

ERM 200 Series

- Modular encoders
- Magnetic scanning principle



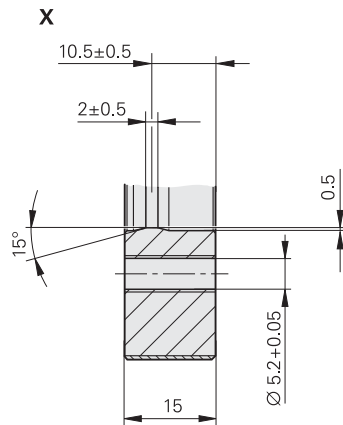
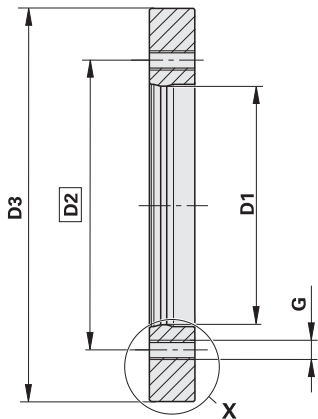
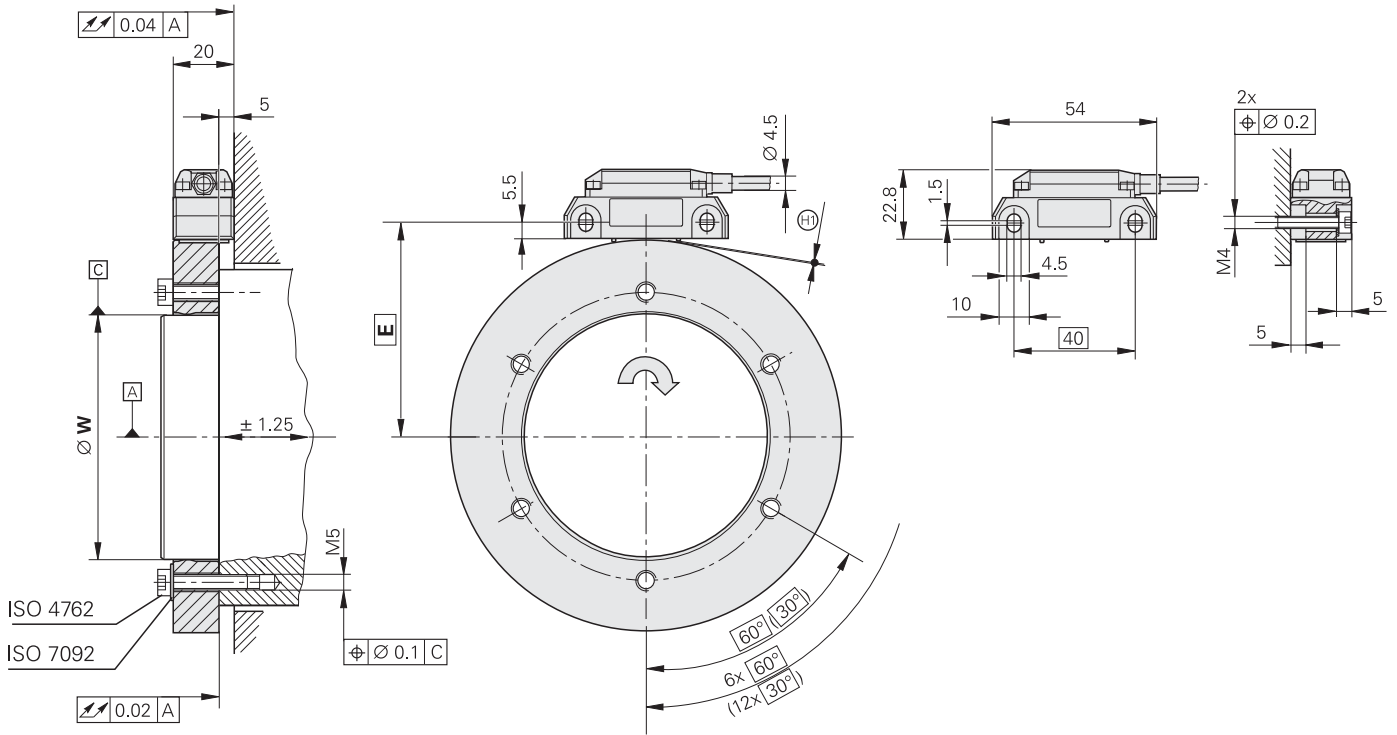
in mm



