

# Installation and Assembly Manual

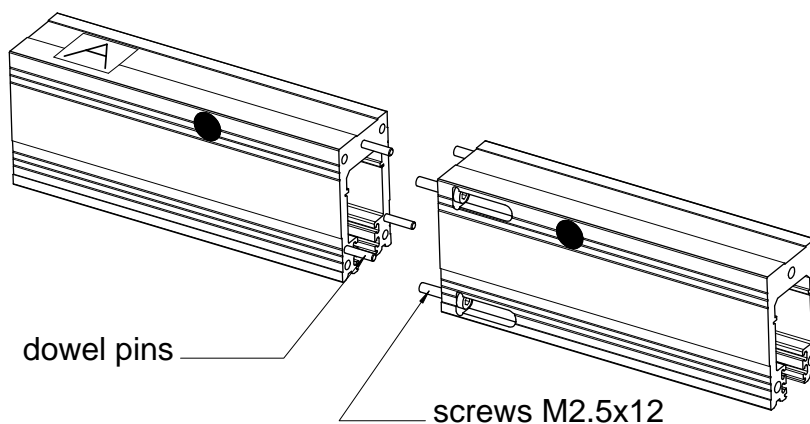
## GVS 400

### Modular Optical Scales



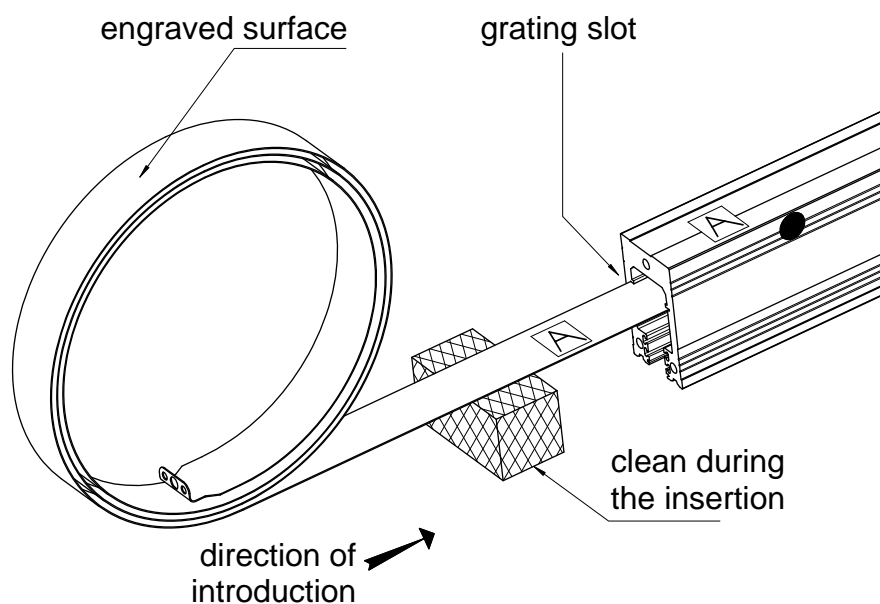
[www.givimisure.it](http://www.givimisure.it)

## ASSEMBLY OF THE SCALE HOUSING



- **Join the modules** using the dowel pins and **following the alphanumerical order printed on each scale section** A000 M1 (= "A"), A000 M2, A000 M..... .
- Tighten gradually and completely the four socket head screws M2.5x12 supplied with the scale.
- During this operation and in the next phases, **please avoid forcing the junction points** (for this purpose, it might be useful to lean against an appropriate surface).

