

rullari®



OPERATING INSTRUCTIONS

 **KOKEMA**oy
www.kokema.fi

INTRODUCTION

Thank you for choosing a product from the Rullari product family. Rullari products, manufactured by Kokema Oy, are high-quality products with a long service life. Kokema Ltd. has more than 30 years' experience of manufacturing these products. The products are CE marked and thus meet the requirements of building product legislation.

The Rullari product family includes: **roller shutter doors, roller shutter curtains, furniture roller shutters, vertical roller shutters, retractable gates**. The products may be electrically powered or manually operated.

In your hands are the maintenance and installation instructions for Rullari products. Please read these instructions carefully before using the product. Store these instructions with the product.

These instructions consist of the following subsections:

OPERATING INSTRUCTIONS

NOTICE OF CE MARK ACHIEVEMENT

MAINTENANCE INSTRUCTIONS

WARRANTY TERMS

SCHEMATIC DIAGRAMS

ELECTRICAL WIRING DIAGRAMS

INSTALLATION INSTRUCTIONS

CHECKLIST

COMMISSIONING PROTOCOL

OPTION: ENGINE SPECIFICATIONS

OPTION: STEERING

OPTION: WARNING LABELS

We ask you to pay particular attention to the instruction manual section in order to ensure safe use of the product and to ensure that it will serve you for as long as possible.



ROLLER DOOR INSTRUCTION MANUAL

GENERAL (Methods, conditions, time of use, restrictions)

The roller shutter door is equipped with an electric motor. The motor rotates an axle, and the door rolls up around the axle. The motor can be controlled by **actuation force** (operated with a key, push-button, lever switch or control panel). In this case, the door will only move when the operating switch is turned. The motor can also be controlled by **impulse control** (control centre switch, photocells, remote control or radar, etc.), for which the roller shutter door is fitted with safety devices: safety contract strips and photocells (instructions for use for the control centre and from safety device supplier are supplied with the product).

The motor may also be equipped for emergency use (either using a crank or a chain) for use in case of power failure. **Attention! Emergency operation is intended to be used only when strictly necessary.** The crank handle must not be kept attached to the motor's emergency sleeve (the chain is always attached to the motor).

The roller shutter door may also be equipped with locks or bolts. **Attention! Always make sure that the locks are open before using the door!** When using the door, always ensure that there are no persons, vehicles or other obstacles under the door that could damage the door or cause personal injury.

Doors equipped with a tubular motor (1-phase) can be operated continuously for 4 minutes at a time, so these doors can be operated a few times per hour. The right-angle gear motor (3-phase) can be operated between 16 and 32 times per hour.

The doors are suitable for both indoor and outdoor use. **Attention! The motors and roller must be protected from rain, snow and sleet!** If any abnormal operation (movement/sound) is detected, the door must be taken out of use and an authorised service technician from Kokema Ltd. must be called in.

Do not connect/attach any additional parts to the door!

Opening/closing the door by force or with external devices is prohibited!

OPENING THE ROLLER DOOR

1. If the door is equipped with external locks, open the locks to avoid possible damage to the door.
2. Use actuation force or impulse control to open the door (always shown by an arrow which points upwards on the control panel and switch). If using actuation force, keep the switch depressed throughout. If using impulse control, a single push is sufficient. The motor limiter switch stops the door in the up position (in both control modes). When opening the door, always make sure that there are no unnecessary materials hanging on the door and also make sure that there are no people in the immediate vicinity of the door.

Emergency stop! If using actuation force, release the switch, so that the switch returns to the zero position and the door stops. If using impulse control, press the stop button.

CLOSING THE ROLLER DOOR

1. Use actuation force or pulse control to close the door (always shown by an arrow which points downwards on the control panel). If using actuation force, keep the switch depressed throughout closure. If using impulse control, a single push is sufficient. The motor limit switch stops the door in the lower position. When closing the door, make sure that there are no goods or people underneath the door.
2. You can then lock the door, with an external lock. The roller doors also have automatic locking, and if this provides sufficient cover, then a separate lock is not required.

Emergency stop! If using actuation force, release the switch, so that the switch returns to the zero position and the door stops. If using impulse control the safety devices - safety contact strip and/or photocells (in impulse control, both these safety devices are always installed), will stop the door and raise it to the uppermost position or alternatively you can press the stop button.

EMERGENCY OPERATION OF THE ROLLER DOOR

Note! Emergency operation is for emergency use only!

1. Open the door locks.
2. Attach the crank handle to the link in the motor and rotate the handle to open the door. When the handle is turned, the door closes. Note! On larger doors, the emergency use handle gear is equipped with a micro switch to prevent simultaneous operation of the lever and the motor (when the crank is removed, a small click is heard from the motor after the micro switch is released and the motor can be operated again). Emergency operation can also occur by means of a chain at the bottom, which produces two control cords from the motor. Pulling the red cord will switch the motor to manual operation, allowing the door to be lowered or raised with the help of the chain. The door can be returned to motorized use by pulling the green cord.

ROLLER SHUTTER OPERATING INSTRUCTIONS

There are three types of roller shutter: electrically powered (for which the above instructions apply), spring-operated and crank operated. The shutter can be rolled up, either upwards or sideways (horizontal or vertical). A spring-operated shutter is operated by hand, with a spring to help the shutter to roll up. In the case of crank operation, the crank is turned by hand, causing the shutter to rise or fall, depending on the direction of rotation.

RETRACTABLE GATE OPERATING INSTRUCTIONS

The retractable gate is a hand operated gate, which gathers to the side into a bolt (check diagram). The size of the bolt is around 16% of the width of the gate's total width. When using the retractable gate, be aware of the risk of shearing, which might be caused by the collapsing scissors.

LABELS ON THE PRODUCT:

The product carries a rating plate (on the bottom of the roller or top of the rail) showing: the manufacturer, year of manufacture, serial number, the product type and product approvals,

A warning label next to the switch/controller that prohibits/warns against persons and foreign objects being under the shutter during operation.



NOTICE OF CE MARK ACHIEVEMENT FOR RULLARI PRODUCTS

NAME AND ADDRESS OF MANUFACTURER:

Kokema Oy
PL91, Kakkulaistentie 5
FIN-32801 Kokemäki
www.kokema.fi

RULLARI ALUMINIUM PRODUCTS:

- roller shutter doors
- roller shutter curtains
- vertical roller shutters
- furniture roller shutters
- retractable gates

REGULATIONS WITH WHICH THE PRODUCTS COMPLY

Standard SFS-EN 13241-1+A1:2010

STUDY REPORT:

No VTT-S-02589-13

INITIAL TEST CARRIED OUT BY:

Notified body NB 0809
VTT Expert Services Oy
PL 1000 02044 MTB

Kokemäki, 31.5.2013

Kokema Oy



Teemu Nieminen



WARRANTY TERMS:

The warranty period is 2 years from the date of installation.

The warranty is valid only if the installation and any repairs are carried out by our company or by an authorised installer or fitter.

During the warranty period, only spare parts approved by the supplier must be used.

The warranty covers material and colour defects and installation, provided it has been carried out by Kokema Oy.

Kokema Oy will replace the defective part with a new or equivalent part free of charge.

However, the customer must first deliver the broken or defective part to Kokema Oy at his own expense.

