

AS

Absolute Magnetic Scales

The robust AS absolute magnetic scales consist of a stainless steel carrier and an elastomer-bonded ferrite. The elasto-ferrite layer is magnetised with an incremental magnetic pattern and a pseudo-random code for reliable absolute position sensing.

EASY
INSTALLATION

UP TO 16.3 M
LENGTH

TRACK
SYSTEM
COMPATIBLE



Features and benefits

- ▶ Excellent resistance to dirt, dust and humidity
- ▶ Easy installation with adhesive tape, end clamps or track section
- ▶ Optional protective cover foil for heavy duty applications
- ▶ Partial arc application possibility



SMT PICK AND PLACE



SMALL SIZE



LINEAR MOTOR



MEDICAL

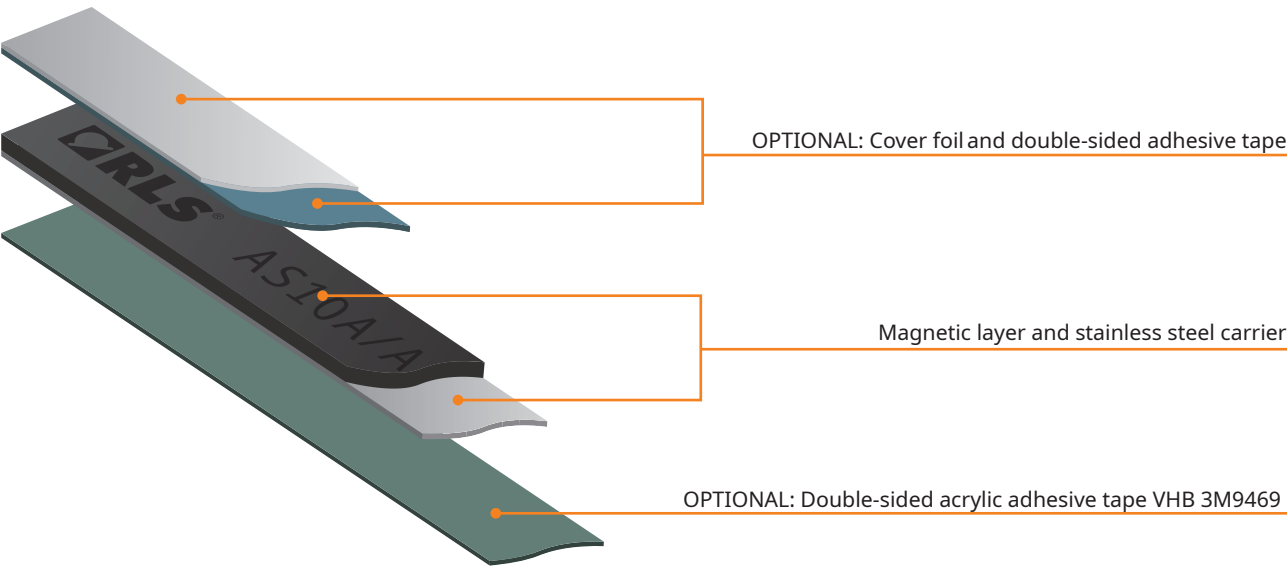


ASSEMBLY LINES

Magnetic scale design

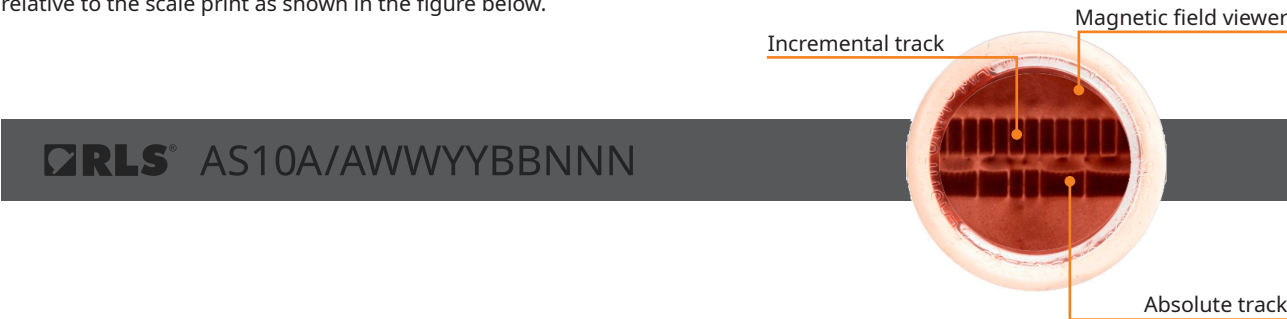
Dimensions and tolerances are in mm.

