

Operating instructions

Applicator for Magnetic Linear Scales

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1 Safety

Read these operating instructions carefully before installation and commissioning.

This guide is aimed at professionals who perform the installation and setup. The installation of the system assumes knowledge of mechatronics and the general health and work safety regulations.

Note all warnings and instructions for your own and the safety of your system.

These operating instructions apply to the applicator for linear magnetic scales in conjunction with a magnetic scale for linear applications.

Risk of electric shock or short circuit!

Improper handling of electrical current can be fatal or cause damage to property!

Risk of death!

Unauthorized use of the system can be highly dangerous.

The applicator may not be used for magnetic position measuring solutions in lifesaving systems, e.g. in aircraft.

Pinching

There is a risk of getting pinched between the applicator and magnetic tape. This may result in injury or mechanical damage. Avoid getting between tools and other moving parts, as soon as the application system is in motion!

Dangers that may follow

Malfunctions of the application system can lead to further risks to the system or the application system.

When there is evidence that the applying is not working properly, it should be taken out of operation and secured against unauthorized use.

The prescribed safety regulations must be observed for the use of the application system.

In particular, measures must be taken to prevent a fault in the application system which is threatening persons and property.

This includes the installation of additional safety limit switches, emergency stop switches and maintaining the permissible ambient conditions.

Damage to the magnetic layer

Magnetic tapes may be damaged by magnetic fields. Use only non-magnetics tools for assembly and maintenance!

2 Intended Use

In the application systems is an accessory for highly accurate magnetic scales and measuring systems for contactless position detection for linear applications.

Fields of application:

- Mechanical engineering,
- Automation,
- Medical,
- Electrical Engineering.

The system consists of an applicator and a magnetic scale, and can be applied in various mechanical systems. It is applied according to different application cases according to the specifications of the customers,

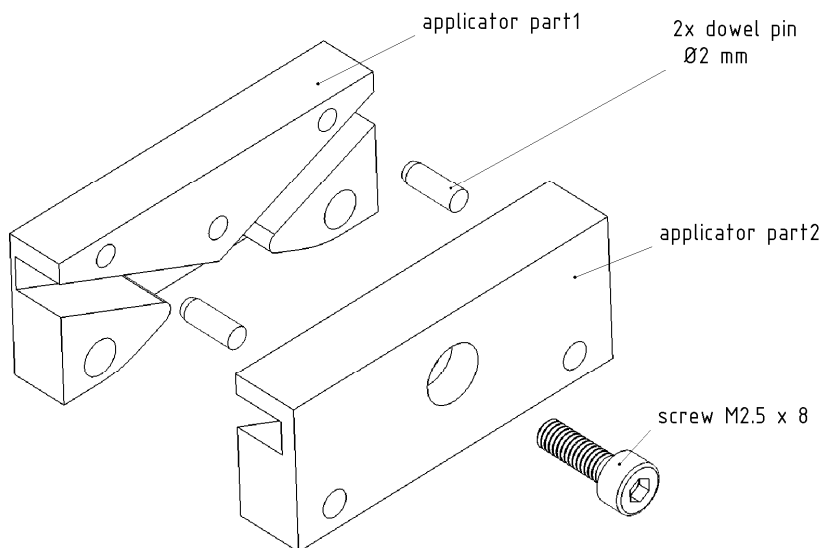
With the applicator, a magnetic linear encoder is applied for highly accurate position measurement task.

3 Assembly of the Applicator Parts

The applicator consists of two parts, which are screwed together via a screw (M2.5) with each other. The precise alignment of the two halves is ensured via two dowel pins.