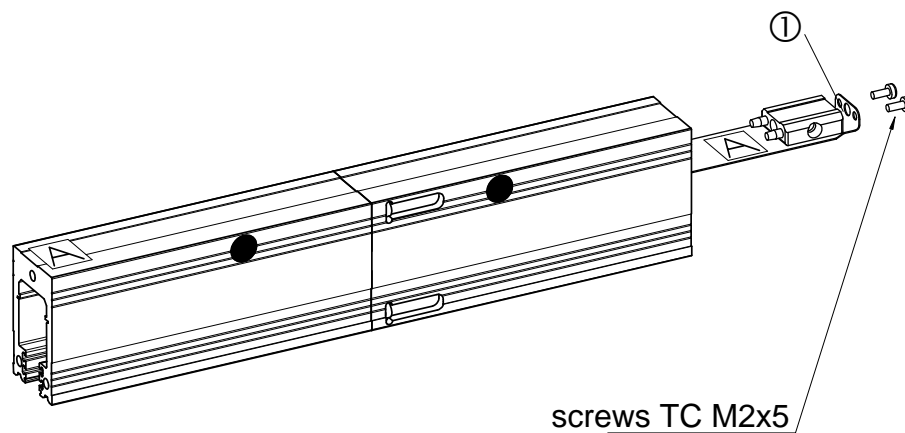
## INSERTION OF THE GRATING



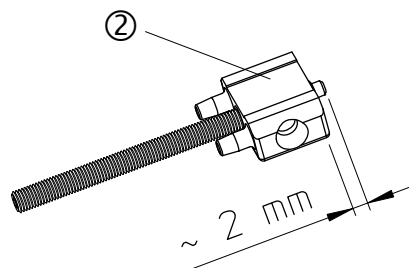
- **Do not unwind completely the grating** before inserting it into the scale housing to prevent unintentional damages or folds.

- The reading band is not centered on the surface of the grating. Please insert the grating **respecting the correspondence of the letters “A-A”** to ensure the right positioning of the band.
- **Insert the grating** into the slots of the scale housing.
- Unwind the grating during the insertion into the scale housing and, in the meantime, **clean the engraved surface with degreasing solvent** (e.g. alcohol). If the insertion is difficult in some parts, move the tape forwards/backwards without forcing it.