Structure



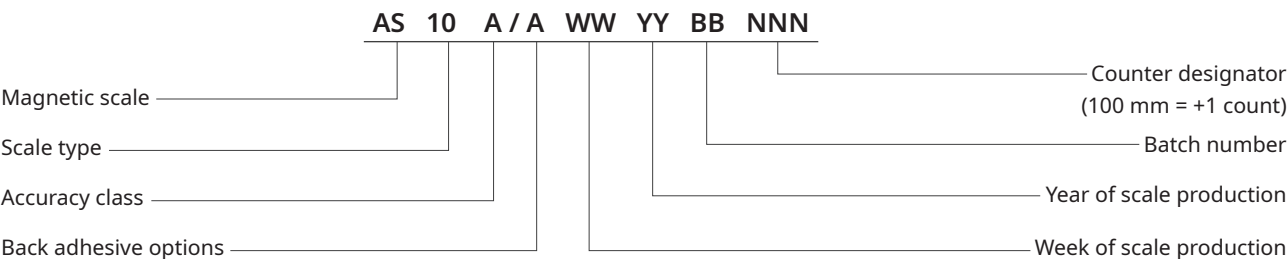
Appearance and print

The orientation of the magnetised incremental track and absolute track is always the same, relative to the scale print as shown in the figure below.



Scale surface print description

Scale surface print appears every 100 mm and contains the RLS logo and the part number.



Technical specifications

System data

Incremental pole length	2 mm
Maximum scale length	16.3 m
Scale accuracy	Class A ±40 µm/m

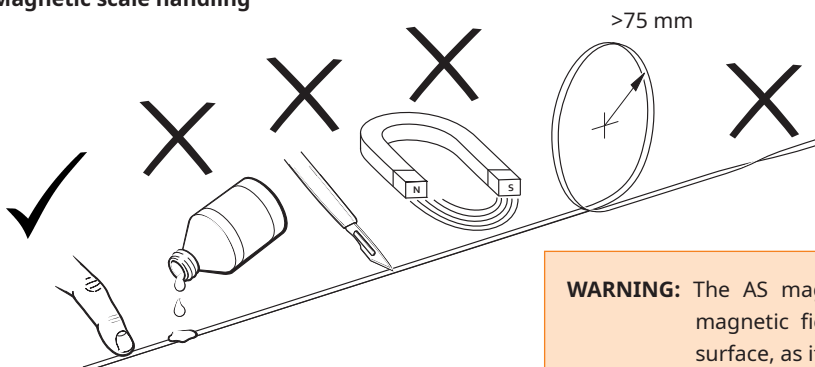
Mechanical data

Material	Carrier	1.4310 stainless steel
	Magnetic scale	NBR elasto-ferrite
Thickness	Carrier	0.3 ±0.05 mm
	Double-sided acrylic adhesive tape VHB 3M9469	0.13 mm
	Cover foil	0.076 ±0.006 mm
	Double sided tape	0.05 mm
	Scale	1.43 ±0.1 mm (with back adhesive) 1.3 ±0.1 mm (without back adhesive)
Mass	AS10	62 g/m
Width	AS10	10 ^{-0.05 +0.15} mm
Cover foil width	CF08 (AS10)	9.5 ±0.1 mm (for regular scale)
	CF10 (AS10)	7.6 ±0.35 mm (for track system)
Expansion coefficient (carrier)		~17 × 10 ⁻⁶ [m/mK]

Environmental data

Temperature	Operating	Scale applied on the linear guide: -40 °C to +100 °C Scale applied on the curved surface: -40 °C to +80 °C
	Storage	-40 °C to +60 °C

Magnetic scale handling



WARNING: The AS magnetic scale should not be exposed to magnetic field densities higher than 25 mT on its surface, as it can damage the scale.

Part numbering

	AS	10	A	01000	A	00
Precision class						
A - N/A						
Scale length						
xxxxx - Where xxxxx equals scale length in mm						
Options						
A - Back-adhesion tape (standard) B - Back-adhesion tape, with CF10 cover foil* C - Back-adhesion tape, ends prepared for end clamping ² G - No back-adhesion tape, sides prepared for insertion into track system ¹ H - No back-adhesion tape, sides prepared for insertion into track system with CF08 cover foil* ¹ I - No back-adhesion tape N - No back-adhesion tape, with CF10 cover foil* P - No back-adhesion tape, ends prepared for end clamping ²						
Special requirements						
00 - No special requirements (standard) 03 - Absolute code begins with 0. Available up to 16.3 m						

* Cover foil supplied separately.

¹ For details on TRS system please refer to data sheet LM10D18 on www.rls.si/lm10.

² For details on end clamp installation please refer to data sheet LM10D14 on www.rls.si/lm10.

NOTE: A scale that is ordered without the special requirement **03** is a coincidentally cut section with the corresponding absolute position of the 16.3 m long scale.

Cover foil part numbering

	CF	10	1000
Cover foil width			
08 - 08 mm width (for track system option only) ²			
10 - 10 mm width			
Cover foil length			
xxxx - Where xxxx equals foil length in cm			

Accessories



Track section, 1.00 m
TRS100A00

(1x fastener M3x10 included)



Track section, 2.00 m
TRS200A00

(1x fastener M3x10 included)



Fastener and washer
TRC00



Scale clamp with fasteners,
0.04 m
TRE004A00

(2x fastener M3x10 and 1x fastener
M2x4 included)

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