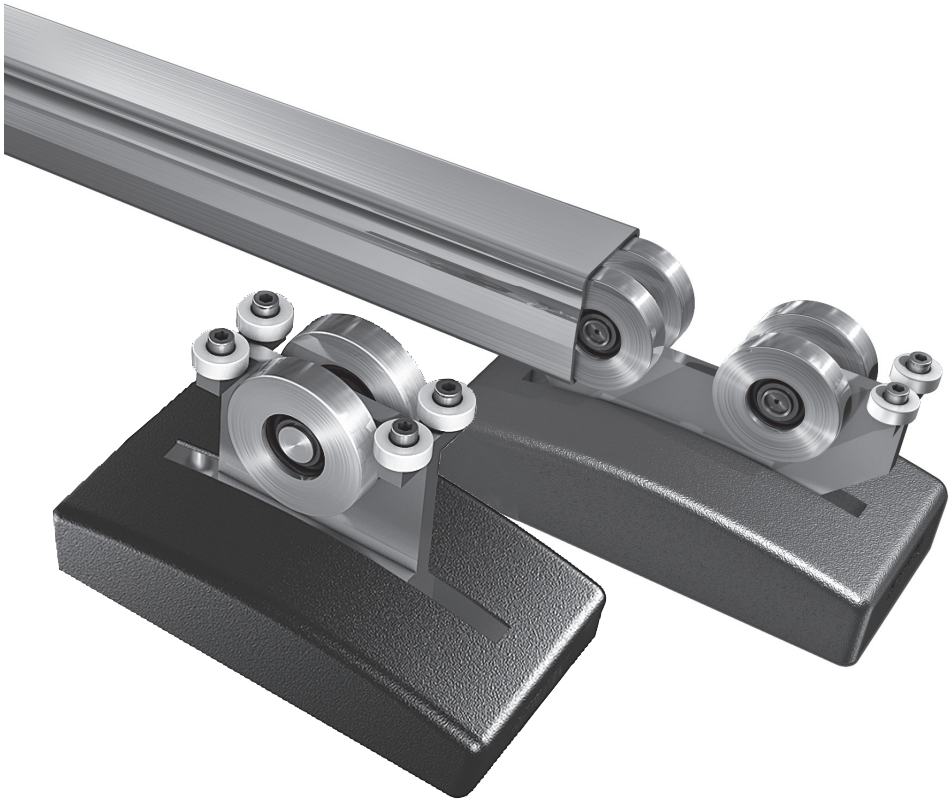
Installation manual

Steel cantilever system Rollco® LWS 111



tousek®
GATE AUTOMATION

Important warning and safety notes for installation and operation

- These installation- and operating instructions form an integral part of the product “cantilever system”. They have been specifically written for professional installers trained and skilled in the trade and should be carefully read in their full length before carrying out the installation. After the installation this manual has to be handed over to the user.
- Installation, connection, adjustments, putting into operation, and servicing may only be carried out by trained professionals in full accordance with these installation- and operating instructions. Faulty assembling can cause severe injury and material damage.
- The EU Machine Directive, laws and rules concerning the prevention of accidents, and laws and standards which are in force in the EU and in the individual countries have to be strictly followed.
- The TOUSEK Ges.m.b.H. cannot be held liable for any claims resulting from disregards of the laws and standards in force during the installation and operation.
- The product may only be used in accordance with its original purpose, for which it has been exclusively designed, and which is described in these installation and operating instructions. The TOUSEK Ges.m.b.H. rejects any liability if the product is used in any way not fully conforming to its original purpose as stated herein.
- The packaging materials (cardboard, plastic, EPS foam parts and filling material etc.) have to be properly disposed of in accordance with the applying recycling- and environmental procection laws. They may be hazardous to children and therefore have to be stored out of children´s reach.
- Before beginning with the installation the installer has to make sure that all mechanical components of the gate facility, like carrier profile/rail, gate frame and panels, guiding elements etc. are sufficiently supportive and resistant for the purpose of gate automation. Check also whether the product has transport damages.
- After installation the proper function of the gate facility has to be checked!
- Place warning signs and notes of the valid regulations to indicate danger areas.
- Children have to be instructed, that the gate facility as well as the belonging parts may not be used improperly, e.g. for playing.
- Only original spare- and replacement parts may be used for repair of the product.
- The TOUSEK Ges.m.b.H. rejects any liability for claims resulting from usage of the product in combination with components or devices which do not fully conform to the applying safety laws and rules.
- The installer has to supply to the user all instructions relating to the safe operation of the gate facility. The installation and operating instructions also have to be handed over to the user.

ATTENTION: blocking of the gate *(see page 10) !*

- **Firmly bolted mechanical stops prevent the running of the sliding gate on the rolling gears, when in OPEN or CLOSED position!**
- **Examples of fixed limit stops as safety devices:**
  (1) Guide-in bracket, (2) counter pillar, (3) transverse bore and through screw (M12) in the profile

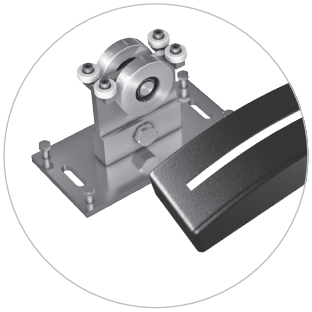
Maintenance

According to the frequency of actuation, but at least once a year, we recommend to carry out the following maintenance works:

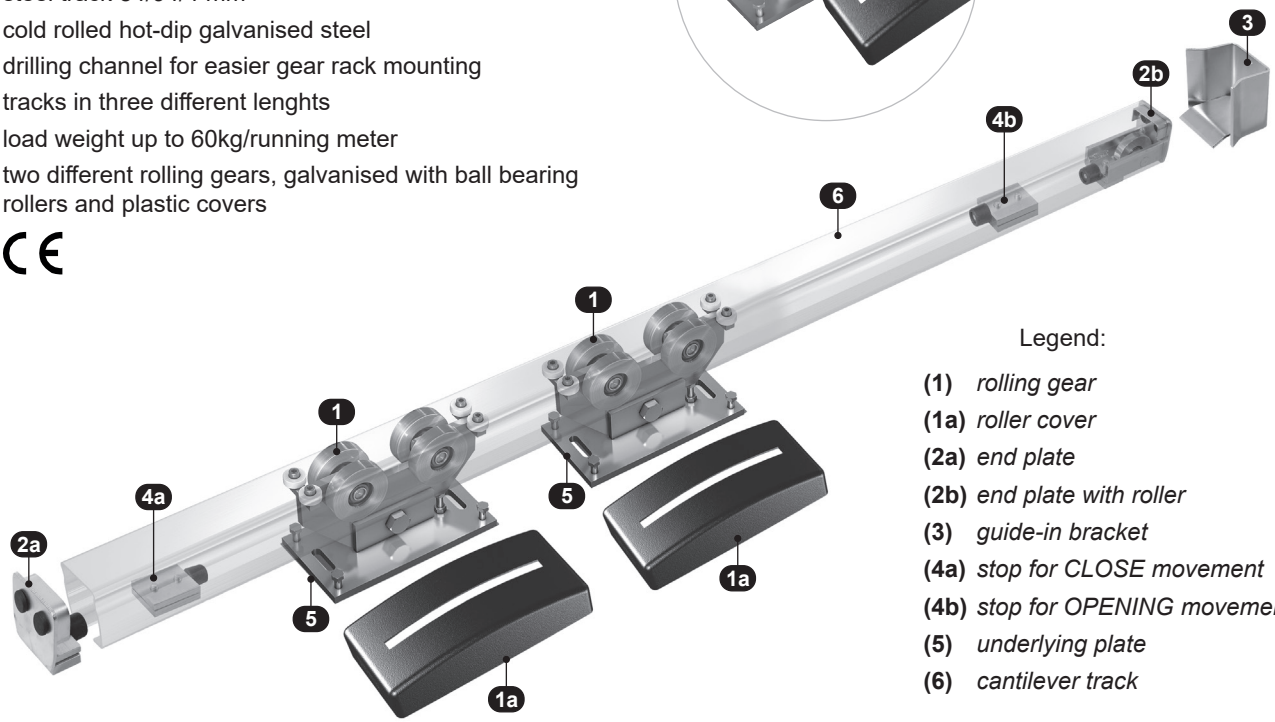
- **Check if the rolling gears are standing in-line.**
- **Check if the gate is smooth running without jamming.**
- **Check the upper gate guiding.**
- **Check the assembly screws.**
- **Check if the door runs correctly into the guide-in bracket resp. guide-in fork bracket.**
- **Clean and sligthly grease the tread in the inside of the profile.**