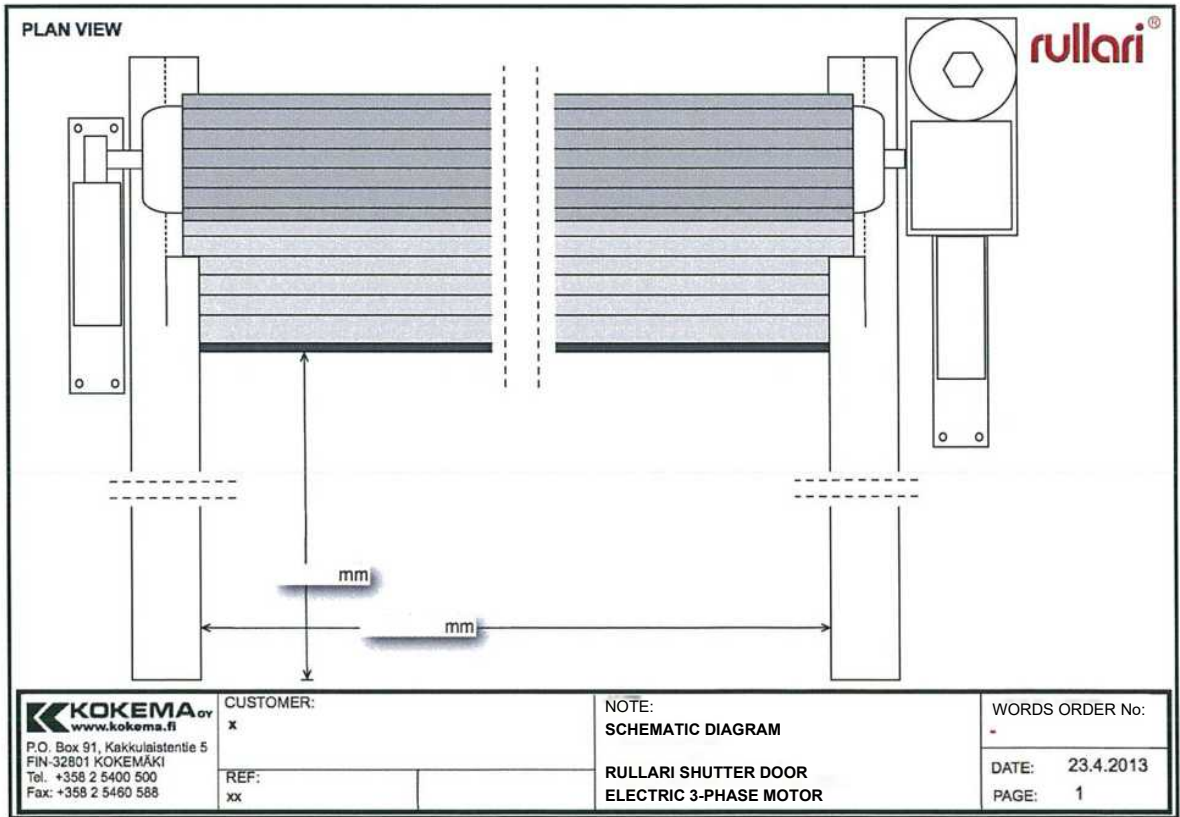
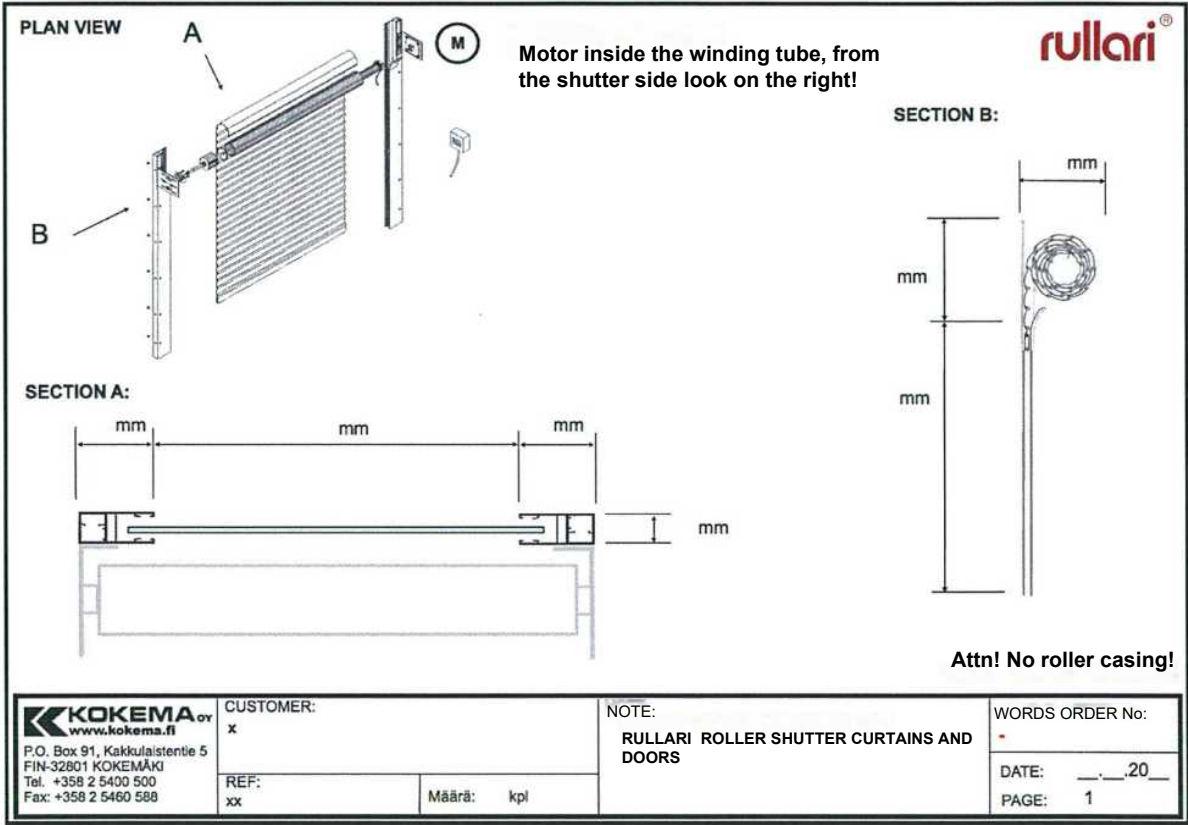
Travel expenses incurred as a result of the warranty repair will be charged as normal.


Warranty repairs may only be carried out by a company authorised by Kokema Oy.

THE WARRANTY DOES NOT COVER:

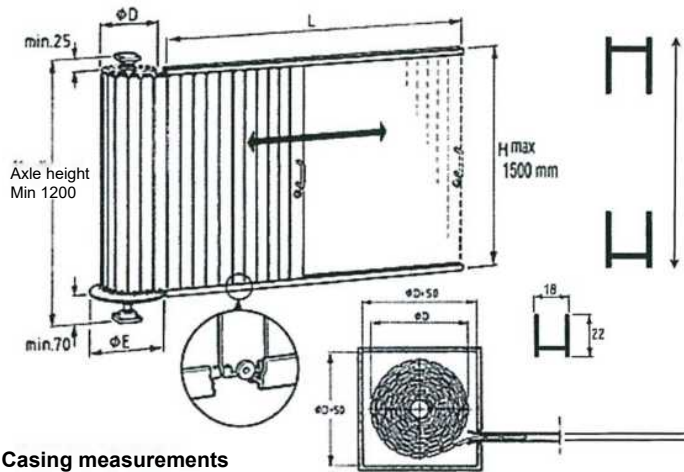
If the device has been used incorrectly or contrary to the instructions for use and maintenance, or if foreign parts (e.g. locks, etc.) have been retrofitted.

The warranty also does not cover indirect damage caused by the appliance.

