

+6X51

## STRIP THICKNESS

### CONTACT GAUGES VBM

#### APPLICATION

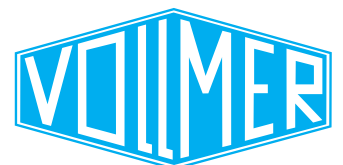
- ▶ Metal strip

#### 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 one micrometer per millimeter of strip thickness
- ▶ Correct results even with oiled strip



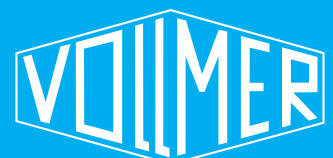
TYPE SERIES	VBM 1063	VBM XX65	VBM 1065 FM	
<b>PROCESS PARAMETERS</b>				
Material to be measured	metal strip			
Maximal strip temperature	120 °C (up to 200 °C with reduced accuracy)			
Maximal strip speed	500	800	800	m/min
<b>MEASUREMENT PARAMETERS</b>				
Measurement range	0.1 – 4.0 (up to 9.0 with reduced accuracy)	0.1 – 9.0	0.01 – 2	mm
Measurement throat depth (- 20 mm = max. measurement depth)	100	VBM 1065: 100 VBM 1565: 150 VBM 2065: 200	100	mm
Maximal pass line variation during measurement	± 5	± 5	strip guiding rolls for fixing the pass line within the scope of supply	mm
Measurement resolution	0.1			µm
Measurement accuracy $T_i \geq 10$ ms, measurement insert material: diamond, ambient temperature > 18 °C, at strip temperatures > 40 °C only with gauge head heating	± 0.1 % of nominal value, but not better than ± 0.001 mm			
Horizontal positioning	with manual positioning alternative: 300 500 with motorized positioning alternative: 400 600 800 1,000			mm
Sampling rate	1			kHz
Averaging time $T_i$	1 – 2,000			ms
<b>DIMENSIONS</b>				
Width (installation space) in strip pass direction	165 (185) 230 (250) with motorized pos.	140 (160)	200 (220)	mm
Height below pass line	175	210	195	mm
Width outside line	220	200	200	mm
<b>CONNECTION DATA / CONSUMPTIONS / ENVIRONMENT</b>				
Interfaces	alternative: PROFINET, PROFIBUS DP, TCP/IP, hardware (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 <sup>3</sup> water content: quality class 5 = 9.4 g/m <sup>3</sup> at 10 °C, oil content: quality class 4 = oil content < 5 mg/m <sup>3</sup>			
Compressed air supply	pressure: min. 5 bar, consumption: max. 7 m <sup>3</sup> /h			
<b>OPTIONS</b>				
Positioning	motorized, positioning accuracy ± 1 mm			
Gauge head heating	heating elements and temperature sensor built in the gauge head, control by two-point controller			
Module for exchange	for VBM 1065 and VBM 2065			
Automatic calibration plate swing-in device	for VBM xx65			
Further options	Automatic Gauge Control (AGC), data recording (VRecoS), statistical evaluation (VGraph), pass schedule store, etc..			

DB VBM17115



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