Characteristics

- the perfect system for cantilever sliding gates
- steel track 84/94/4 mm
- cold rolled hot-dip galvanised steel
- drilling channel for easier gear rack mounting
- tracks in three different lenghts
- load weight up to 60kg/running meter
- two different rolling gears, galvanised with ball bearing rollers and plastic covers
- CE



alternative:
small rolling gears



Legend:

(1) *rolling gear*
(1a) *roller cover*
(2a) *end plate*
(2b) *end plate with roller*
(3) *guide-in bracket*
(4a) *stop for CLOSE movement*
(4b) *stop for OPENING movement*
(5) *underlying plate*
(6) *cantilever track*

General

The steel cantilever system Rollco® LWS 111 is the perfect system for cantilever sliding gates. Two rolling gear types can be used with this track. For manual use two small rolling gears are the right choice (not adjustable in inclination). Two bigger rolling gears are being use for automatic use with a gate operator. These rollers are adjustable in inclination so that they can prevent a tilting effect from load capacity changes during gate movement.

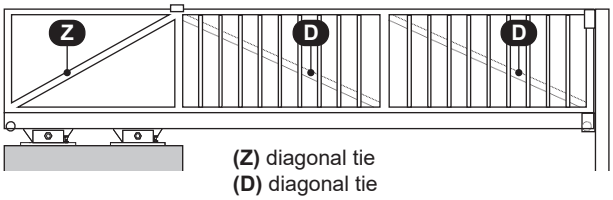
Technical data

Steel track Rollco® LWS 111			Art.no.
steel tracks	*load capacity: up to 60kg/m, weight: 9kg/m*		
for max. DL 3000mm	4200mm steel track		14610170
for max. DL 4200mm	6000mm steel track		14610100
for max. DL 6250mm	8400mm steel track		14610180
rolling gear	*2 units necessary, height adjustable, steel rollers, galvanised, inkl. plastic covers and anchor bolts*	gate cycles	
large rolling gear	for automatic gates, adjustable in inclination, incl. plastic covers	30/day	14610120
small rolling gear	especially for manual gate use, incl. plastic covers	20/day	14610130
stainless steel plate			14610030

ATTENTION: the assembly and installation of the gate and cantilever system may only be carried out by trained and qualified staff. For perfect function and avoiding damages at the cantilever system, the following planning- and processing rules have to be strictly followed!

Important

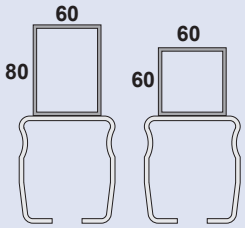
- **The cantilever track is made of hot-dip galvanized strip steel. It may in no case be additionally hot-dip galvanized later, since this would lead to damages. For reasons of production the cut surfaces are not galvanized, and therefore have to be foreseen with an according rust protection.**
- **If the gate frame is welded on the cantilever track please make sure that the cantilever track does not have any distortion.**
- **When using different materials (e.g. aluminium gate frame), an anti-corrosion contact tape has to be set in between gate frame and cantilever system.**
- **The gate frame may not show any distortion.**
- **In the area of the support length, a diagonal tie (Z) has to be inserted. From 5000 mm DL and upwards, this tie has to be adjustable.**
- **the max. loading per run. m should not be exceeded, please see table** *(p. 5)* **.**



(Z) diagonal tie
(D) diagonal tie

- **For relieving the gate in position "CLOSED", an end plate with support roller and a guide-in bracket have to be mounted. From a clearance width of 5 m on, this should also be foreseen for gate position "OPENED".**
- **For the upper gate guiding, guide brackets with rollers and a guide-in fork bracket in gate position "CLOSED" have to be foreseen.**
- **Recommended pipes for the gate frame:**

entrance width DL	form tube	Formrohr-staketen
up to 5000mm	FR 60/60/3	FR 25/25/2
5000–6000mm	FR 80/60/3	FR 30/30/2



- **These specifications are only standard values, the gate has to be constructed according to the static requirements.**
- **Load through wind: The calculation of the cantilever system is based on a gate with bars or lattice. No wind-impermeable materials may be used as gate-filling.**
- **The measurements for the foundation are only standard values. The foundation always has to be adjusted to the structure of the ground. It should consist of concrete quality C20/25 at ground class 3. The foundation has to be horizontal and free of cracks.**

  A reinforcement (armour iron) may only be carried out from 200 mm upper concrete edge (heavy-lift dowels).
- **These technical notes are only valid for horizontally running gates.**

ATTENTION: blocking of the gate *(see page 10)* !

- **Firmly bolted mechanical stops prevent the running of the sliding gate on the rolling gears, when in OPEN or CLOSED position** ***(see page 10)*** **!**

Note before taking into operation

After installation and before taking into operation, the following points have to be carried out::

- Clean the inside of the cantilever system (remove possibly existing swarfs)

- Check if the gate is smooth running without jamming.

Maintenance

According to the frequency of actuation, but at least once a year, we recommend to carry out the following maintenance works:

- Check if the rolling gears are standing in-line.

- Check if the gate is smooth running without jamming.

- Check the upper gate guiding.

- Check the assembly bolts

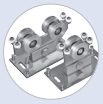
- Check if the door runs correctly into the guide-in bracket resp. guide-in fork bracket.

- Clean the tread in the inside of the profile.