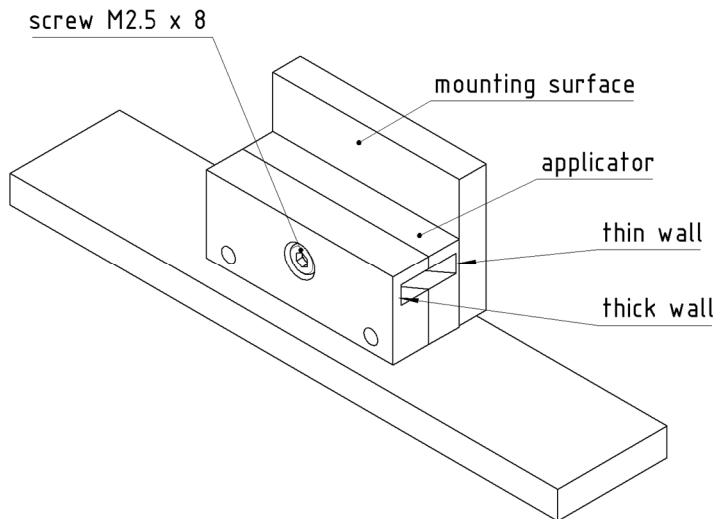
2 Applicator halves with connecting screws



4 Installation of the Applicator

After the two halves are assembled, the applicator can be placed in an IKS9.1 measuring head holder, with the holes being in the same place. To this end, the applicator has the same mounting holes (2x M3) as the IKS9.1 measuring head.

It is important to ensure that the applicator is fitted the right way round, as the two halves of the applicator have different wall thicknesses. The applicator must be in contact with the thin wall thickness of the mounting surface, which is intended for the IKS9.1, so that the head of the M2.5 screw is located on the open space.



ATTENTION: If the applicator is mounted upside down, the linear scale cannot be applied correctly!!!

During installation of the applicator, it is important to ensure the correct spacing of the applicator to the surface. This distance is dependent on the pole length of the applied magnetic linear scale.

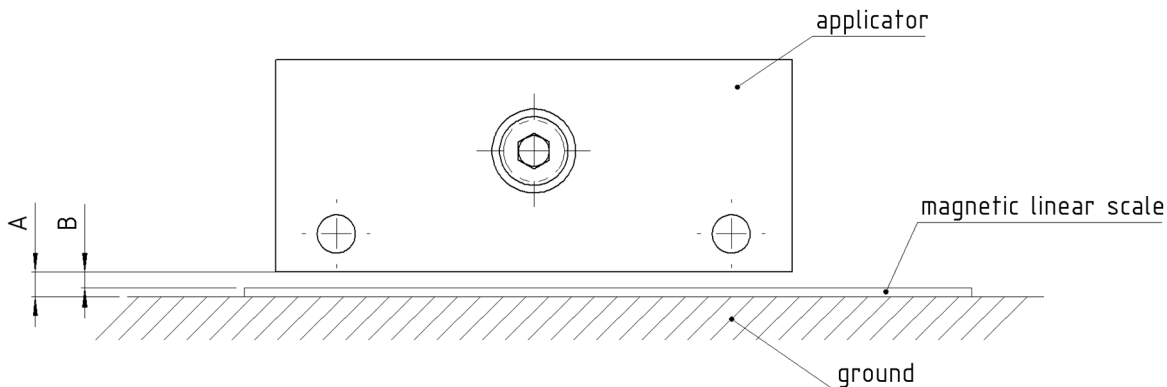


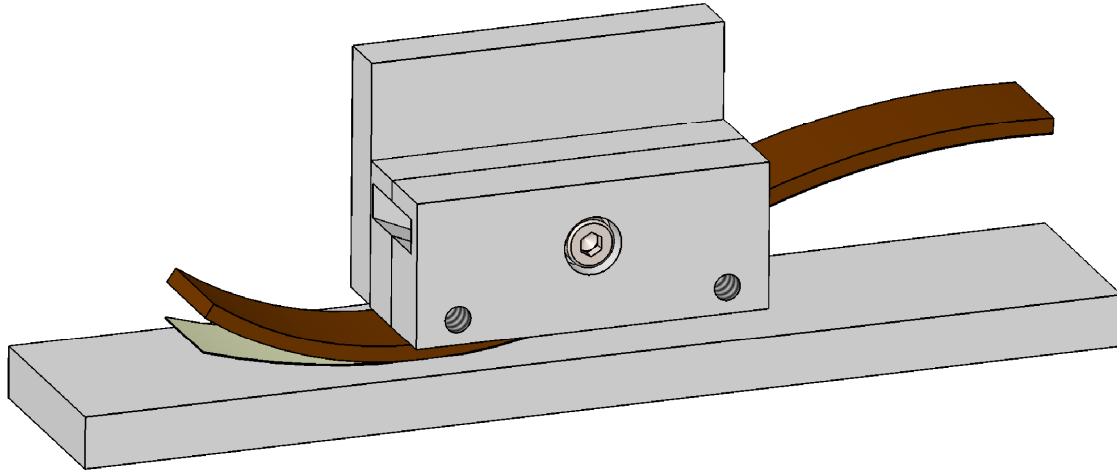
Table 1: Spacing of the applicator for magnetic linear scales, depending on the pole pitch used

