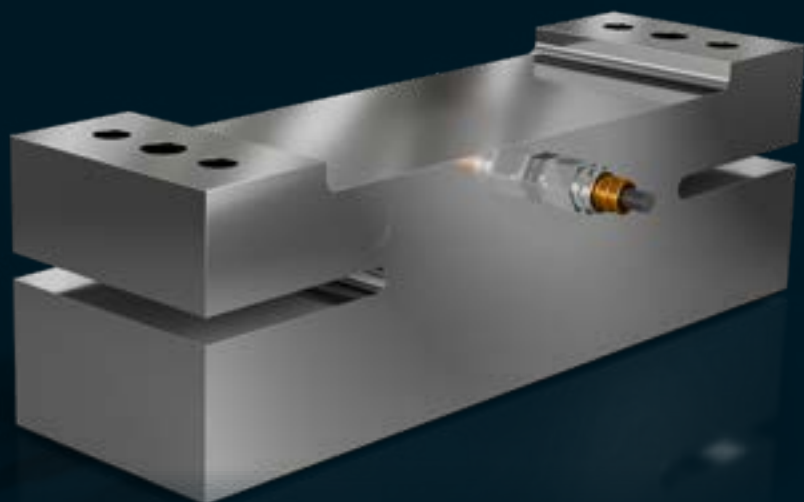


TECHNICAL SPECIFICATION

Force Measurement **StripKraft Vertical (VMK)**





StripKraft Vertical (VMK)

The StripKraft Vertical (VMK) force transducer is particularly suitable for measuring the force vertically to the mounting plane of the force transducer.

The force is measured using strain gauges connected in a wheatstone bridge.

Especially for the power supply and the evaluation of the output signal of the StripKraft Vertical (VMK), IMS has developed the StripKraft Controller (MMV).

IMS StripKraft systems for strip tension measurement are used to precisely record the tensile forces acting on the

strip during the rolling process. The strip is guided over deflection rollers, whereby a radial force is generated by the wrap.

This force is detected by strain gauges in the force transducer and converted into an electrical signal. If required due to the wrap angle, our StripKraft systems can compensate for the dead weight of the measuring roller, allowing strip tension to be measured during coil winding, for example. This prevents material tears and improves product quality.

FEATURES STRIP KRAFT VERTICAL (VMK)

- only sensitive in measuring direction
- the used bearing can be mounted directly to the force transducer without adapter plate
- high overload capacity (standard up to eight the nominal load), optionally up to 20 times the nominal load
- the integrated calibration signal makes a reference measurement on site unnecessary; this facilitates commissioning
- the materials used lend the force transducers high spring stiffness, which ensures strip-run stability
- high dynamic range and fast response to load changes
- manufacturing in accordance with customer's specific requirements ensures easy installation und simplifies commissioning

Specifications

Nominal measuring range	0.5 – 400 kN
Maximum excitation voltage	≤ 15 VDC
Nominal resistance of strain gauge bridge	700 Ω
Nominal sensitivity	0.5 mV/V
Repeatability	≤ ± 0.05 % of full scale output
Linearity	≤ ± 0.1 % of full scale output
Hysteresis	≤ ± 0.1 % of full scale output
Deflection	≤ 0.03 mm at nominal load
Thermal zero drift	≤ ± 0.008 % / °C (20 °C ~ 100 °C / 68 °F ~ 212 °F)
Insulation resistance	> 2 GΩ
Operating temperature range	-10 ~ +100 °C (optionally 150 °C / ~ 302 °F)
Limit load	800 % of nominal load
Breaking load	1,200 % of nominal load
Degree of protection according to EN60529 (IEC529)	IP67

