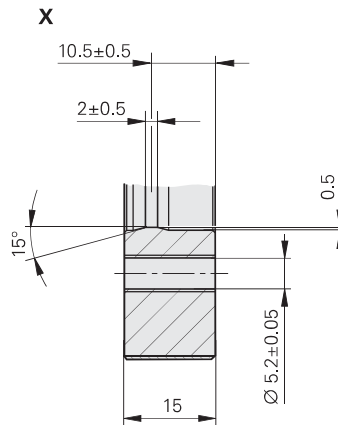
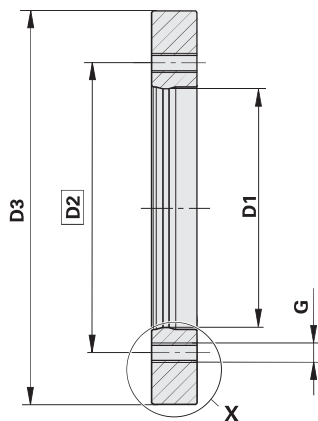
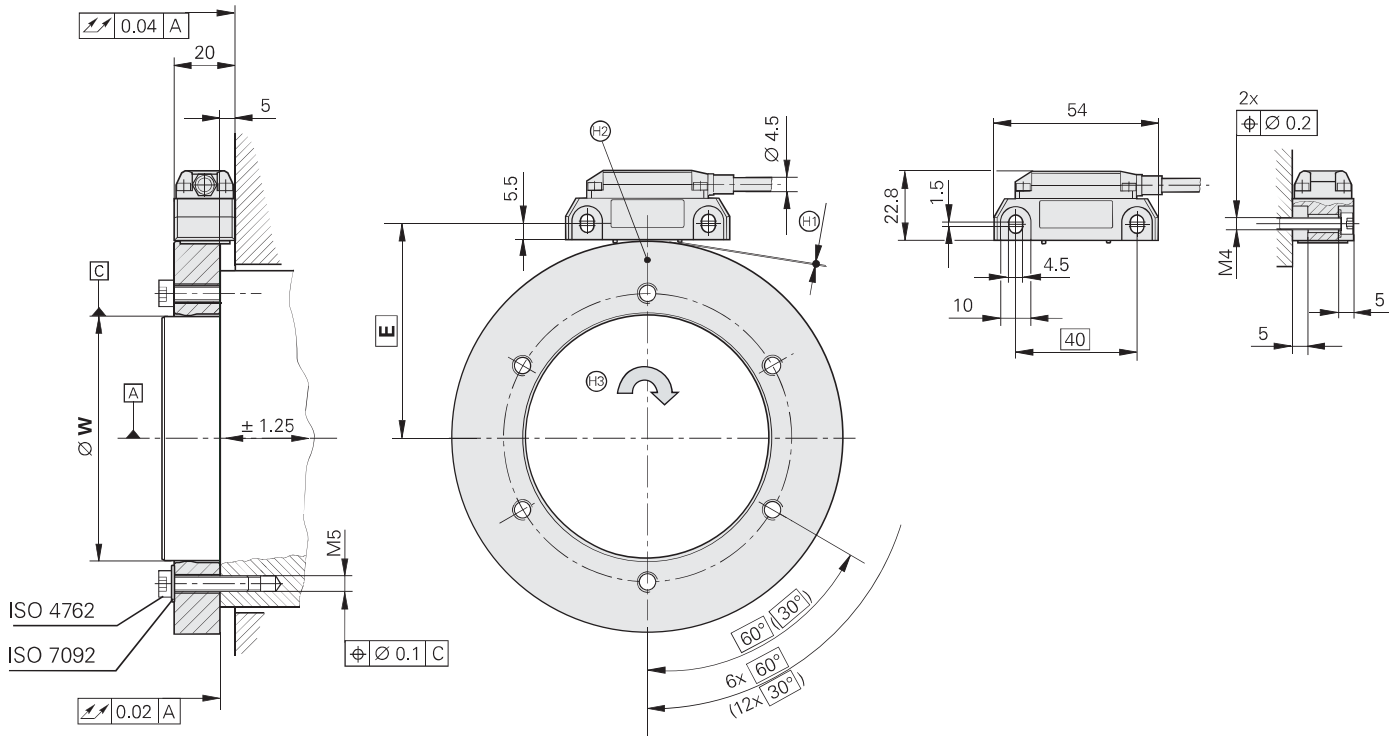


# ERM 200 series

- Modular encoders with magnetic scanning principle
- Signal period approx. 400 μm (at circumference)
- For C axis on lathes



mm  
  
 Tolerancing ISO 8015  
 ISO 2768 - m H  
 < 6 mm: ±0.2 mm

- Ⓐ = Bearing
- Ⓜ = Mounting distance of 0.15 mm set with spacer foil
- Ⓟ = Marker for reference mark, position tolerance with respect to reference mark ±5°
- Ⓡ = 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 -0.020	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 <sub>pp</sub>
Cutoff frequency -3 dB Scanning frequency	- ≤ 350 kHz	≥ 300 kHz -
Signal period	Approx. 400 μm	
Line count*	See "Scale drum"	
Power supply	5 V DC ± 10 %	
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 <sup>2</sup> (EN 60068-2-6) ≤ 1000 m/s <sup>2</sup> (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	TTR ERM 200									
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	257.50 mm	326.90 mm	452.64 mm	
Line count*	600	900	1 024	1 200	1 400	2 048	2 048	2 600	3 600	
Position error per signal period <sup>1)</sup>	± 15.5"	± 10.5"	± 9"	± 8"	± 6.5"	± 4.5"	± 4.5"	± 3.5"	± 3"	
Accuracy of graduation	± 11"	± 8"	± 7"	± 6"	± 5.5"	± 4"	± 5"	± 4"	± 3.5"	
Reference mark*	TTR ERM 200: One TTR ERM 200C: Distance-coded									
Mech. permissible speed	≤ 19000 min <sup>-1</sup>	≤ 14500 min <sup>-1</sup>	≤ 13000 min <sup>-1</sup>	≤ 10500 min <sup>-1</sup>	≤ 9000 min <sup>-1</sup>	≤ 6000 min <sup>-1</sup>	≤ 6000 min <sup>-1</sup>	≤ 4500 min <sup>-1</sup>	≤ 3000 min <sup>-1</sup>	
Moment of inertia of the rotor	0.34 · 10 <sup>-3</sup> kgm <sup>2</sup>	1.6 · 10 <sup>-3</sup> kgm <sup>2</sup>	2.7 · 10 <sup>-3</sup> kgm <sup>2</sup>	3.5 · 10 <sup>-3</sup> kgm <sup>2</sup>	7.7 · 10 <sup>-3</sup> kgm <sup>2</sup>	38 · 10 <sup>-3</sup> kgm <sup>2</sup>	23 · 10 <sup>-3</sup> kgm <sup>2</sup>	44 · 10 <sup>-3</sup> kgm <sup>2</sup>	156 · 10 <sup>-3</sup> kgm <sup>2</sup>	
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

<sup>1)</sup> The position error within one signal period and the accuracy of the graduation result together in the encoder-specific error; for additional error through mounting and the bearing of the measured shaft, see *Measuring accuracy*  
Other line counts/dimensions upon request