Tolerancing ISO 8015

ISO 2768 - m H

< 6 mm: ±0.2 mm



- ▣ = Bearing
- ⊕ = Mounting distance of 0.15 mm set with spacer foil
- ↻ = Direction of shaft rotation for output signals according to interface description

D1	W	D2	D3	E	G
Ø 40 -0.007	Ø 40 +0.009/+0.002	Ø 50	Ø 75.44	43.4	6x M6
Ø 70 -0.008	Ø 70 +0.010/+0.002	Ø 85	Ø 113.16	62.3	6x M6
Ø 80 -0.008	Ø 80 +0.010/+0.002	Ø 95	Ø 128.75	70.1	6x M6
Ø 120 -0.010	Ø 120 +0.013/+0.003	Ø 135	Ø 150.88	81.2	6x M6
Ø 130 -0.012	Ø 130 +0.015/+0.003	Ø 145	Ø 176.03	93.7	6x M6
Ø 180 -0.012	Ø 180 +0.015/+0.003	Ø 195	Ø 257.50	134.5	6x M6
Ø 220 -0.014	Ø 220 +0.018/+0.004	Ø 235	Ø 257.50	134.5	6x M6
Ø 295 -0.016	Ø 295 +0.020/+0.004	Ø 310	Ø 326.90	169.2	6x M6
Ø 410 -0.018	Ø 410 +0.025/+0.005	Ø 425	Ø 452.64	232.0	12x M6

Scanning head	AK ERM 220	AK ERM 280
Incremental signals	□ TTL	~ 1 V _{PP}
Cutoff frequency -3 dB Scanning frequency	- ≤ 350 kHz	≥ 300 kHz -
Signal period	Approx. 400 μm	
Line count*	See Scale Drum	
Power supply	5 V ± 10% DC	
Current consumption	≤ 150 mA (without load)	
Electrical connection*	Cable 1 m, with or without coupling	
Cable length	≤ 100 m (with HEIDENHAIN cable)	≤ 150 m (with HEIDENHAIN cable)
Vibration 55 to 2000 Hz Shock 6 ms	≤ 400 m/s ² (EN 60068-2-6) ≤ 1000 m/s ² (EN 60068-2-27)	
Operating temperature	-10 °C to 100 °C	
Protection EN 60529	IP 67	
Weight	Approx. 0.15 kg (with cable)	

Scale drum	ERM 200 scale drum									
Measuring standard	MAGNADUR graduation; signal period of approx. 400 μm									
Inside diameter*	40 mm	70 mm	80 mm	120 mm	130 mm	180 mm	220 mm	295 mm	410 mm	
Outside diameter	75.44 mm	113.16 mm	128.75 mm	150.88 mm	176.03 mm	257.50 mm	2570.50 mm	326.90 mm	452.64 mm	
Line count*	600	900	1024	1200	1400	2048	2048	2600	3600	
System accuracy ¹⁾	± 36"	± 25"	± 22"	± 20"	± 18"	± 12"	± 12"	± 10"	± 9"	
Accuracy of the graduation ²⁾	± 14"	± 10"	± 9"	± 8"	± 7"	± 5"	± 5"	± 4"	± 4"	
Reference mark	One									
Mech. permissible speed	≤ 19000 min ⁻¹	≤ 14500 min ⁻¹	≤ 13000 min ⁻¹	≤ 10500 min ⁻¹	≤ 9000 min ⁻¹	≤ 6000 min ⁻¹	≤ 6000 min ⁻¹	≤ 4500 min ⁻¹	≤ 3000 min ⁻¹	
Moment of inertia of the rotor	0.34 · 10 ⁻³ kgm ²	1.6 · 10 ⁻³ kgm ²	2.7 · 10 ⁻³ kgm ²	3.5 · 10 ⁻³ kgm ²	7.7 · 10 ⁻³ kgm ²	38 · 10 ⁻³ kgm ²	23 · 10 ⁻³ kgm ²	44 · 10 ⁻³ kgm ²	156 · 10 ⁻³ kgm ²	
Permissible axial motion	± 1.25 mm									
Weight approx.	0.35 kg	0.69 kg	0.89 kg	0.72 kg	1.2 kg	3.0 kg	1.6 kg	1.7 kg	3.2 kg	

* Please select or indicate when ordering

¹⁾ Before installation. Additional error caused by mounting inaccuracy and inaccuracy from the bearing of the drive shaft are not included.

²⁾ For other errors, see *Measuring Accuracy*

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