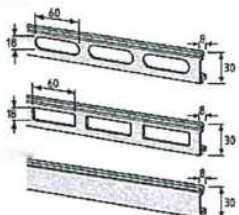




M30R Aluminium
Slat 4,5kg/m²





Oval
mm



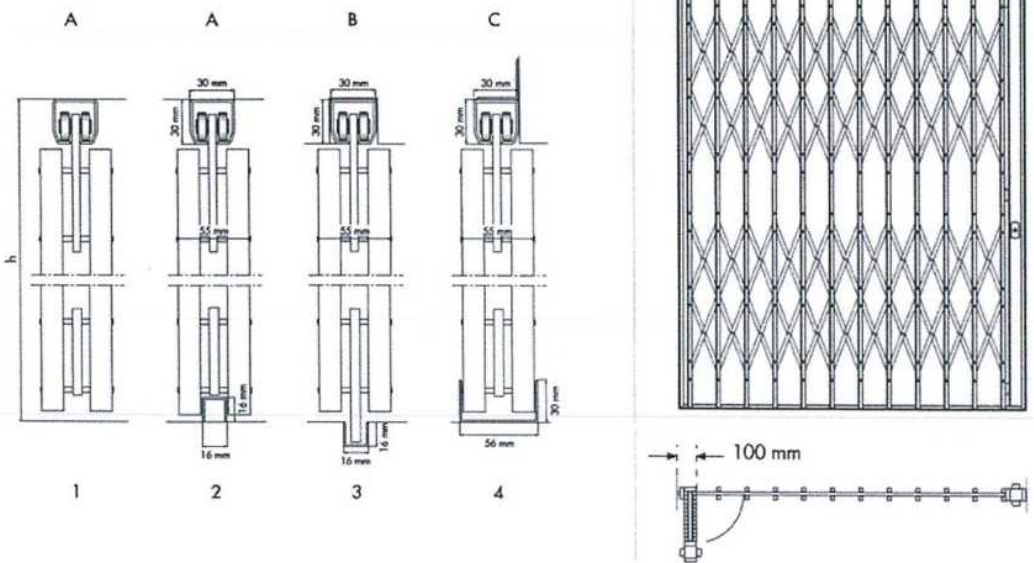
Casing measurements
rolled shutter diameter D + 50mm


mm

 KOKEMA oy www.kokema.fi P.O. Box 91, Kakkulaistentie 5 FIN-32801 KOKEMÄKI Tel. +358 2 5400 500 Fax: +358 2 5460 588	CUSTOMER:	SITE:	NOTE:	WORDS ORDER No:
	REF:	REF:	VERTICAL ROLLER SHUTTERS SPRING ASSISTED LONG BOLT LOCKING NATURALLY ANODISED	DATE:
				PAGE:



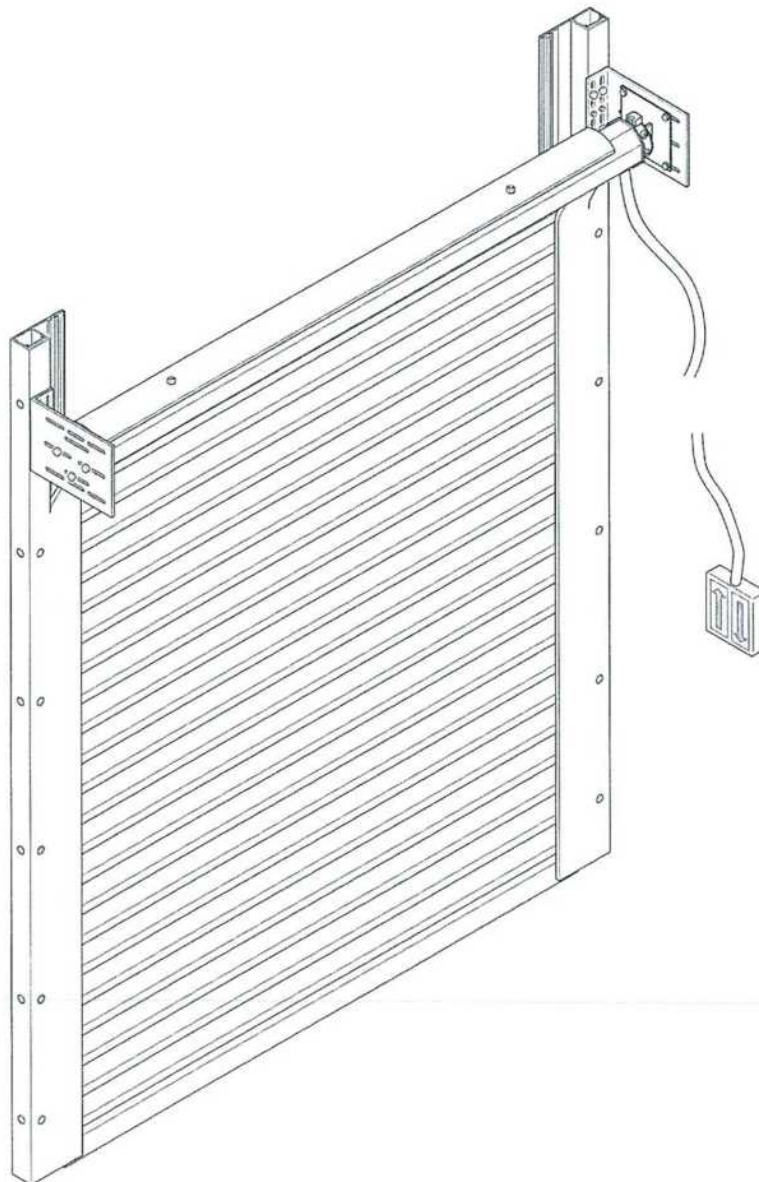
PLAN VIEW
Installation options



 KOKEMA oy www.kokema.fi P.O. Box 91, Kakkulaistentie 5 FIN-32801 KOKEMÄKI Tel. +358 2 5400 500 Fax: +358 2 5460 588	CUSTOMER:	NOTE:	WORDS ORDER No:
	x	RULLARI RETRACTABLE GATE	-
	REF: xx		DATE: . . . 20__

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Electrically powered Rullari installation instructions



STAGE 1: Mounting guide rails

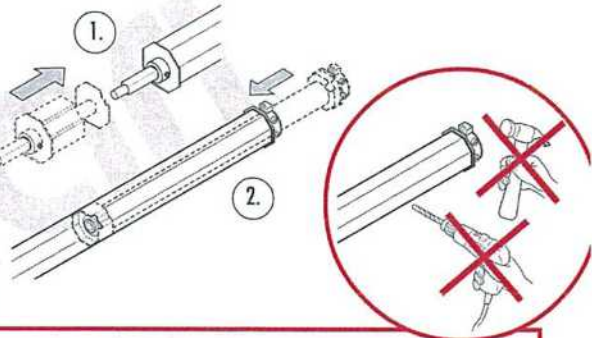
1. Drill holes where necessary into the guide rails. Note the installation method A = in the opening, B= on the wall surface
2. Make sure that the guide rail is straight
3. Fix the guide rail in place.
4. Check the distance between the guide rails according to the dimensions given in the order, taking the installation method (A or B) into account.
5. Attach the second guide rail, making sure that the guide rails are straight and parallel.

A:
Opening mounting

B:
Wall mounting

STAGE 2: Assembling the axle

1. Install the adjustment stopper at one end of the axle.
2. Install the motor on the other end of the axle. **NOTE!** Make sure that the rotating lowering ring at the front end of the motor (a rotating ring with a groove on the inner ring) is in the correct position. Push the motor such that the winding tube (axle) is completely over the rotating ring. **NOTE! Do not strike the motor. Avoid dropping parts. When attaching the roller, be careful not to drill into the motor.**



STAGE 3: Installation of mounting brackets

ATTENTION! If the mounting brackets are already on the rails, go to step 4. For casing installation, go to step 7.