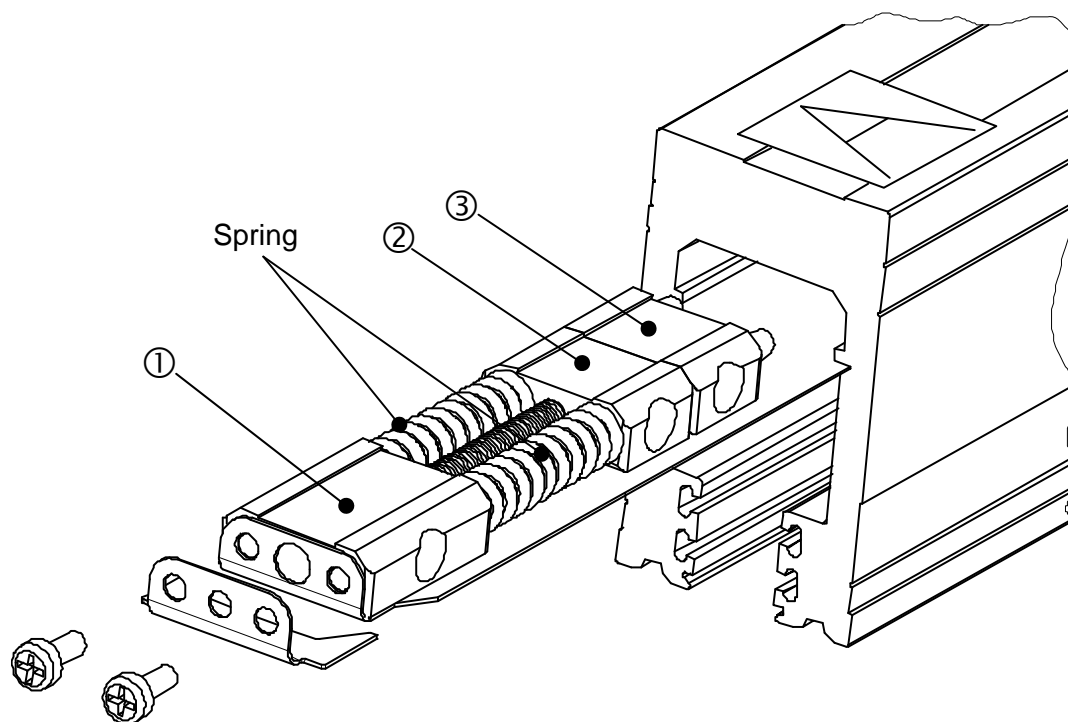
## FIXING OF THE GRATING



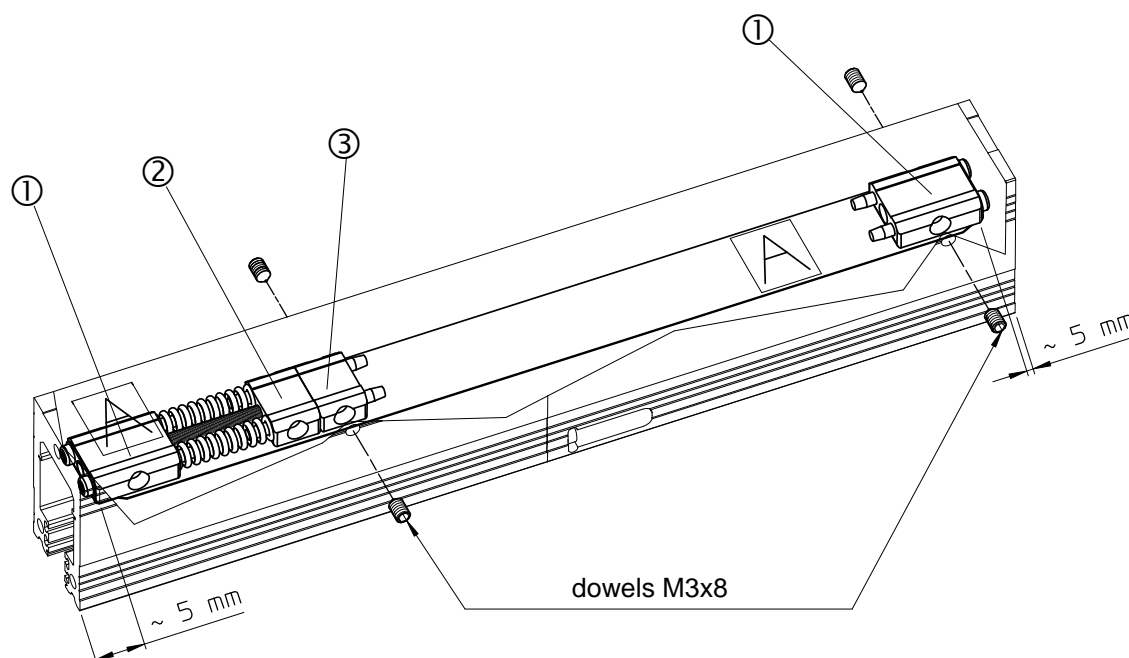
- **Fix block no. 1 to the grating with screws TC M2x5** (take the grating out for about 10 cm from the right end of the scale housing).
- Perform the same operation on the **left end** of the grating (take the grating out for about 10 cm from the left end of the scale housing and fix the other block no. 1 to the grating with screws TC M2x5).



- On block no. 2, verify that the **threaded pivot is completely tightened** and in “starting point” (i.e. it should stick out from the block by about 2 mm).



- Position the two springs and blocks no. 2 and 3 as shown in the drawing.



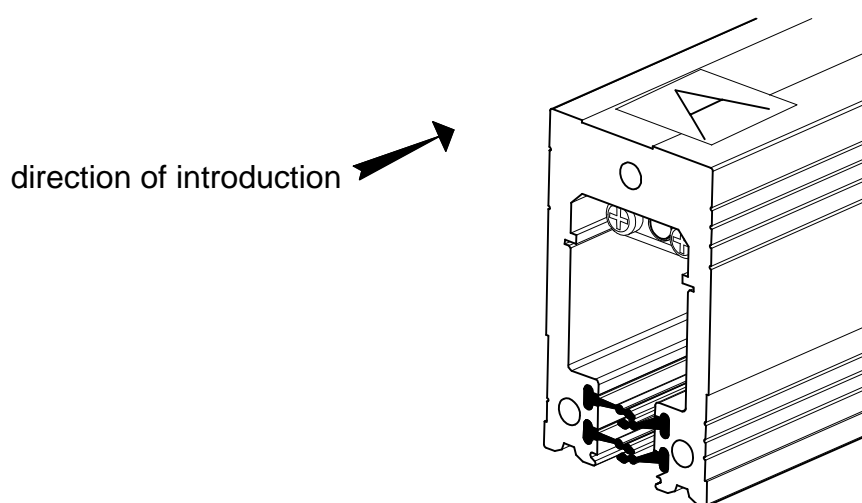
- Insert the grating again inside the scale housing for about 5 mm, keeping the blocks attached.

**WARNING !**  
**Fill the threaded holes for dowels M3x8 with silicone, using a syringe.**

- Tighten gradually and completely the four dowels M3x8 in order to fix the grating inside the scale housing.