Choice of rolling gear

- **for gate automation: large rollin gear**
- **for manual use: small rolling gear**

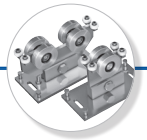
- **explanation:**



the following mouting notes are valid for both rolling gear tpyes

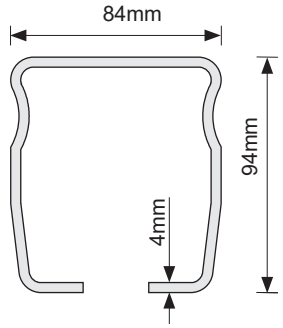
the following mouting notes are only valid for large rolling gear

Foundation and installation plan



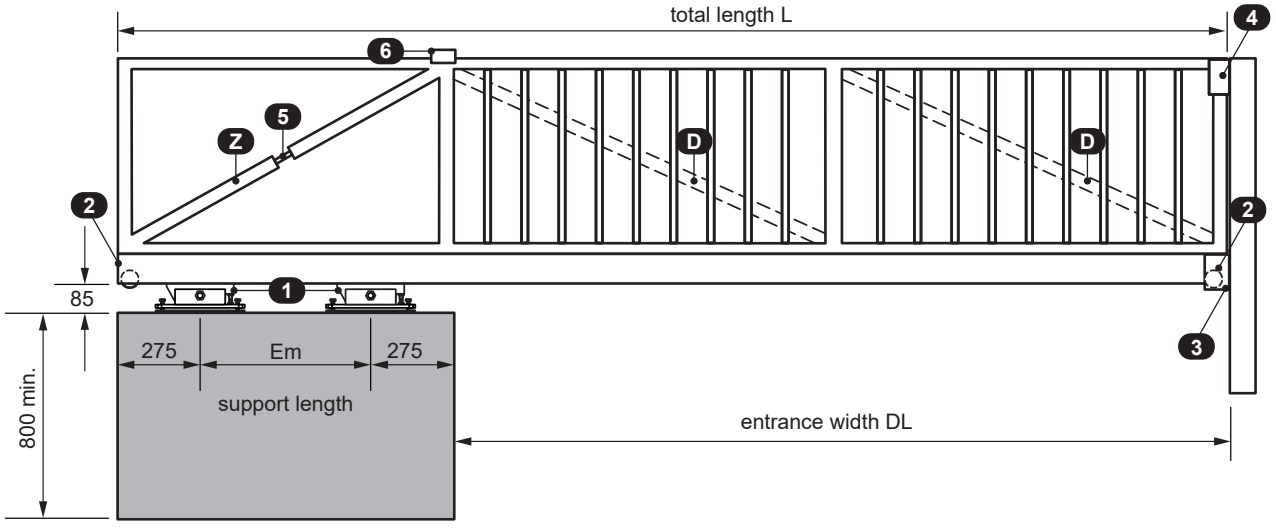
Measurements Rollco® LWS 111				measures in mm
DL	track lenght	Em	max. load large rolling gear	max. load small rolling gear
3000	4200	650	60kg/m	50kg/m
3250	4700	900	60kg/m	50kg/m
3500	5000	950	60kg/m	50kg/m
3750	5400	1100	60kg/m	50kg/m
4000	5700	1150	60kg/m	50kg/m
4200	6000	1250	60kg/m	50kg/m
4500	6400	1350	50kg/m	40kg/m
4750	6800	1500	50kg/m	40kg/m
5000	7150	1600	50kg/m	40kg/m
5250	7500	1700	50kg/m	40kg/m
5500	7850	1800	50kg/m	40kg/m
5700	8000	1750	45kg/m	/
5900	8000	1550	40kg/m	/
6100	8400	1750	40kg/m	/
6250	8400	1600	35kg/m	/

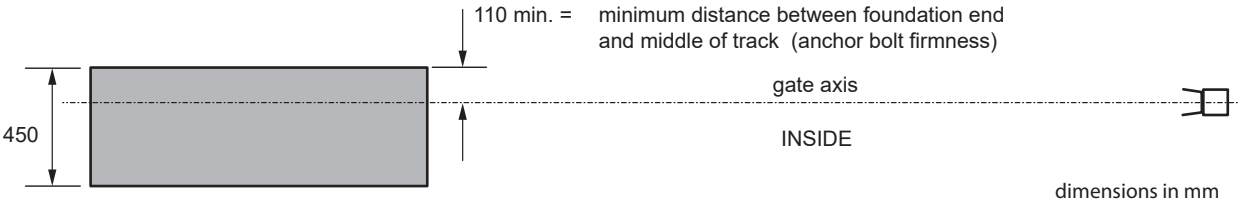
NOTE: total length L = profile length + 10mm
The track Rollco® LWS 111 is available in the following stock lengths: 4.200, 6.000 und 8.400mm.



Legend:

- **(1)** *rolling gear*
- **(2)** *end plate*
- **(3)** *guide-in bracket*
- **(4)** *guide-in fork bracket*
- **(5)** *turnbuckle*
- **(6)** *guide bracket*
- **(Z)** *diagonal tie*
- **(D)** *diagonal tie*



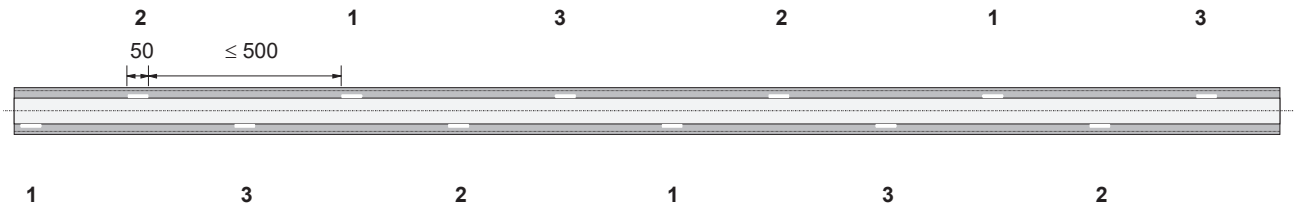


dimensions in mm

2a. Connection of track with frame

Mounting through welding

- **if the cantilever track is welded with the gate frame the following welding seams are suggested (to prevent distortion of track): 1 - 1 - 1..., 2 - 2 - 2..., 3 - 3 - 3... etc. (see picture).**
  The welding seams have to be conducted following the static requirements.