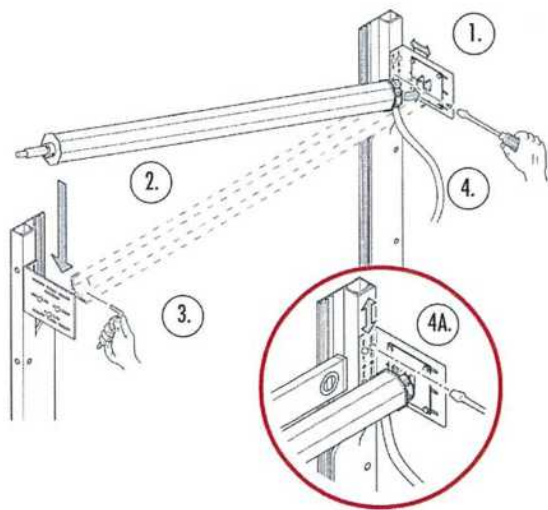
1. Attach the mounting brackets to the guide rails. **ATTENTION!** Battens!
2. Fixing the mounting bracket to the wall. Measurements on a case-by-case basis.
3. Fixing the mounting bracket to the ceiling. Measurement on a case-by-case basis.

a= _____

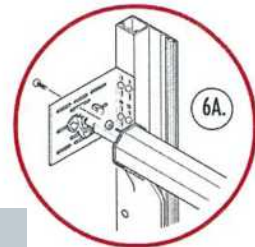
b= _____

d= _____

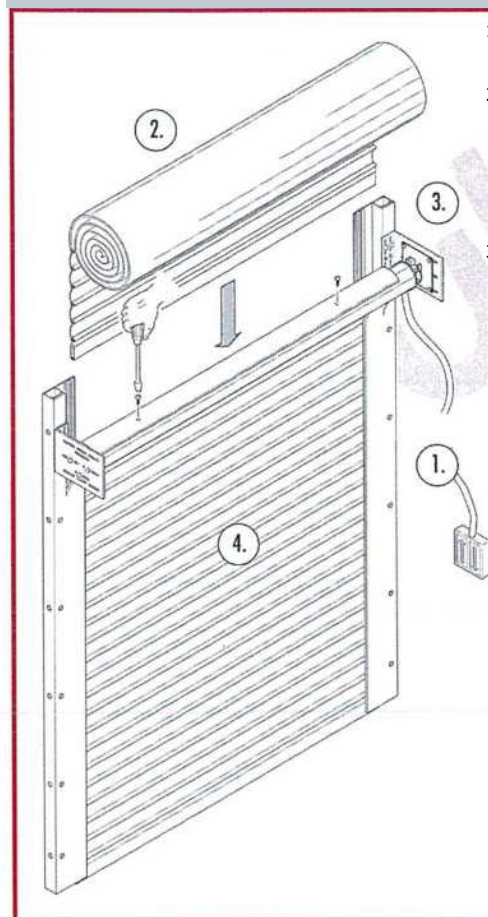
STAGE 4 Install the axle and adjust



1. Adjust the distance between the bearing and the motor bracket and the guide rails so that the Rullari has room to roll up around the axle. The diameter of the roller d is shown in step 3.
2. Lift the axle into position so that the motor's limit adjustment screws protrude for upper and lower limit adjustment (step 6).
3. Using an Allen wrench, adjust the length of the axle to the appropriate length using the adjusting screw.
4. Make sure the axle is straight and make the necessary adjustments to the mounting brackets (see figure 4A). Lock the mounting brackets into position with a drill screw.
5. Attach the motor's electrical cable carefully e.g. with zip ties, so that it does not catch the rotating Rullari.
6. Lock the opposite ball bearing into position with a screw as shown in Figure 6A.



STAGE 5A: Shutter installation (light shutter) and verification of operation



1. Using a temporary cable, lower the axle in the shutter's lowering direction to its lower limit and leave it there.
2. Lift the Rullari shutter over the axle into the guide rails and attach the Rullari to the axle, either directly from the top edge (see Figure 2A) or with the attachment springs (see Figure 2B), depending on the model. The Rullari blind is supplied rolled up on the bottom edge of the package.
3. Wind the roller up and adjust the upper limit according to the instructions. Adjust the limits in stage 6. 4. Make sure the Rullari works unimpeded. Note the clearance max 5 mm (see Figures 2A and B). Check and, if necessary, fine-tune the limits.

ATTENTION! Use short fixing screws next to the motor!

Figure 2A: models C 600 and CD 800

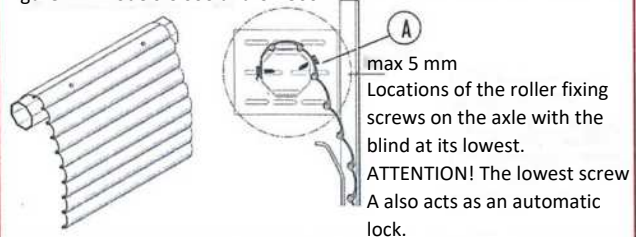
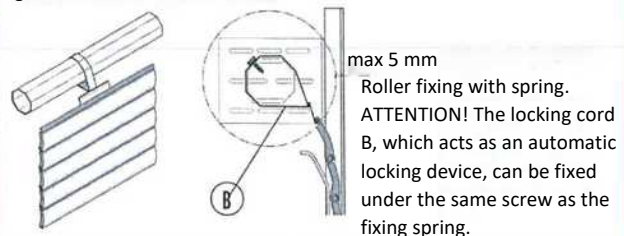
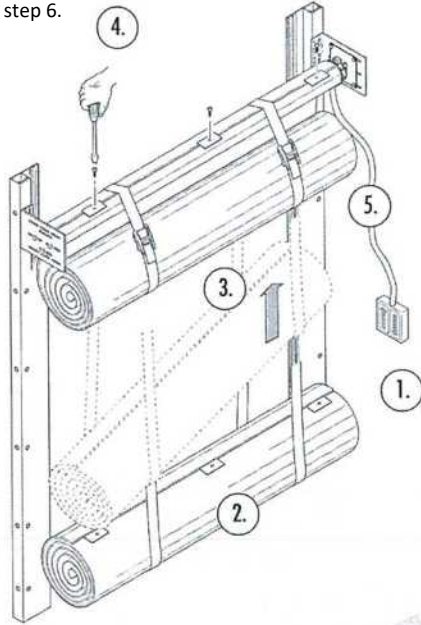


Figure 2B: Models CD 50, CD 150 and CD 200

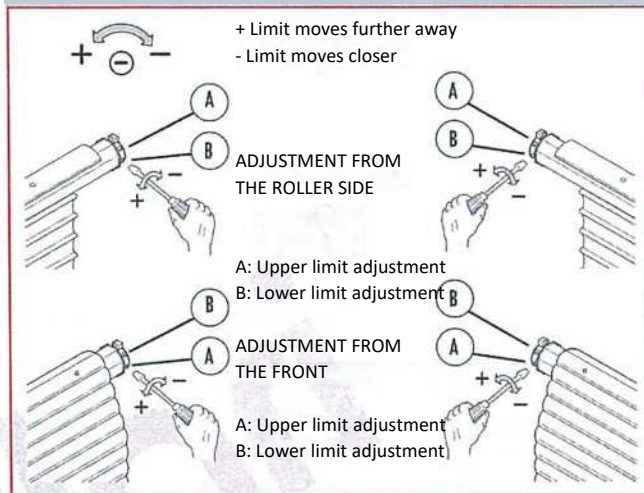


STAGE 5B: Shutter installation (heavy shutter)

- Using a temporary cable, lower the axle in the shutter's lowering direction to its lower limit and leave it there. For high blinds, the lower limit should be adjusted before moving the Roller further away. Adjustment of the limit in step 6.
 - Lift the Rullari blind under the axle along the lifting lines
 - Using the lifting lines as a guide, lift the blind up to the axle.
 - Loosen the shutter slightly to secure the top edge to the axle with drill screws or staples. The shutter is rolled up around its top edge in the package.
- ATTENTION! Use short fixing screws next to the motor!**
- Wind the Rullari shutter up onto the axle using its own motor. Insert the bottom of the Rullari on the guide rails and wind it down with the motor. Go back to step 5A, point 3.