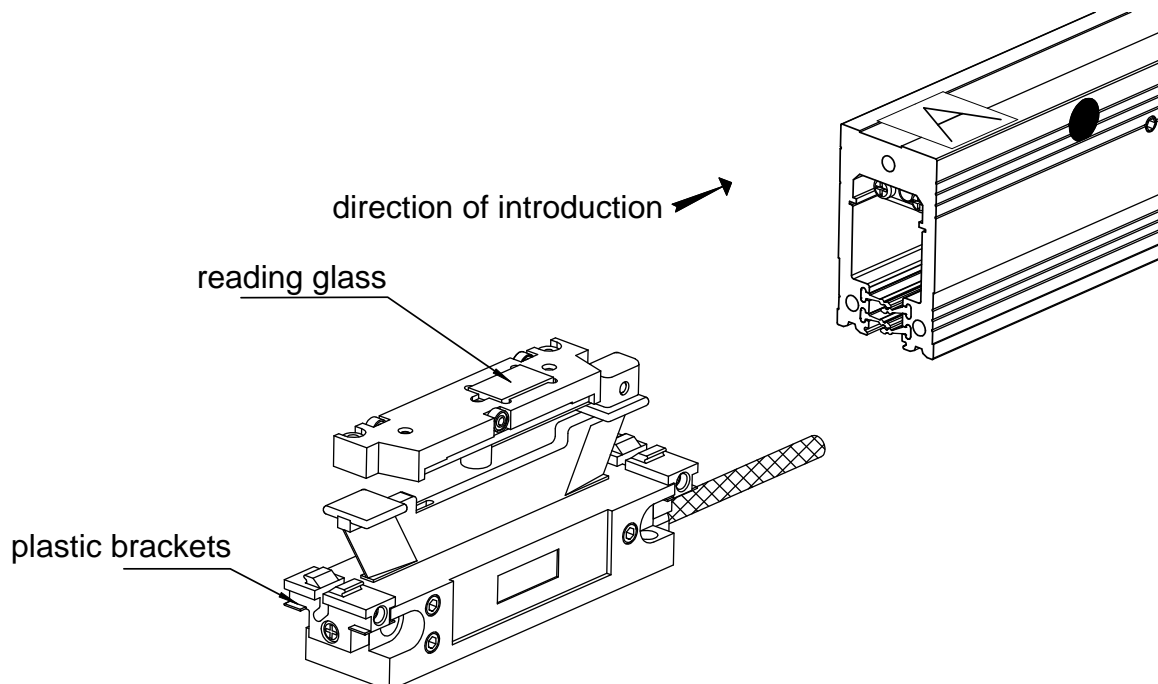
**WARNING !**

Seal the threaded holes for dowels M3x8 with silicone in order to make them waterproof.

**MOUNTING OF THE SEALING LIPS**

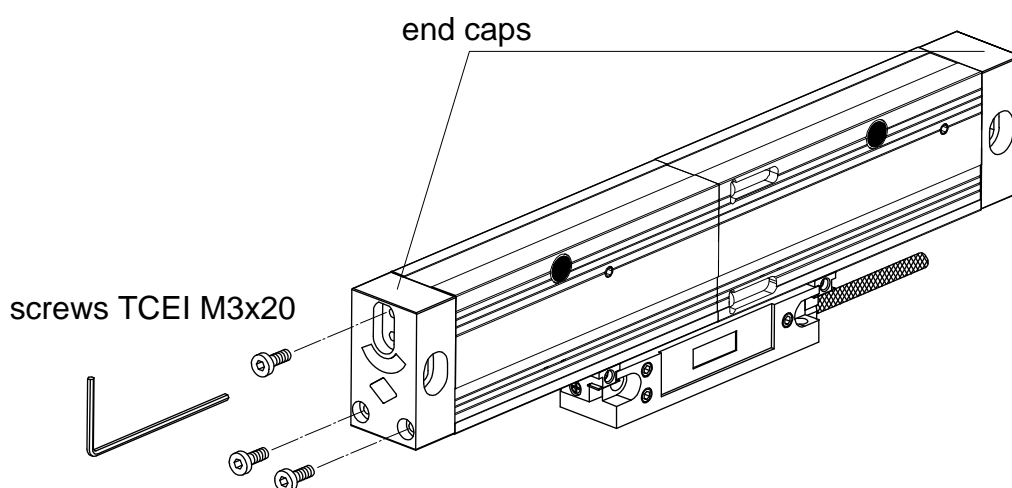
- **Before being inserted, the sealing lips must be cut to the right length** (i.e. their length must be the same as the scale housing).
- **The sealing lips must assume an external inclination** with respect to their lower part which is inserted in the slots along the scale housing.
- Make the ends of the lips thinner in order to facilitate the insertion and sliding of the sealing lips along the slots. Proceed with the complete insertion (one by one and starting from the internal ones) by using flat nose pliers.
- Using the pliers, recover the lengthening of the rubber and spread it uniformly (**do not cut the exceeding part which must be recovered**).