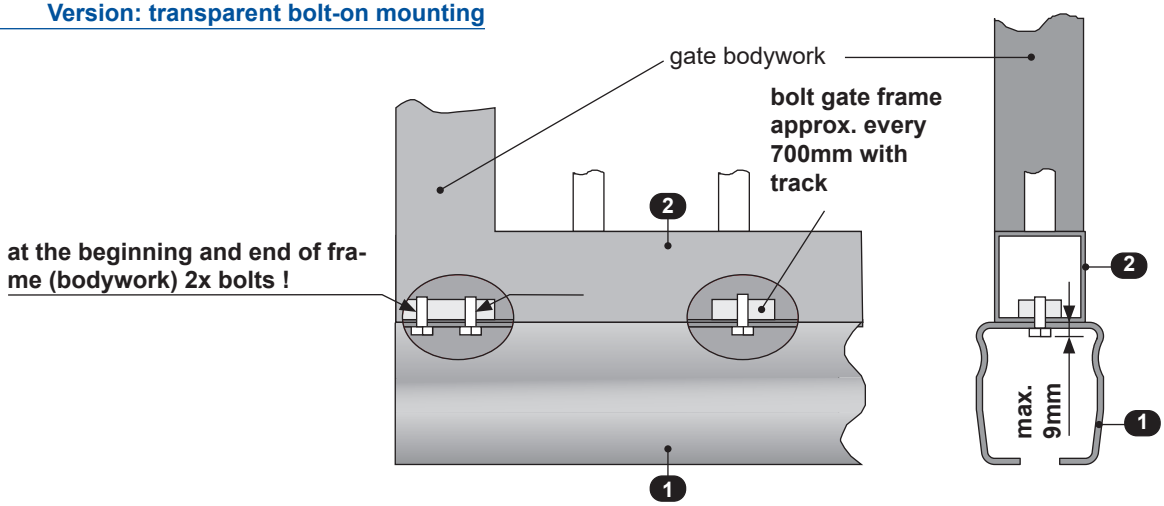


Important

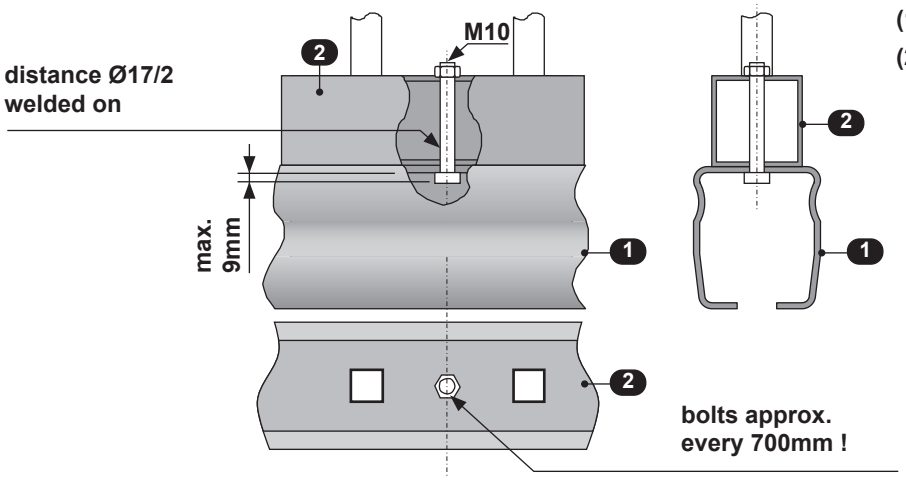
- **the welding of the frame body with cantilever track should never be done with the rolling gears inside as this would lead to damage of rollers!**

Bolt-on mounting

Version: transparent bolt-on mounting



Version: through bolts



Legend:

(1) *track*
(2) *forming tube as required*

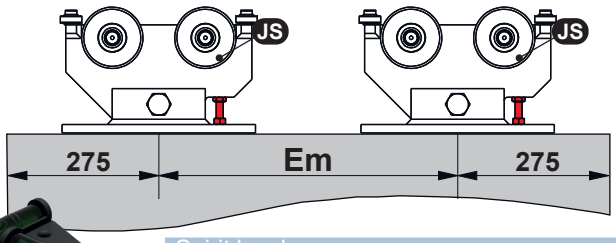
2b. Mounting of rolling gear (rollers)

- Put up the rolling gears and base plates according to the drawing and following Em measure. Put the rolling gears in-line with the planned gate axis and mark the drill holes.

Important

- **The support length Em may not be lower than given in the table (p. 5)**
- **Respect the accurate to side alignment of rolling gears** *(see pict.)*

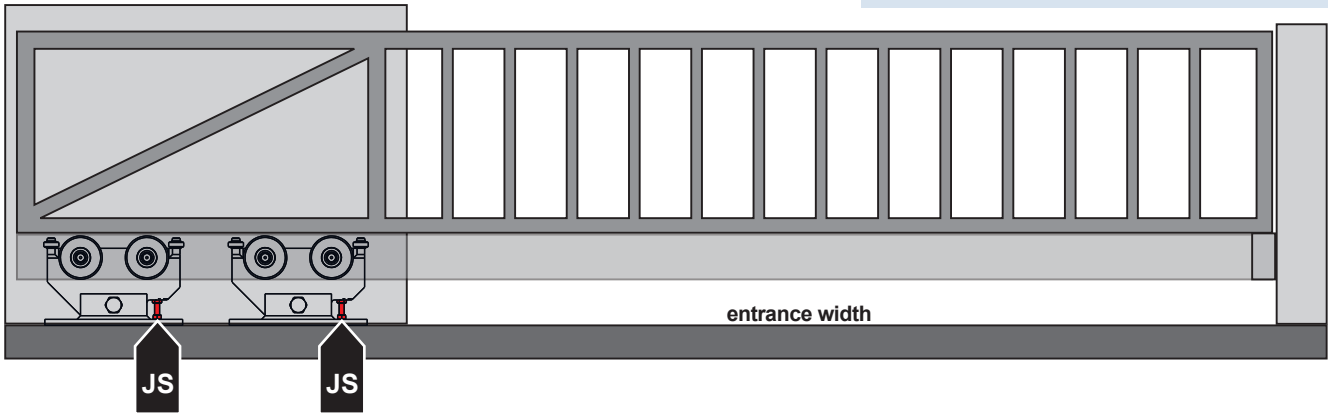
place rollers so that the adjusting bolts JS are showing in direction of entrance width.



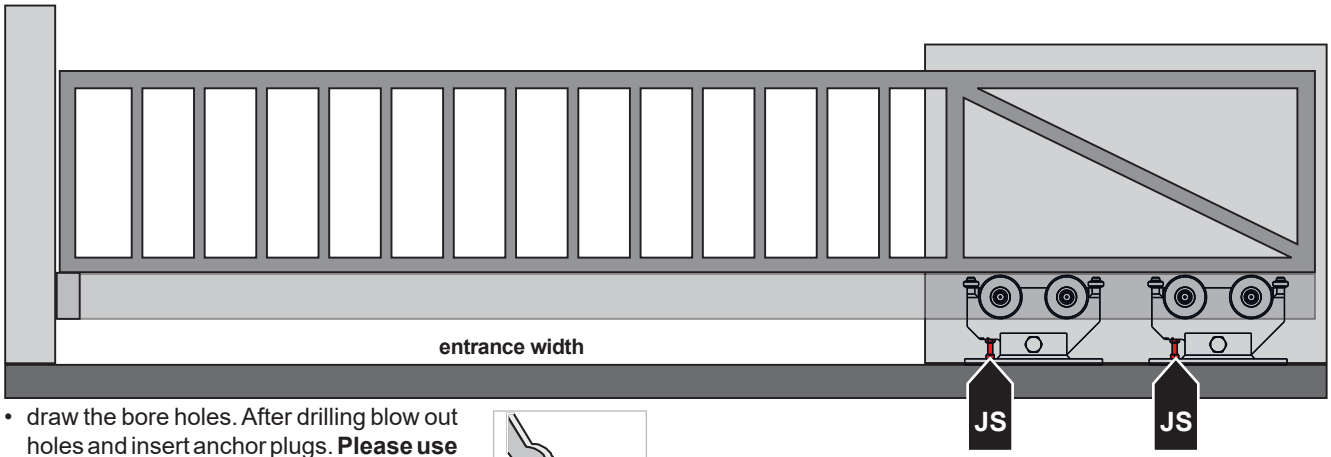
Spirit level

A spirit level is included for optimum alignment of the dollies.