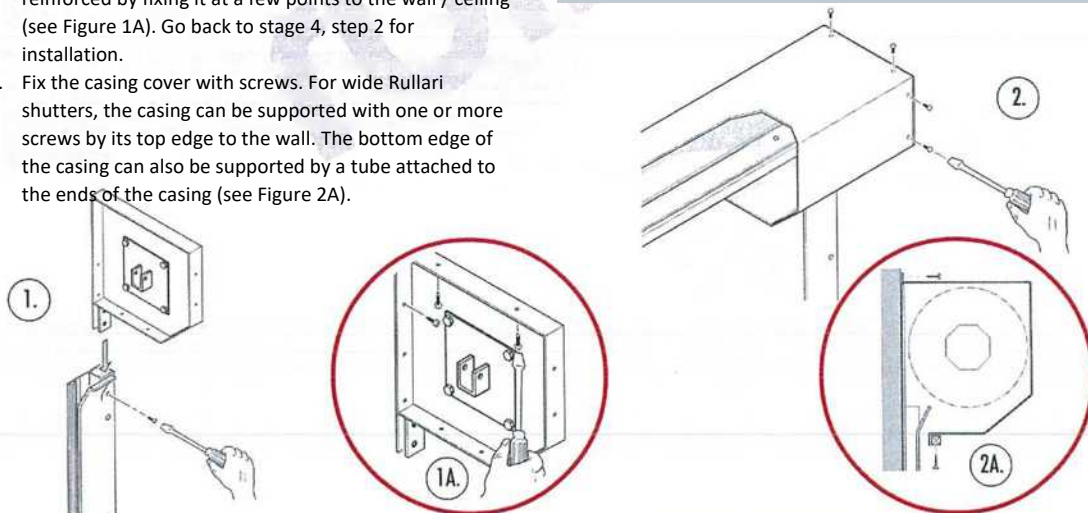


STAGE 6: Adjusting the limits (Jolly motors)



- Attach the foot of the casing end piece to the guide rail with a drill screw. The end of the casing can be reinforced by fixing it at a few points to the wall / ceiling (see Figure 1A). Go back to stage 4, step 2 for installation.
- Fix the casing cover with screws. For wide Rullari shutters, the casing can be supported with one or more screws by its top edge to the wall. The bottom edge of the casing can also be supported by a tube attached to the ends of the casing (see Figure 2A).

STAGE 7: Option with prefabricated casing

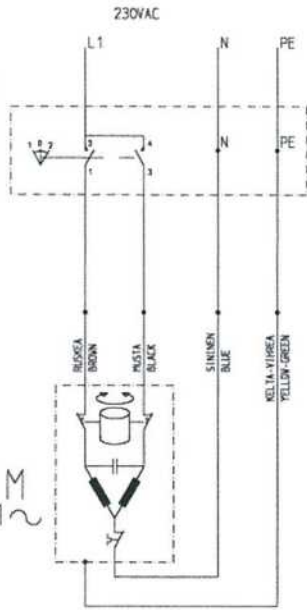


PLAN VIEW



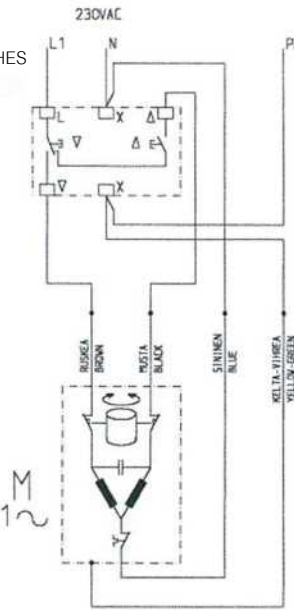
SWITCHES

101
102
103
110
111



SWITCHES

301
303



ALWAYS USE A SWITCH THAT RETURNS TO THE ZERO POSITION

THE DIRECTION OF THE ENGINE'S WINDING ACTION IS DETERMINED BY INTERCHANGING THE BROWN AND BLACK WIRES

ONLY ONE MOTOR MAY BE CONNECTED DIRECTLY TO THE CONTROL SWITCH

ATTENTION! WHEN CONNECTING MORE THAN ONE MOTOR TO THE SAME CONTROL SEPARATE CONTACTS ARE REQUIRED FOR EACH MOTOR IN THE CONTROL CIRCUIT

FOR TWO OR MORE MOTORS, A MULTI-HEAD SWITCH OR AUXILIARY RELAY MUST BE USED

WHEN INSTALLING CABLES, CARE MUST BE TAKEN TO ENSURE THAT AS THE RULLARI ROLL

INCREASES IN SIZE, IT DOES NOT RUB AGAINST THE CABLE

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CUSTOMER:

x

REF:

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NOTE:

ELECTRICAL WIRING DIAGRAM

RULLARI ROLLER CURTAINS AND DOORS

1-PHASE TUBULAR MOTOR 230 V/50 HZ

200W - 570 W

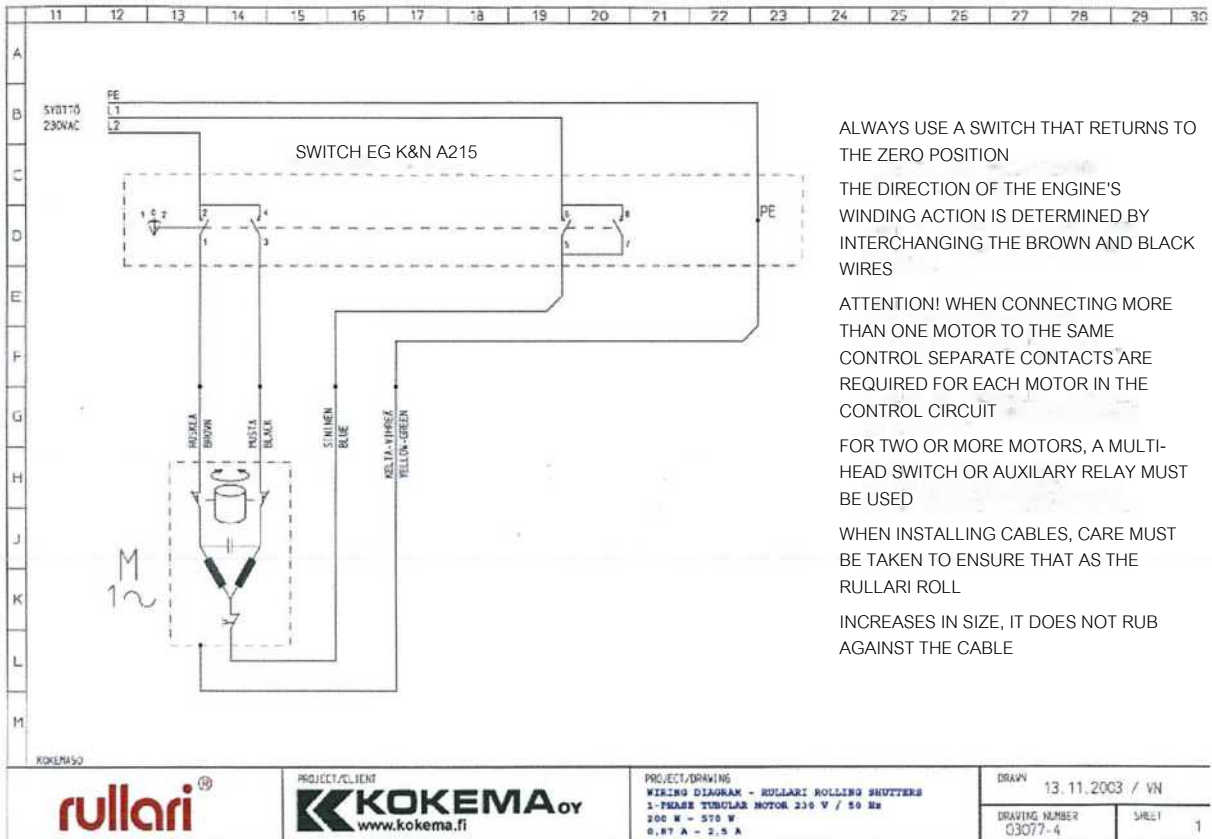
0,87 A - 2,5 A

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DATE: ___ . ___ 20__

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ALWAYS USE A SWITCH THAT RETURNS TO THE ZERO POSITION

THE DIRECTION OF THE ENGINE'S WINDING ACTION IS DETERMINED BY INTERCHANGING THE BROWN AND BLACK WIRES

ATTENTION! WHEN CONNECTING MORE THAN ONE MOTOR TO THE SAME CONTROL SEPARATE CONTACTS ARE REQUIRED FOR EACH MOTOR IN THE CONTROL CIRCUIT

