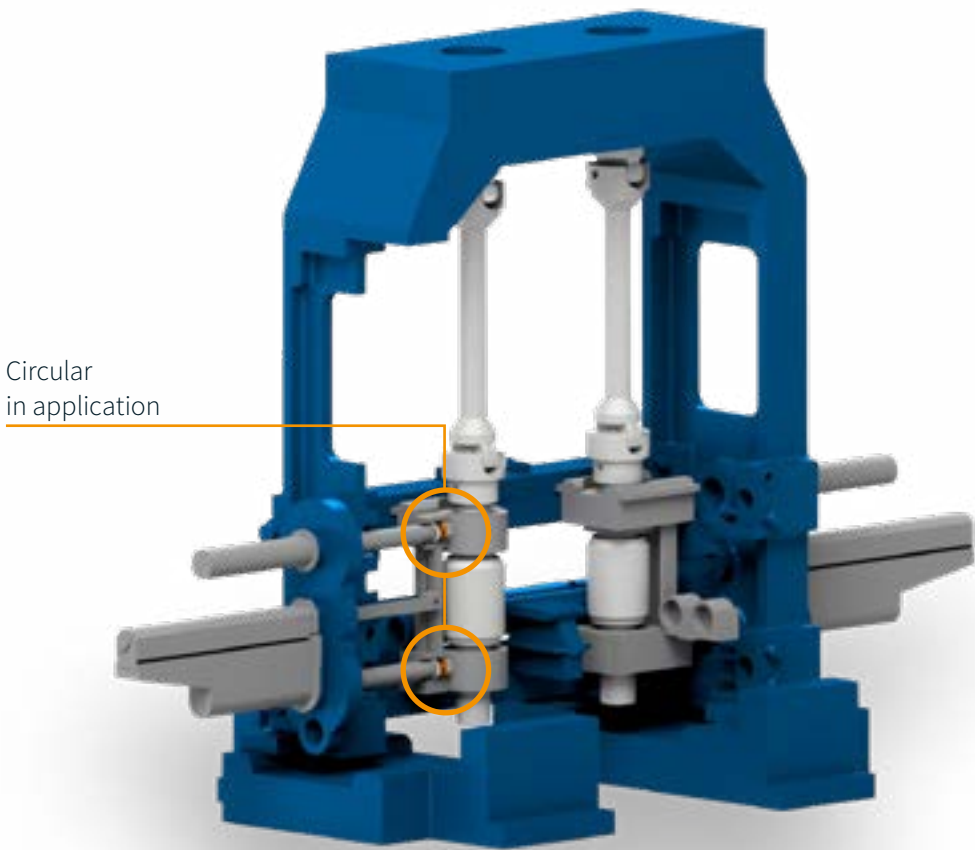


Figure 1: Illustration of a vertical edger mill equipped with EdgerKraft Circular