Position of rollers for left installation

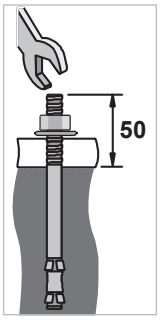


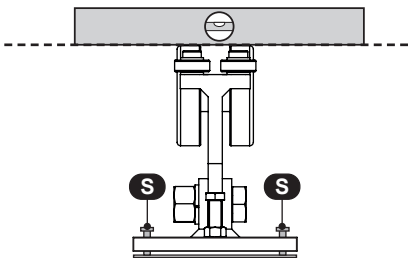
Position of rollers for right installation



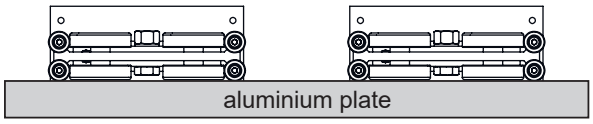
- draw the bore holes. After drilling blow out holes and insert anchor plugs. **Please use only heavy load anchors.**

Anchor M12-50/145 (M12 X 145)		
drilling depth	Ø bore hole	tightening torque
100mm	12mm	50Nm





- before bolting on the rollers, control with a water level whether they are standing in a **horizontal** way. If necessary readjust with adjusting bolts **(S)**. Please also make sure that both rolling gears are mounted **aligned** (e.g. place aluminium plate to the horizontal rollers).
- now slide the cantilever track with the gate onto the rolling gears.

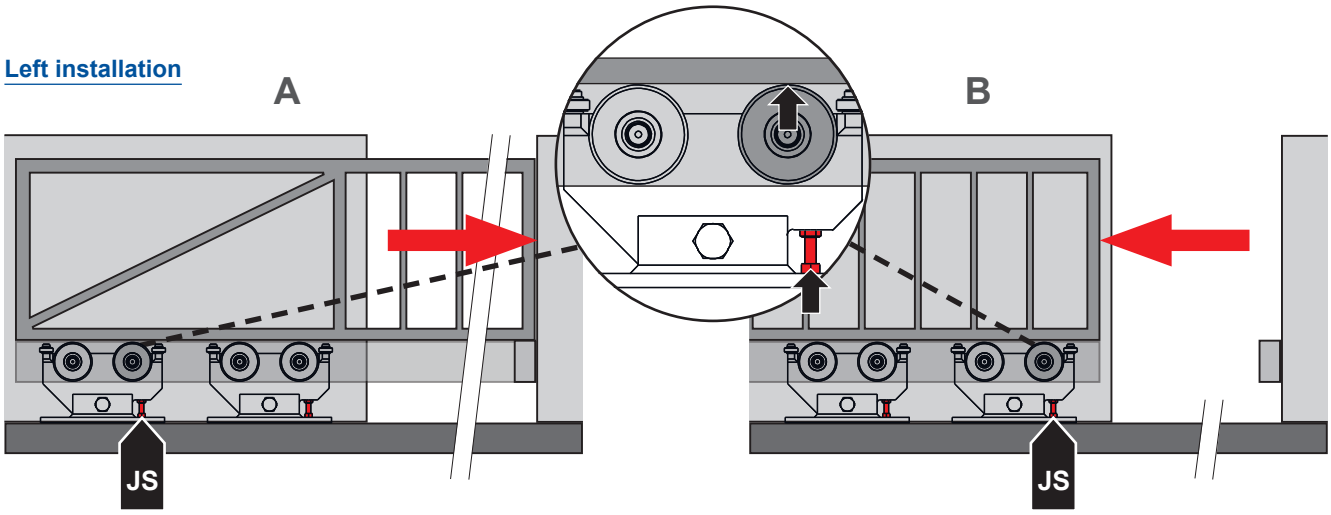


Vertical adjustment of rolling gear

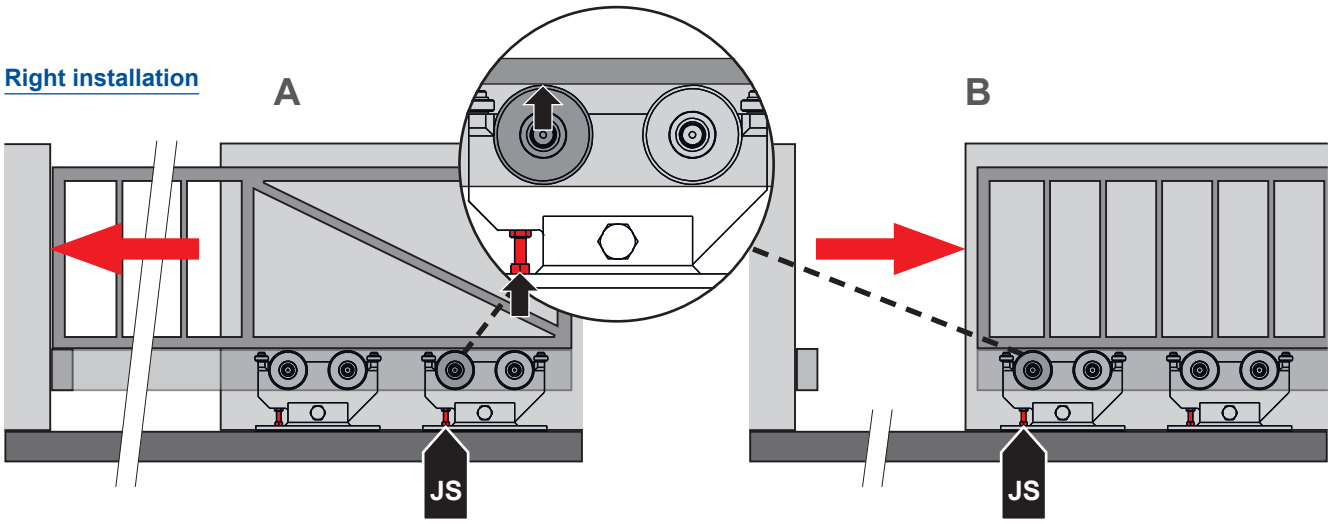
A Drive gate in position “CLOSED” and set the back rolling gear with the help of the adjustable bolt **(JS)** so high that you can just manage moving the outer roller by hand (tighten counternut of adjustable bolt.

B Drive gate in position “OPEN” and set the back rolling gear with the help of the adjustable bolt **(JS)** so high that you can just manage moving the outer roller by hand (tighten counternut of adjustable bolt.