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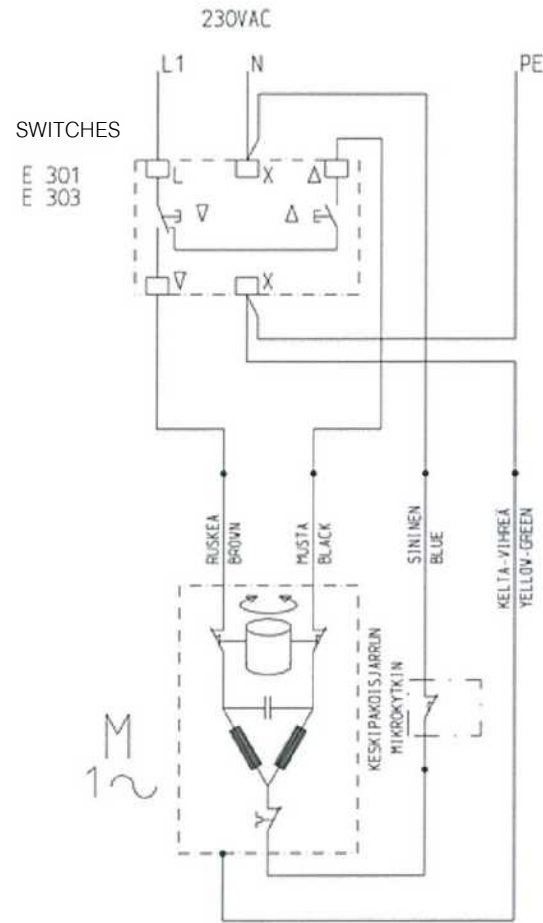
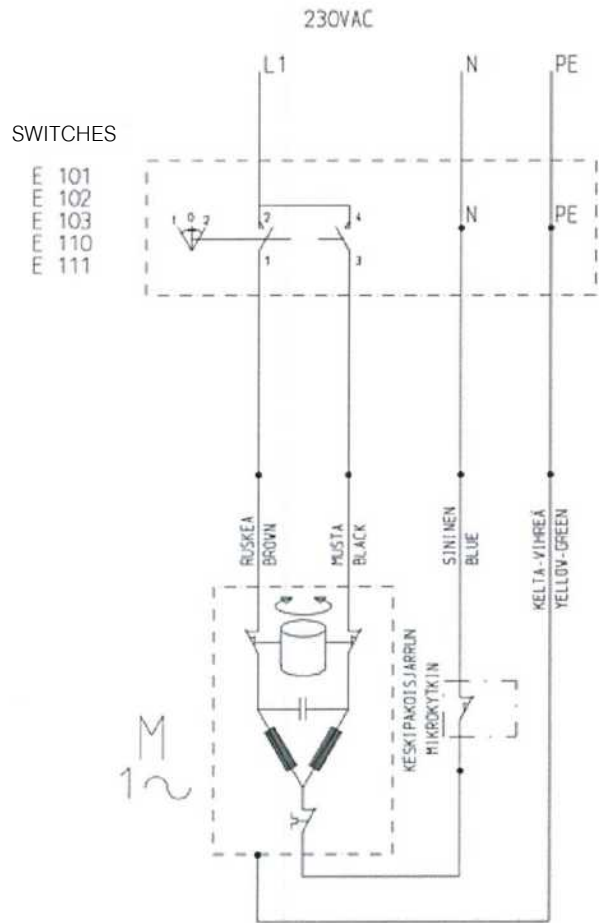
PROJECT/CLIENT
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PROJECT/DRAWING
WIRING DIAGRAM - RULLARI ROLLING SHUTTERS
1-PHASE TUBULAR MOTOR 230 V / 50 Hz
200 W - 570 W
0,87 A - 2,5 A

DRAWN 13.11.2003 / VW

DRAWING NUMBER 03077-4 SHEET 1

PLAN VIEW



ALWAYS USE A SWITCH THAT RETURNS TO THE ZERO POSITION

THE DIRECTION OF THE ENGINE'S WINDING ACTION IS DETERMINED BY INTERCHANGING THE BROWN AND BLACK WIRES

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FOR TWO OR MORE MOTORS, A MULTI-HEAD SWITCH OR AUXILIARY RELAY MUST BE USED

WHEN INSTALLING CABLES, CARE MUST BE TAKEN TO ENSURE THAT AS THE RULLARI ROLL

INCREASES IN SIZE, IT DOES NOT RUB AGAINST THE CABLE



P.O. Box 91, Kakkulaistentie 5
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CUSTOMER:

x

REF:

xx

NOTE:

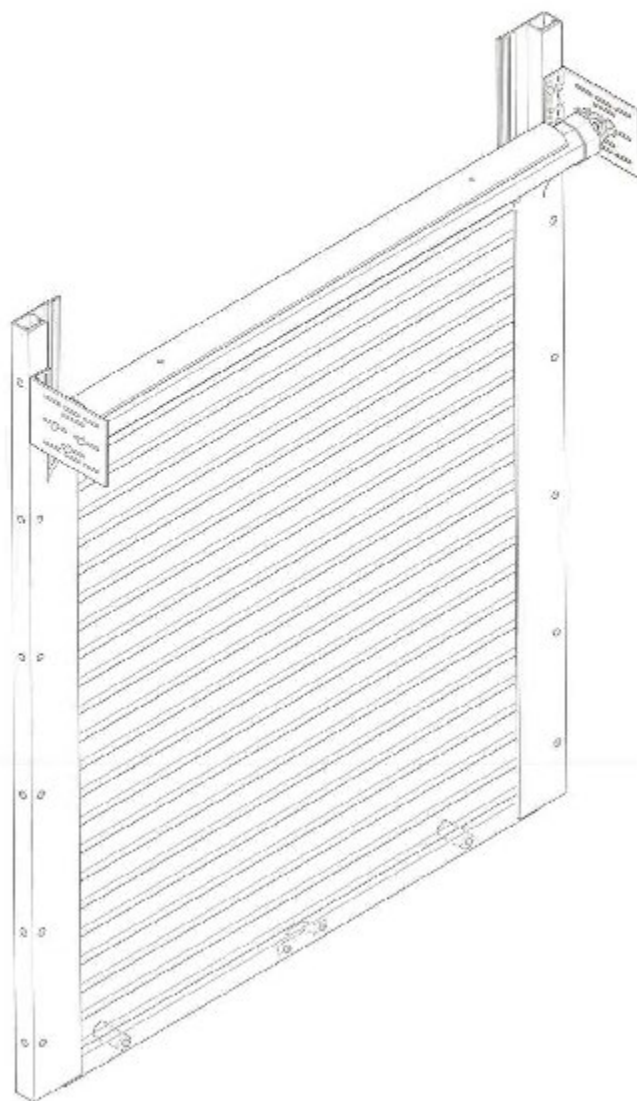
ELECTRICAL WIRING DIAGRAM
RULLARI ROLLER SHUTTERS AND DOORS
1-PHASE TUBULAR MOTOR 230 V/50 HZ
200W – 570 W
0,87 A – 2,5 A