Force Distribution

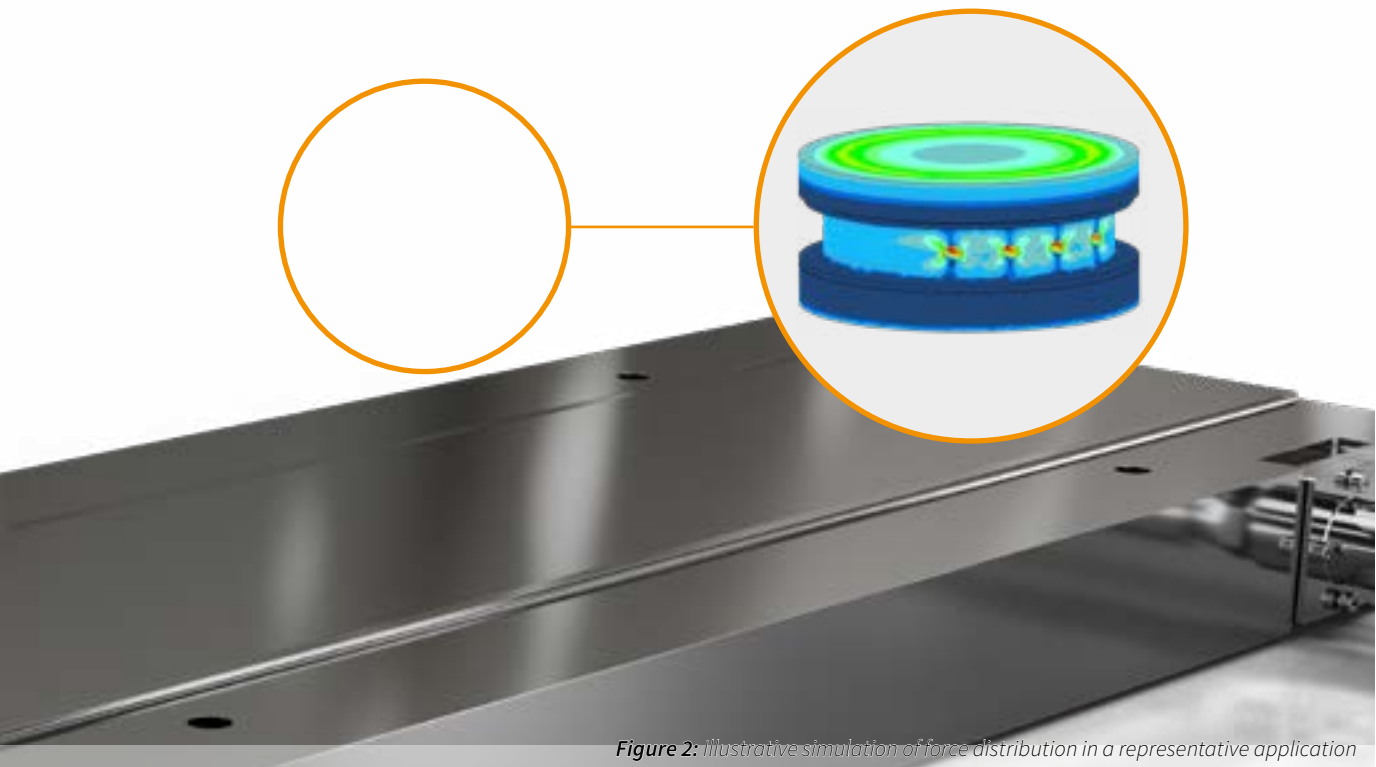


Figure 2: illustrative simulation of force distribution in a representative application

Advantages of Using Load Cells on Edger Mills

Improved Width Accuracy

Real-time edger force measurement provides a critical process variable for maintaining target strip width.

Enhanced Automatic Width Control

Force feedback enables closed-loop width control and improved width consistency over the entire strip length.

Increased Yield

Reduced edge trimming and crop losses improve material utilization and production efficiency.

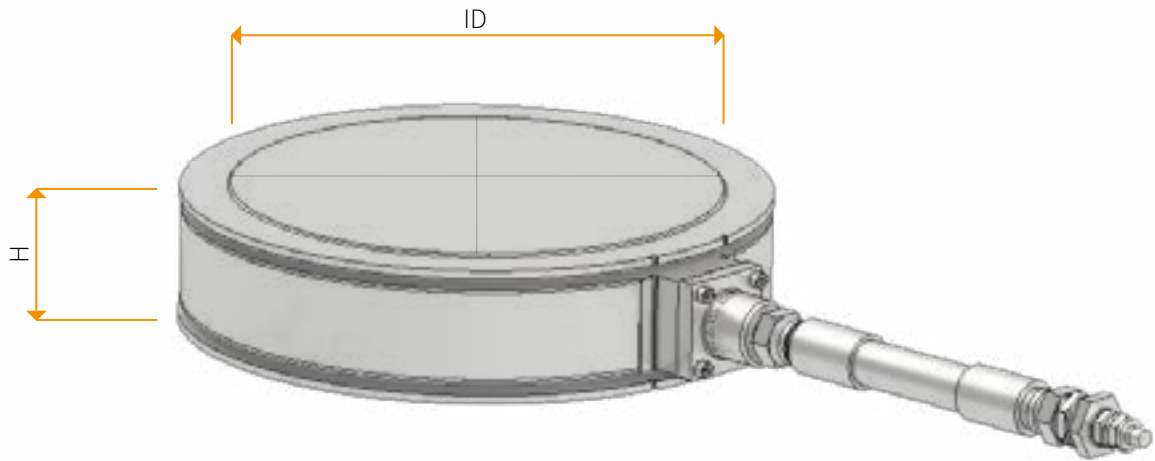
Better Head and Tail Quality

Minimizes fish-tail and tongue formation while improving width accuracy at strip head and tail.

Equipment Protection

Continuous monitoring helps detect overload conditions and abnormal rolling situations.

Mechanical Dimensions
EdgerKraft Circular



Characteristics

	ID mm (inch)	H mm (inch)
150 (5.91)	510 (20.4)	74 (2.91)
180 (7.2)	540 (21.6)	
210 (8.4)	570 (22.8)	
240 (9.6)	600 (24)	
270 (10.8)	630 (25.2)	
300 (12)	660 (26.4)	
330 (13.2)	720 (28.8)	
360 (14.4)	750 (30)	
390 (15.6)	780 (31.2)	
420 (16.8)	810 (32.4)	
450 (18)		
480 (19.2)		



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