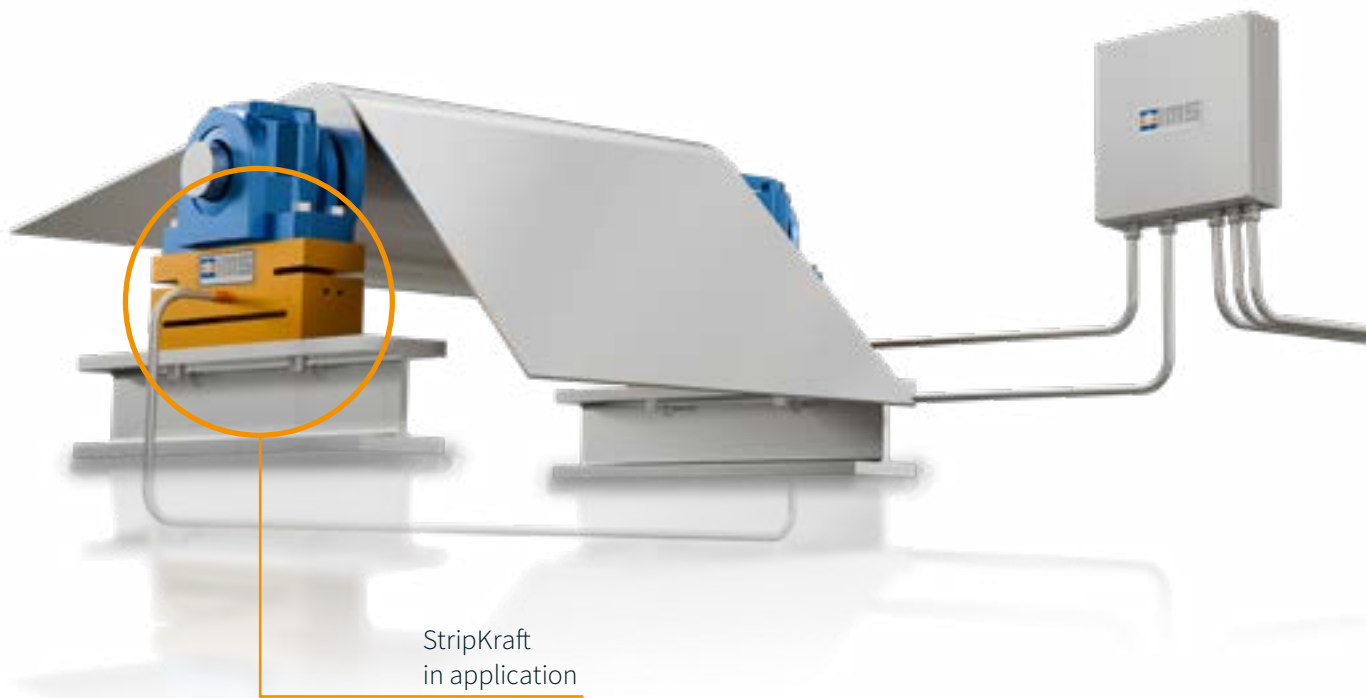
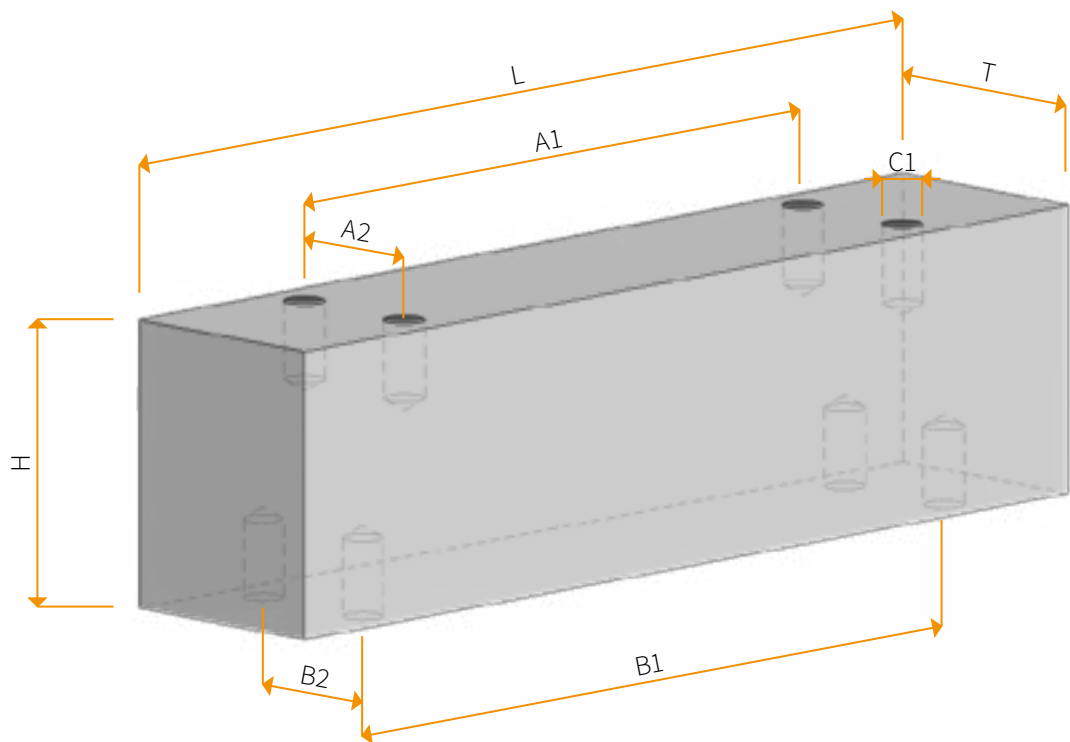


Figure 1: Illustration of StripKraft HMK with StripKraft Controller (MMV) in application



Model Series
StripKraft Vertical (VMK)

Characteristics

Model Series	L mm (inch)	T mm (inch)	H mm (inch)	Available Capacity kN	
				Min	Max
HMK 511	250 (9.84)	89 (3.50)	125 (4.92)	2	24
HMK 513	300 (11.81)	89 (3.50)	125 (4.92)	2	32
HMK 520	375 (14.76)	100 (3.94)	125 (4.92)	4	60
HMK 526	460 (18.11)	100 (3.94)	125 (4.92)	4	80
HMK 528	508 (20.00)	114 (4.49)	170 (6.69)	16	150
HMK 532	560 (22.05)	127 (5.00)	200 (7.87)	16	250
HMK 5XX	Custom Dimension			1	300



Figure 2: StripKraft VMK in use in a processing line

Thread Holes Metric		Mounting Bolt Pattern		
C1	A1	A2	B1	B2
< 16 kN: M12 x 18	160	55	180	55
< 16 kN: M12 x 18	180	55	220	55
< 32 kN: M16 x 24	240	60	280	60
< 48 kN: M20 x 27	300	60	350	60
< 100 kN: M24 x 32	320	70	380	70
< 100 kN: M24 x 32	380	75	440	75



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