Left installation



Right installation

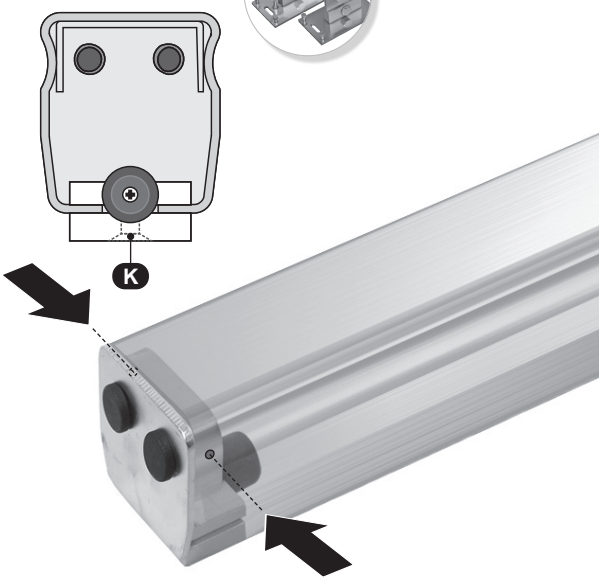


2c. Mounting of end plates

Important

- **before mounting the end plates please provide rust protection on the cut surface as they are not galvanised when leaving factory.**

- loosen the clamp bolt **(K)** of end plates and then insert the end plates into the track. **We also suggest to fix the end plates with two side bolts.**

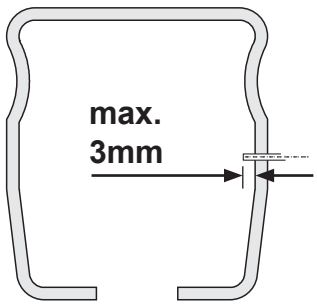


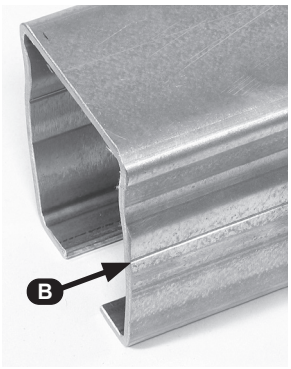
Important

- the cantilever track opens slightly at the ends when coming out of factory. When tightening the side bolts the track profile will be tighten together. **This additional fixing is absolutely essential when using the end plates also as limit stops!**

2d. Mounting of gear rack

- the drillings for mounting the gear racks have to be effected along the channel **(B)** in the according gaps.
- then cut thread M8 for mounting of gear rack into track profile.
- *check the installation of the gear rack in the corresponding sliding operator manual!!*





Important

- **drilling on the cantilever track should only be effected along the drilling channel (B).**
- **make sure that before mounting the gear rack the mounting bolts should go max. 3mm inside!**

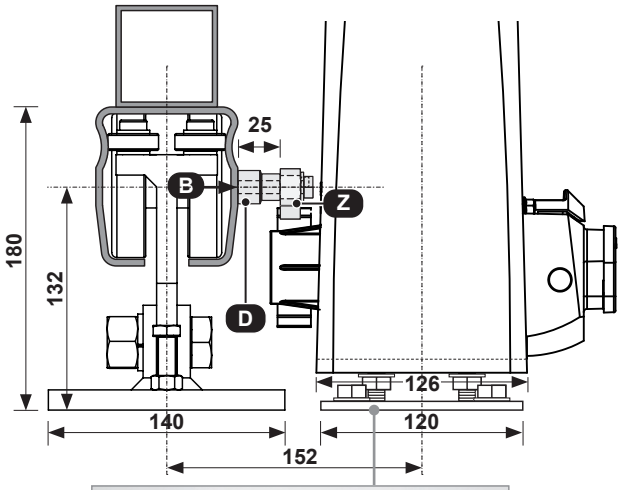
Installation example Rollco® LWS 111 and sliding gate operator PULL T

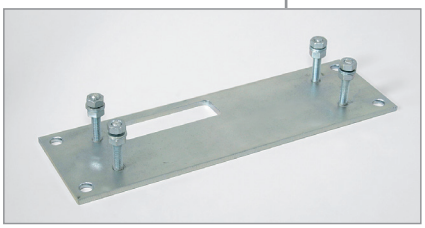
with steel gear rack

- the steel gear rack has to be mounted onto the cantilever track with the bolt spacers (distance sleeves) and bolts M8 x 45 (incl. with delivery).

form tube 80 x 80

(B) *drilling channel*
(D) *bolt spacer*
(Z) *steel gear rack*





Important

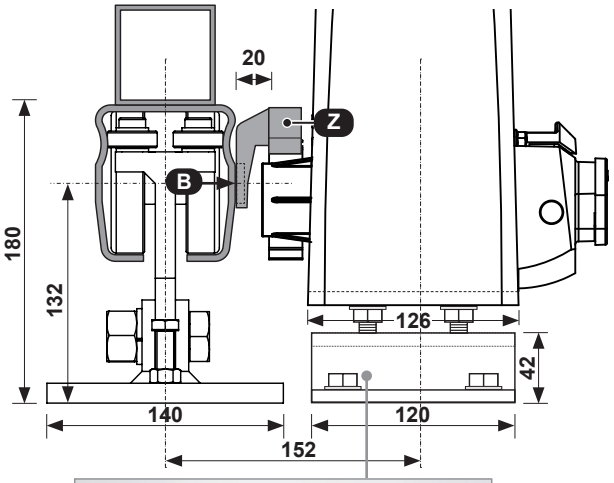
- **with steal gear rack please DO NOT use the edged mounting base plate.**

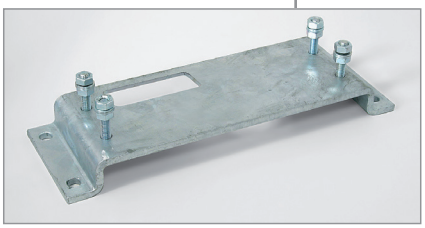
with plastic gear rack (mounting link down)

- the plastic gear rack is being bolted with the cantilever track.