	Pole Pitch 0.5 mm	Pole Pitch 1 mm	Pole Pitch 2 mm	Pole Pitch 2.54 mm	Pole Pitch 5 mm
A [mm]	1.4 – 1.55	1.4 – 1.8	1.4 – 2.3	1.4 – 2.55	1.4 – 3.8
B [mm]	0.1 – 0.25	0.1 – 0.5	0.1 – 1	0.1 – 1.25	0.1 – 2.5

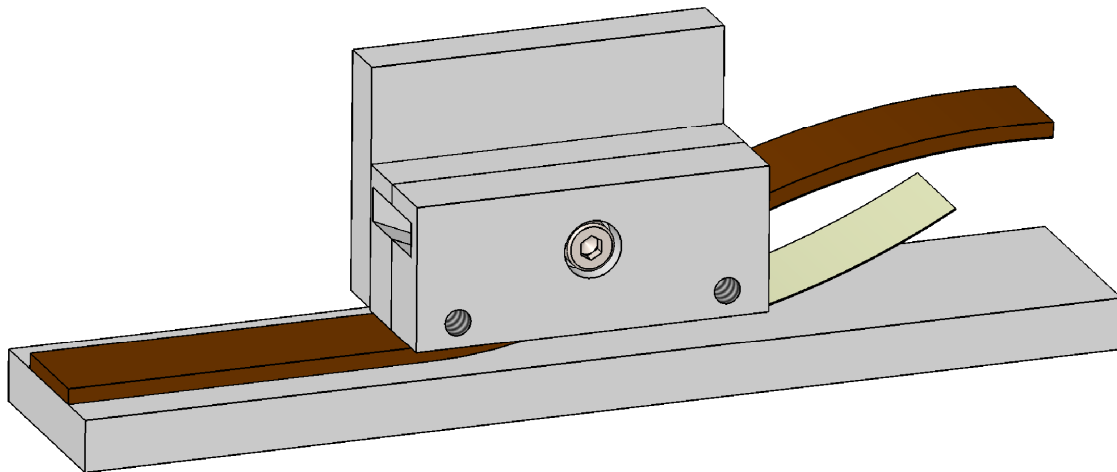
It is advisable to check the distance of the applicator with gauge blocks.

5 Threading the Linear Scale

The magnetic linear scale can be threaded in two directions. Thus, the applicator can be used in both directions. For threading, the magnetic linear scale is inserted into the slots and pushed through until it extends out about 50 mm at the other end of the applicator.