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Spring-assisted Rullari installation instructions



STAGE 1: Mounting guide rails

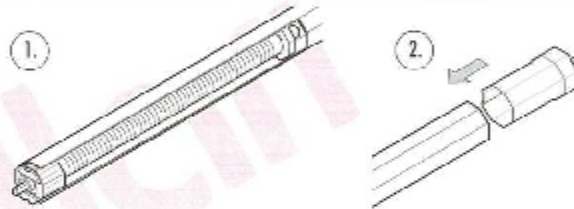
1. Drill holes where necessary into the guide rails. Note the installation method A = in the opening, B= on the wall surface
2. Make sure that the guide rail is straight
3. Fix the guide rail in place.
4. Check the distance between the guide rails according to the dimensions given in the order, taking the installation method (A or B) into account.
5. Attach the second guide rail, making sure that the guide rails are straight and parallel.

A:
Opening mounting

B:
Wall mounting

STAGE 2 Assembling the axle

1. The spring is normally factory fitted to the axle.
2. Install the plastic adjustment stopper at one end of the axle.



STAGE 3: Installation of mounting brackets

ATTENTION! If the mounting brackets are already on the rails, go to step 4. For casing installation, go to step 7.

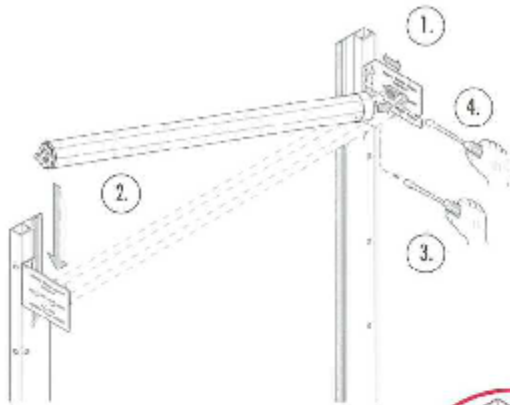
1. Attach the mounting brackets to the guide rails. **ATTENTION! Battens!**
2. Fixing the mounting bracket to the wall. Measurement on a case-by-case basis.
3. Fixing the mounting bracket to the ceiling. Measurement on a case-by-case basis.

a= _____

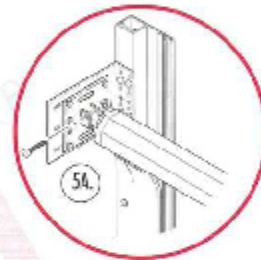
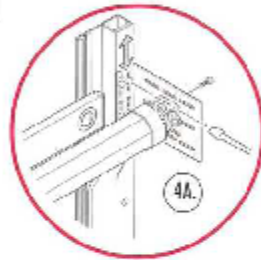
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d= _____

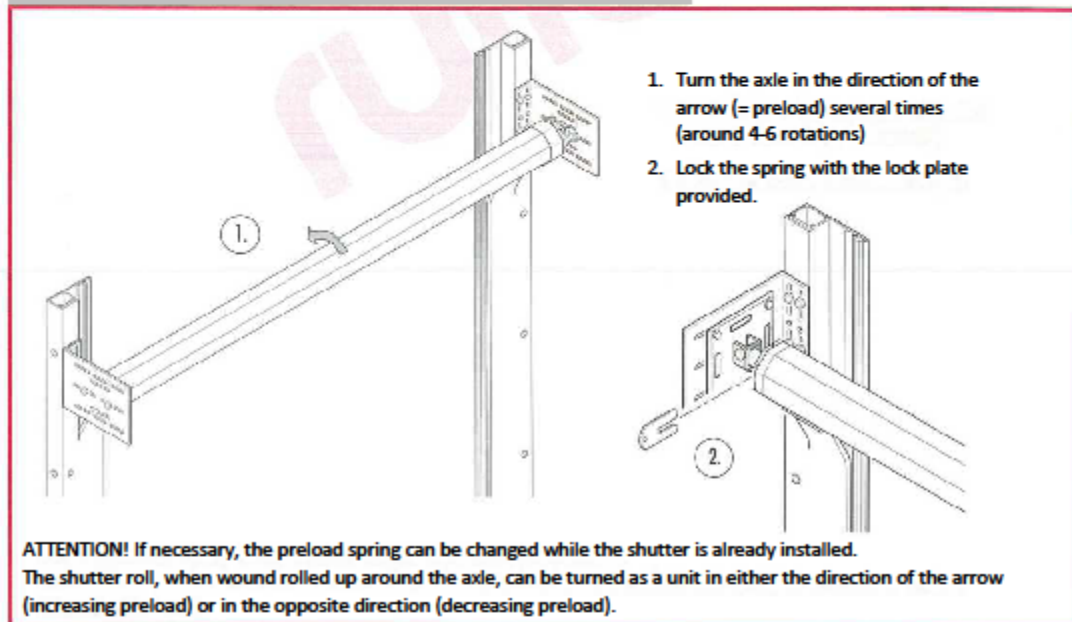
STAGE 4: Install the axle and adjust



1. Adjust the distance between the bearing and the motor bracket and the guide rails so that the Roller has room to wind around the axle. The diameter of the roller d is shown in step 3.
2. Lift the axle into position.
3. Using an Allen wrench, adjust the length of the axle to the appropriate length using the adjusting screw.
4. Make sure that the axle is straight and make the necessary adjustments to the mounting brackets (see figure 4A). Lock the mounting brackets into position with a drill screw. Also lock the ball bearing with the screw (see Figure 4A).
5. Lock the spring to the bracket with a screw (see Figure 5A).



STEP 5: Twisting the preload on the spring



STAGE 6: Installing the shutter and checking its operation

1. Lift the Rullari shutter over the axle to the guide rails and attach the Rullari to the axle to secure the shutter in place (see Figure 1A), either directly with a drill screw from the top edge, or by means of a retaining spring (see Figure 1B), depending on the model. Remove the spring lock plate.
2. Attach the plastic upper limit stoppers and the handle(s).
3. Make sure the Rullari shutter works unimpeded. Note the clearance max 5 mm (see Figures 1A and B). Also check the operation of the lock on lockable Rollers.

Figure 1A: models CD 600, CD 800 and Me 30
 Locking to prevent sideways movement
 max 5 mm
 Securing the roller from the top edge.

Figure 1B: models CD 50, CD 150 and CD 200
 max 5 mm
 Roller attachment by spring.