form tube 80 x 80

(B) *drilling channel*
(Z) *plast. gear rack*



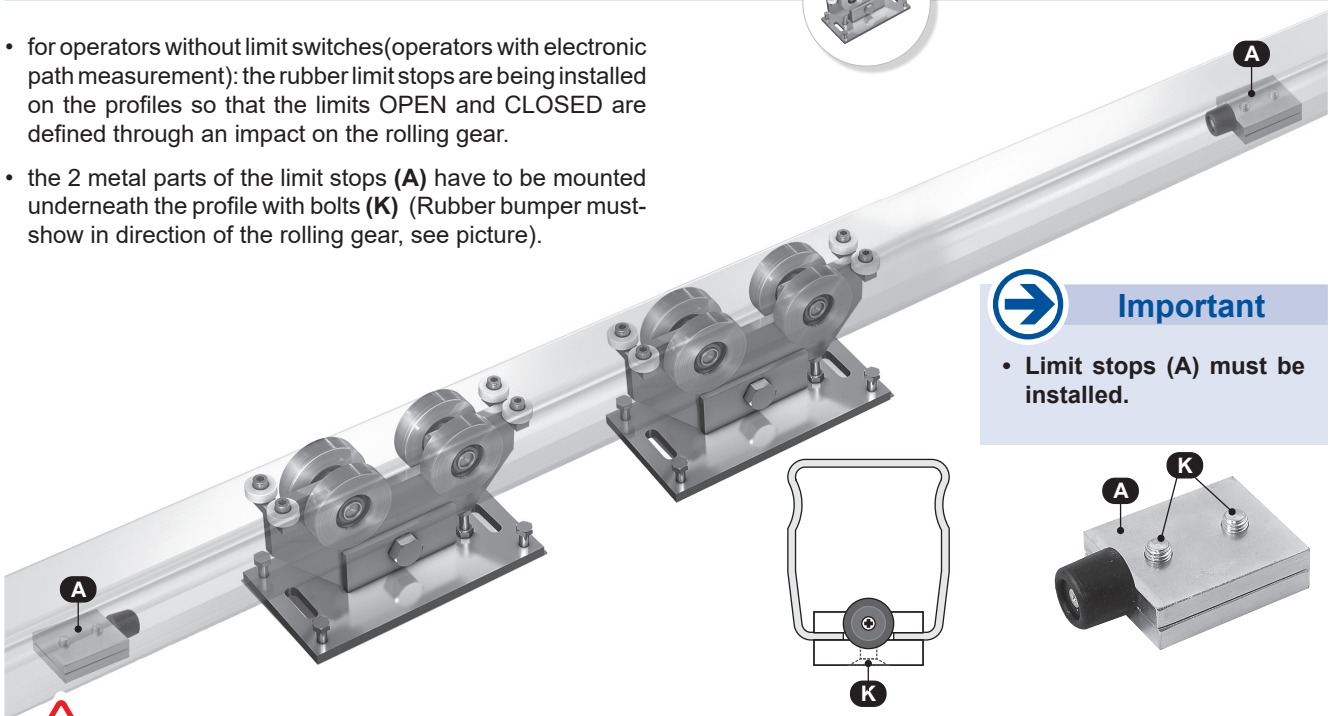


Important

- **with plastic gear rack please use the edged mounting base plate.**
- **when using the split plastic gear rack you can NOT use the provided bolts for mounting on LWS111 as they are too long!**

2e. Mounting of limit stops

- for operators without limit switches(operators with electronic path measurement): the rubber limit stops are being installed on the profiles so that the limits OPEN and CLOSED are defined through an impact on the rolling gear.
- the 2 metal parts of the limit stops **(A)** have to be mounted underneath the profile with bolts **(K)** (Rubber bumper must-show in direction of the rolling gear, see picture).

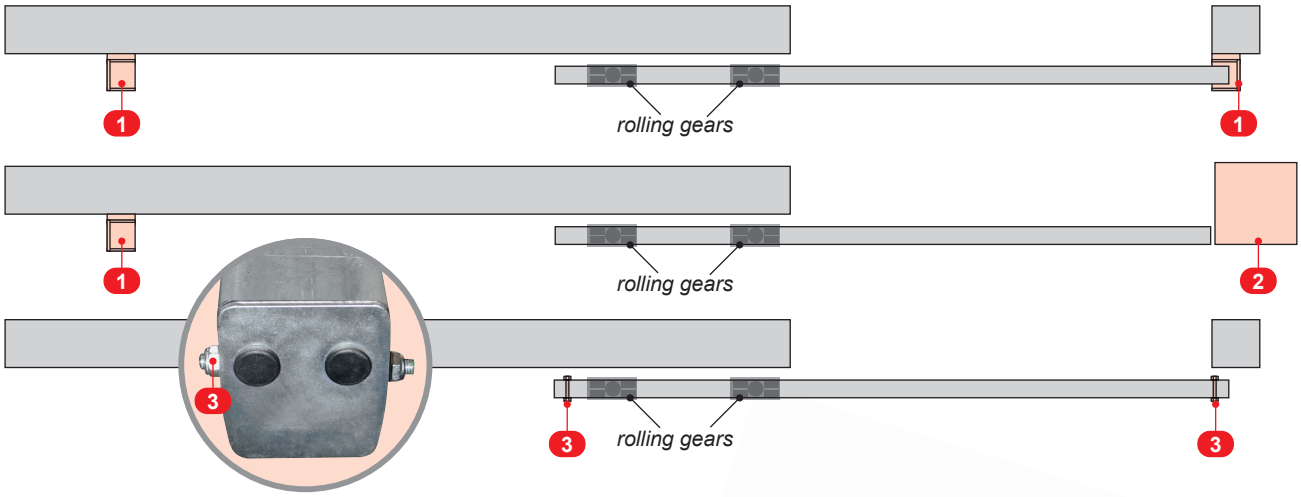


Important

- **Limit stops (A) must be installed.**

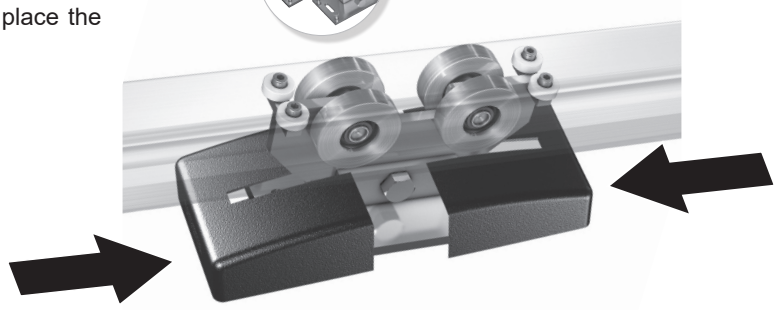
ATTENTION: blocking of the gate

- **Firmly bolted mechanical stops prevent the running of the sliding gate on the rolling gears, when in OPEN or CLOSED position!**
- **The sole end stops, clamped to the profile (A), are not sufficient for this purpose.**
- **Examples of fixed limit stops as safety devices:**
  (1) Guide-in bracket, (2) counter pillar, (3) transverse bore and through screw (M12) in the profile