## INSERTION OF THE TRANSDUCER



- Insert the transducer **after having verified the cleanliness of the reading glass**. The black plastic brackets must be inserted and slide without obstruction in their own slots. Remove the plastic brackets after complete mounting of the scale on the machine.
- The standard cable outlet is on the right side. In case a left cable outlet is required, install the scale with its front surface (the one which is lined) against the machine surface.

## MOUNTING OF THE END CAPS



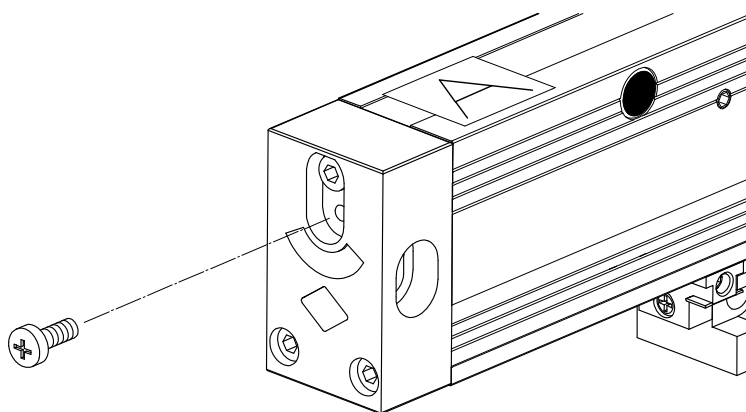
- Mount the end caps with screws M3x20 (no. 3 screws for each cap).

## MOUNTING OF THE SCALE

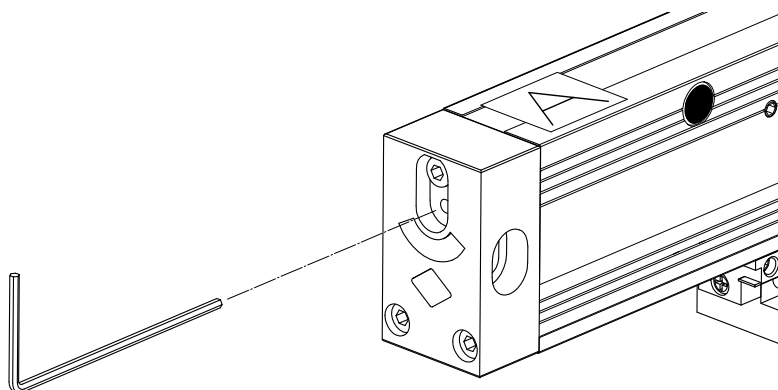
- Mount the scale on the machine after having carefully read the user manual of GVS 400 scale (MT01\_A63\_A\_GVS400\_GIVI\_ENGITA).

## CALIBRATION

- Remove the screw TC M3x8 from the left end cap of the scale.



- With the hexagonal wrench provided with the scale, reach the internal dowel of the spring system, through the hole left by the above mentioned screw.
- Make No. .... **clockwise rotations** in order to reach the same calibration made by the Manufacturer (each rotation generates a linear variation of about  $20\div 23 \mu\text{m/m}$ ).



- Tighten firmly the screw TC M3x8 previously removed.

# All Around the World



**I NOSTRI PRODOTTI SONO VENDUTI ED ASSISTITI IN TUTTE LE NAZIONI INDUSTRIALIZZATE  
OUR PRODUCTS ARE SOLD AND HAVE AFTER-SALE SERVICE IN ANY INDUSTRIALIZED COUNTRY**



**RIGHE OTTICHE  
OPTICAL SCALES**



**SISTEMI MAGNETICI  
MAGNETIC SYSTEMS**



**ENCODER ROTATIVI  
ROTARY ENCODERS**



**VISUALIZZATORI  
DIGITAL READOUTS**



**POSIZIONATORI  
POSITION CONTROLLERS**



**GIVI MISURE S.r.l.** A SOCIO UNICO Via Assunta, 57 - 20834 Nova Milanese (MB) - Italy  
C.F. e Iscrizione al Reg. Imprese di Monza e Brianza n° 04355540156 - Cap. Soc. € 51.480,00 I.V.  
Tel. +39 0362 366126 - Fax +39 0362 366876 - [www.givimisure.it](http://www.givimisure.it) - [sales@givimisure.it](mailto:sales@givimisure.it)

COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV GL  
= ISO 9001 =