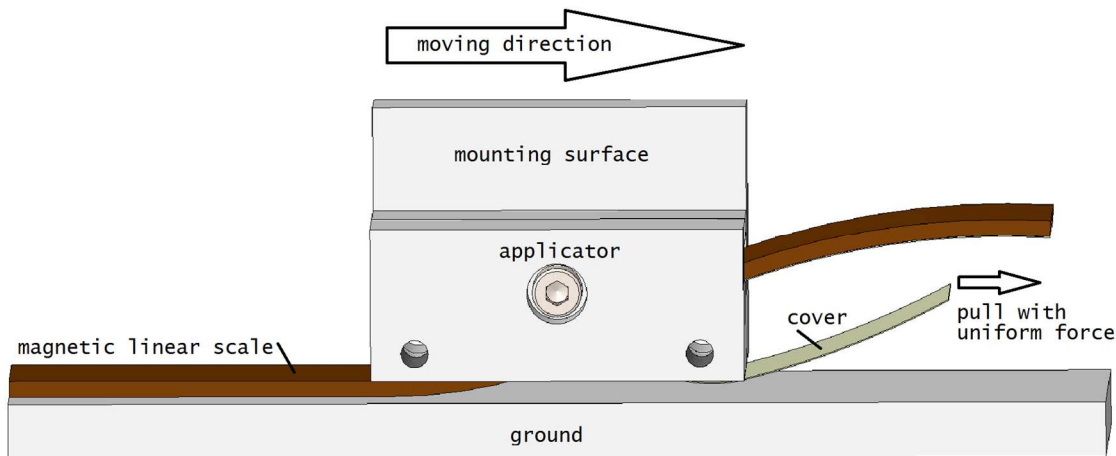
Then the cover of the adhesive surface is peeled off and pulled away towards the rear.



6 Installation of the Linear Scale

For application of the magnetic linear scale the applicator must be moved relative to the surface. It is advisable to press the magnetic linear scale at the starting point by firm pressure and thus to fix it.

During the movement of the applicator, the magnetic linear scale is applied. The cover has to be removed with a uniform force in the direction of travel of the applicator.

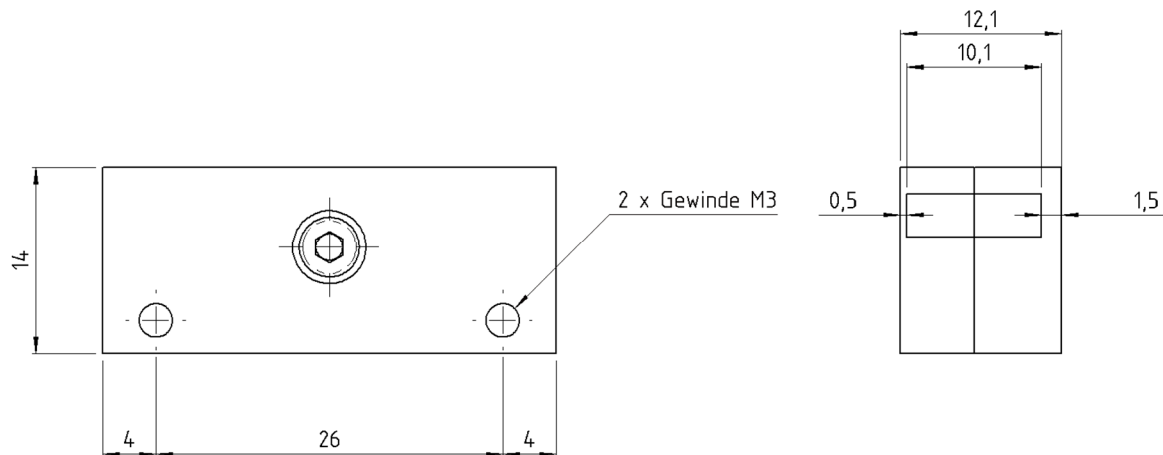


Caution: Make sure that the cover does not tear!

When the end of the measurement path is reached, the applicator is released and pulled by the linear scale. The free end of the magnetic linear scale should follow the orientation of the movement direction and be put correctly on the surface. The fixation of the end piece can be performed by hand pressure.

7 Details

7.1 Dimensions:



7.2 Technical Data

Length: 34 mm

Height: 14 mm

Width: 12,1 mm

8 Appendix

8.1 Troubleshooting

If any signs of problems or errors are detected, the application system must be put out of service and secured against unauthorized use.

Fault	Possible Causes	Measures
Magnetic scale does not stick	No adhesive tape exists	reorder and apply adhesive tape
	Masking tape not removed	Remove masking tape and reapply scale
Scale glued to wrong position	Applicator installed wrong	Remove scale, change applicator installation and repeat process with new scale