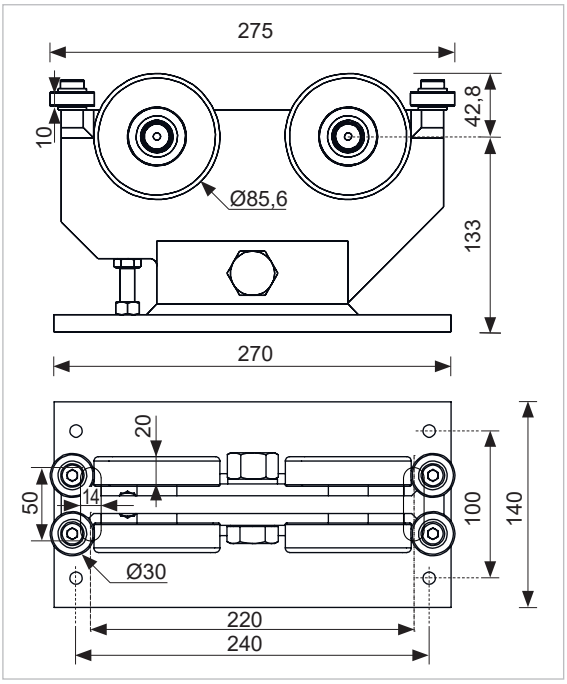


2f. Mounting of roller covers

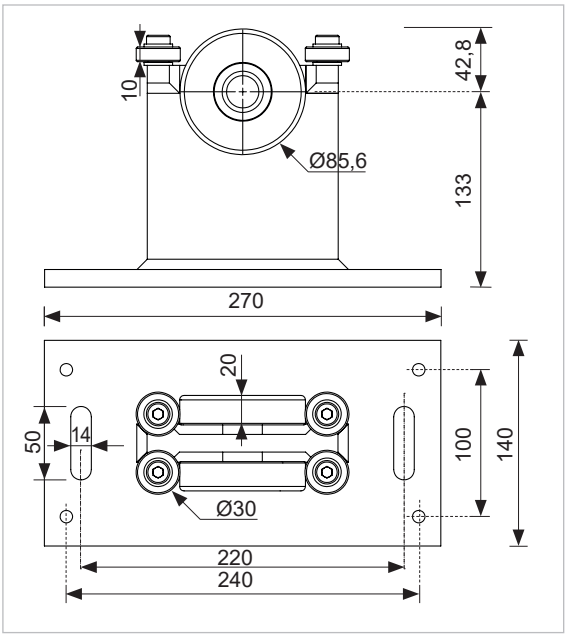
- after having finished mounting of rollers please place the 2 protection covers left and right.



large rolling gear Rollco® LWS 111



small rolling gear Rollco® LWS 111



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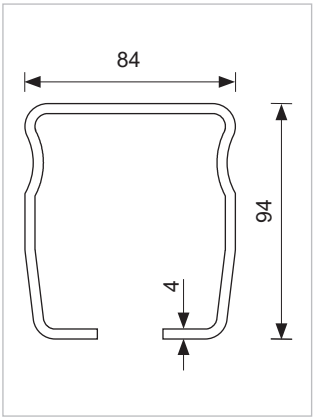
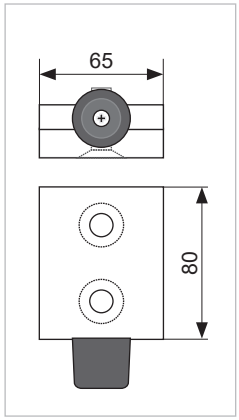
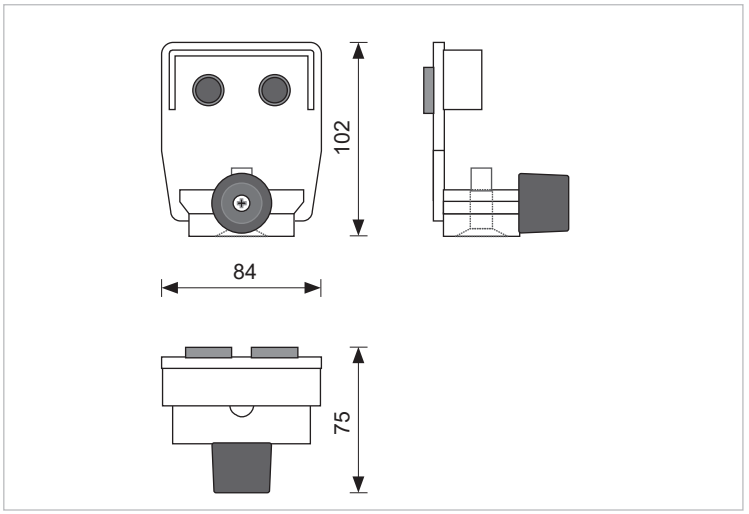


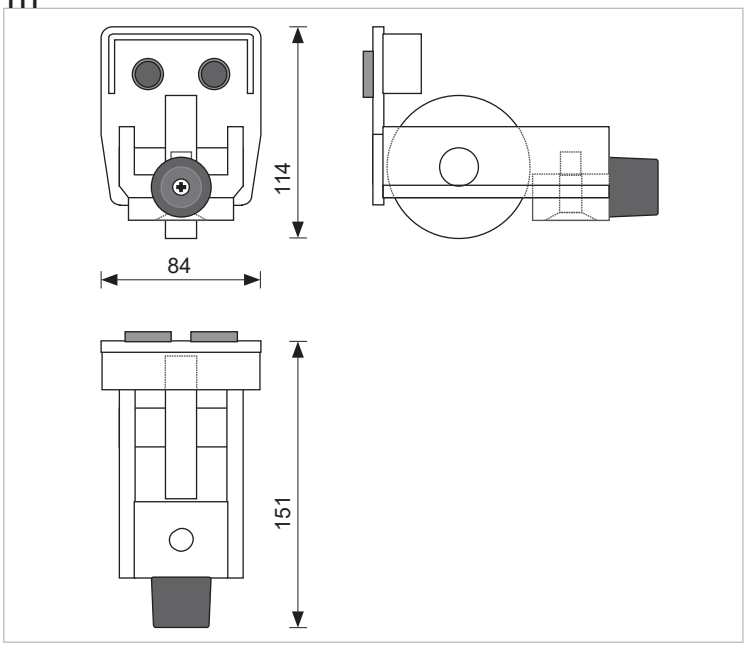
end plates Rollco® LWS 111



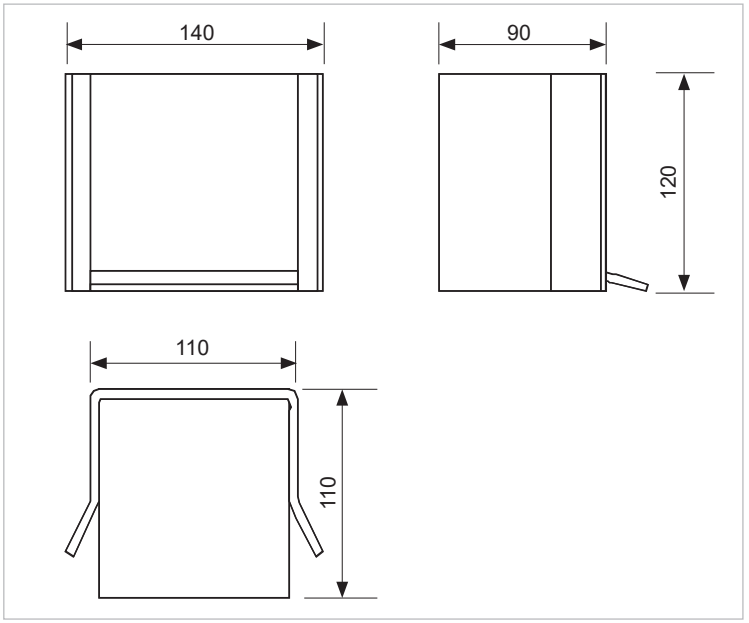
end plate Rollco® LWS 111



end plate with roller Rollco® LWS 111



guide in bracket Rollco® LWS 111



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