



STRIP THICKNESS

Contact Gauges VBM / VBF

Application

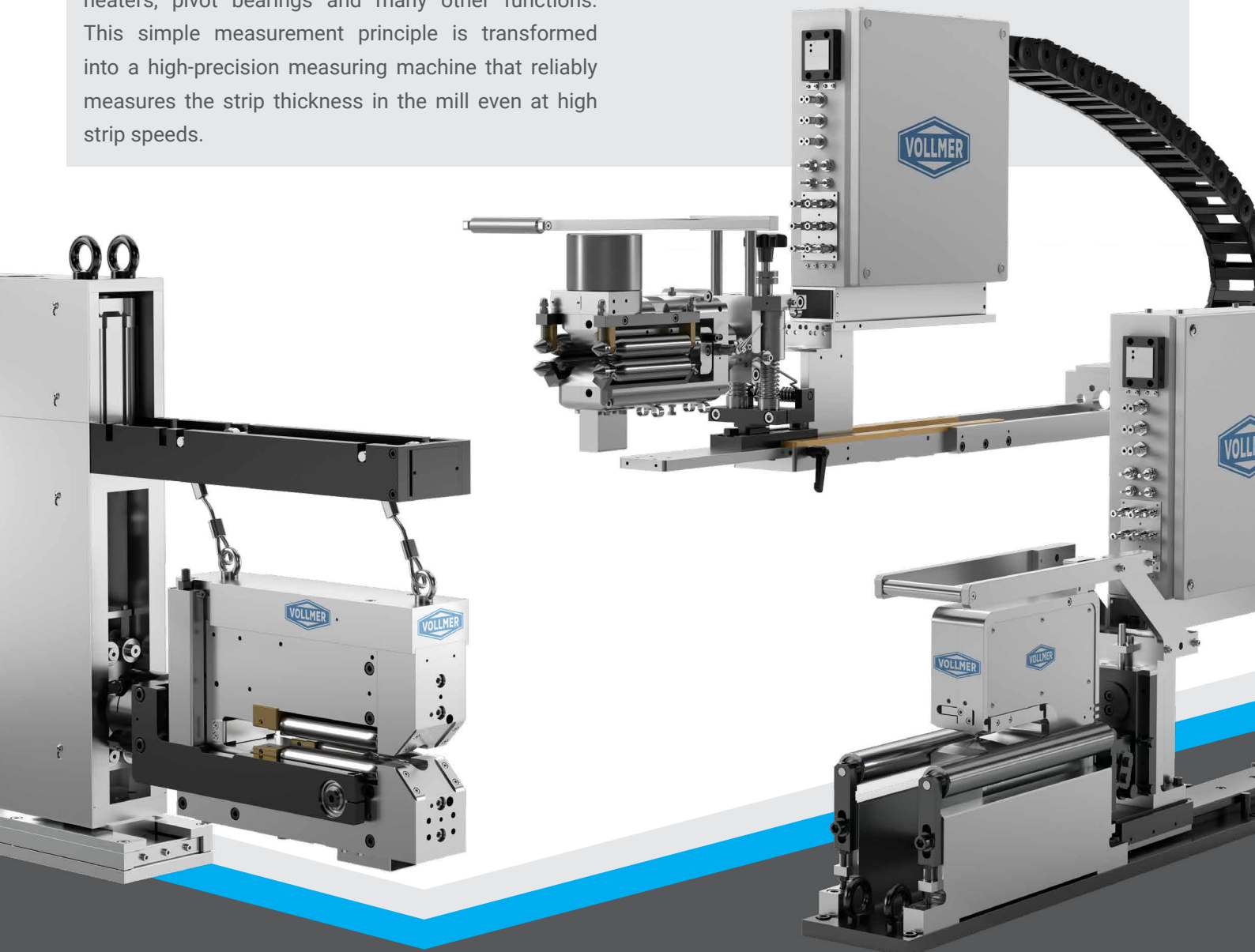
- Metal strip

Function

Two transducers contact the upper and lower side of the strip, the sum of the individual measurements is the absolute strip thickness. In complex measuring heads, in some cases with cardanic suspension, integrated heaters, pivot bearings and many other functions. This simple measurement principle is transformed into a high-precision measuring machine that reliably measures the strip thickness in the mill even at high strip speeds.

Advantages

- Direct, absolute measurement irrespective of the alloy
- Precision up to 0.5 micrometer
- Correct results even with oiled strip



Type Series	VBF 1018	VBM 1063	VBM XX65	
Process Parameters				
Material to be measured	metal strip			
Max. strip temperature	120 °C (up to 200 °C with reduced accuracy)			
Max. strip speed	800	500	800	m/min
Max. pass line variation during measurement	strip guiding rolls for stabilization of the pass line within the scope of supply	± 5	± 5	mm
Measurement Parameters				
Measurement range	0.005 – 2.5	0.1 – 4.0 (up to 9.0 with reduced accuracy)	0.1 – 9.0	mm
Measurement throat depth (- 20 mm = max. measurement depth - 10 mm at VBM 565)	100	100	VBM 565: 50 VBM 1065: 100 VBM 1565: 150 VBM 2065: 200	mm
Measurement resolution	0.1			µm
Measurement accuracy (For $T_i \geq 10$ ms, measurement insert material: Diamond. For strip temperatures > 40 °C only with gauge head heating, for high-speed or long-running strip intermediate zero-setting may be necessary.)	± 0.1 % of nominal value, but not better than ± 0.0005 mm	± 0.1 % of nominal value, but not better than ± 0.001 mm		
Horizontal positioning	with manual positioning: 500 with motorized positioning alternative: 400 600 800 1,000			mm
Sampling rate	1			kHz
Averaging time T_i	1 – 2,000			ms
Dimensions				
Width (installation space) in strip pass direction	200 (220)	165 (185) 230 (250) with motorized pos.	140 (160)	mm
Height below pass line	210	175	210	mm
Width outside line	200	220	200	mm
Connection Data / Consumptions / Environment				
Interfaces	alternative: PROFINET, PROFIBUS DP, TCP/IP, digital and analog in- and outputs			
Supply voltage / connected load	with manual positioning: 110 – 230 V AC, 50 – 60 Hz / 1 kW with motorized positioning: 3 x 380 – 460 V AC, 50 – 60 Hz / 2 kW with gauge head heating: additional 0.5 kW / gauge head			
Protection class	gauge head: IP64; pneumatic cabinet: IP55; control cabinet: IP55			
Environment	gauge head and pneumatic cabinet: 5 – 50 °C control cabinet: 5 – 35 °C, relative humidity: 0 – 95 %			
Compressed air quality acc. DIN ISO 8573-1	solids: quality class 5 = max. 40 µm, particle density < 10 mg/m ³ water content: quality class 5 = 9.4 g/m ³ at 10 °C oil content: quality class 4 = oil content < 5 mg/m ³			
Compressed air supply	pressure: min. 5 bar; consumption: max. 7 m ³ /h			
Options				
Positioning	motorized, positioning accuracy ± 1 mm			
Gauge head heating	heating elements and temperature sensor built in the gauge head			
Module for exchange	for VBM 1065 and VBM 2065			
Automatic calibration plate swing-in device	for VBM xx65			
Further options	data recording (VRecoS), statistical evaluation (VGraph), pass schedule store, etc.			