1. Attach the foot of the casing end piece to the guide rail with a drill screw. The end of the casing can be reinforced by fixing it to the wall / ceiling at a few points (see Figure 1A). Go back to stage 4, step 2, for installation.
2. Fix the casing cover with screws. For wide Rullari shutters, the casing can be supported with one or more screws by its top edge to the wall. The bottom edge of the casing can also be supported by a tube attached to the ends of the casing (see Figure 2A)

STAGE 7: Option with prefabricated casing

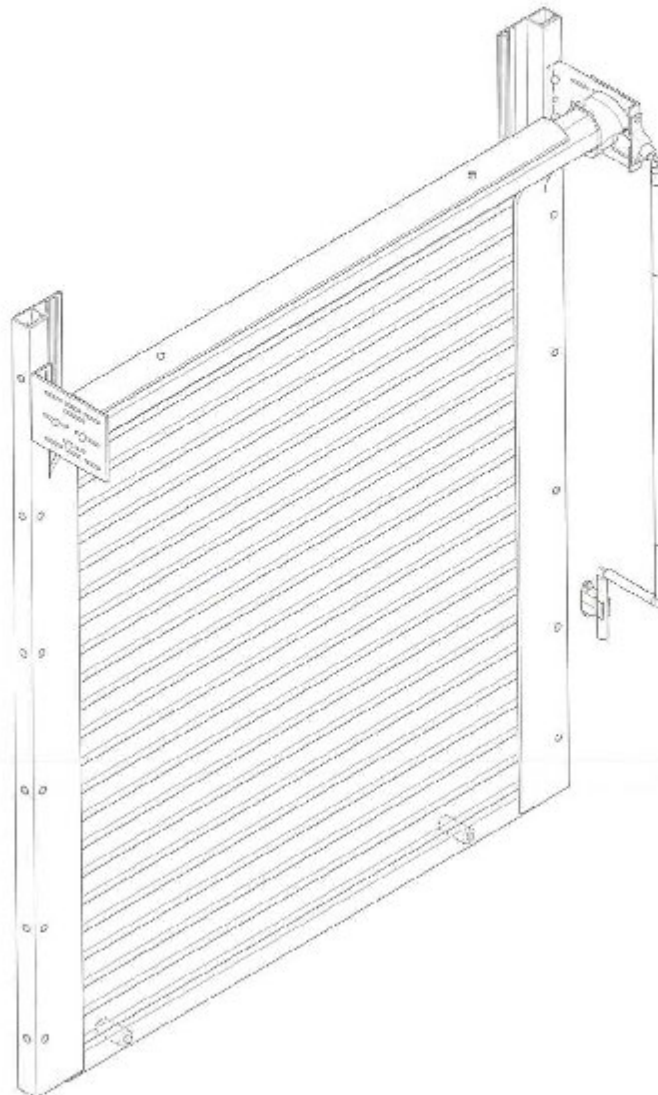
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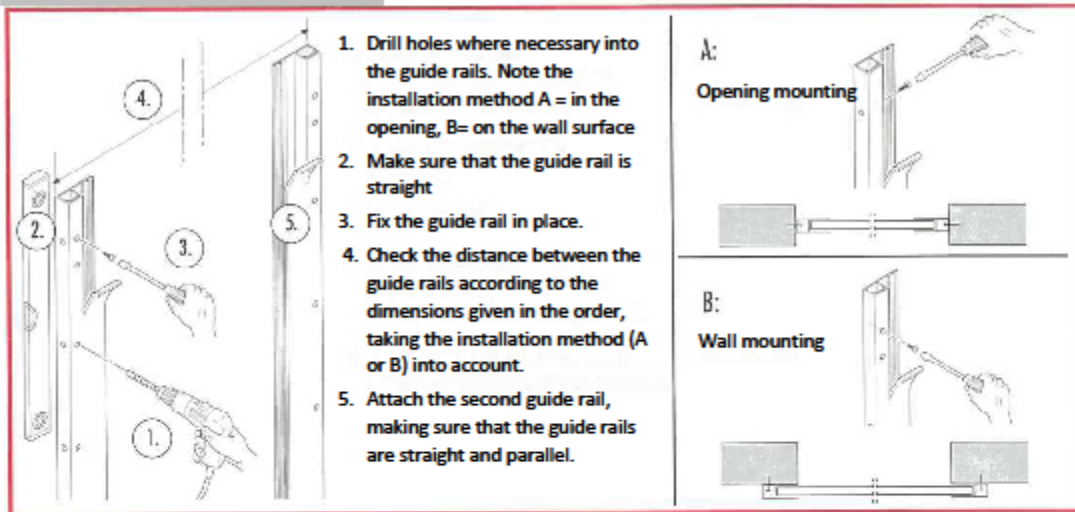
puh. (02) 540 0500
 fax. (02) 546 0588

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 www.kokema.fi

Crank-operated Rullari installation instructions



STAGE 1: Mounting guide rails



1. Drill holes where necessary into the guide rails. Note the installation method A = in the opening, B= on the wall surface
2. Make sure that the guide rail is straight
3. Fix the guide rail in place.
4. Check the distance between the guide rails according to the dimensions given in the order, taking the installation method (A or B) into account.
5. Attach the second guide rail, making sure that the guide rails are straight and parallel.

A:
Opening mounting

B:
Wall mounting

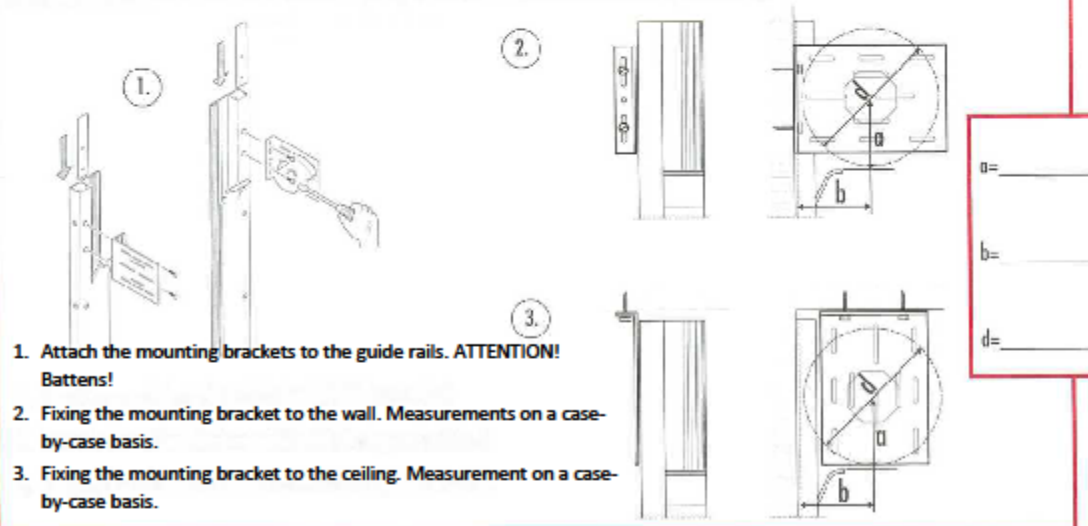
STAGE 2: Assembling the axle

1. Install the left-hand stopper at the end of the axle.
2. Install the right-hand stopper at the end of the axle



STAGE 3: Installation of mounting brackets

ATTENTION! If the mounting brackets are already on the rails, go to step 4. For casing installation, go to step 5B.



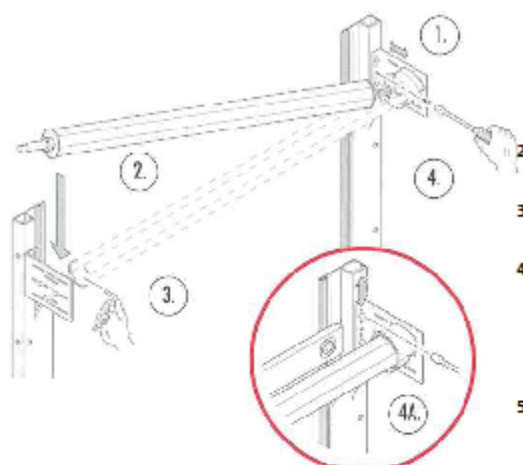
1. Attach the mounting brackets to the guide rails. **ATTENTION! Battens!**
2. Fixing the mounting bracket to the wall. Measurements on a case-by-case basis.
3. Fixing the mounting bracket to the ceiling. Measurement on a case-by-case basis.

a= _____

b= _____

d= _____

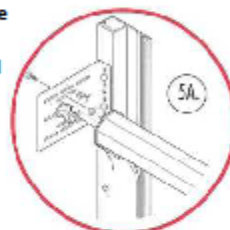
STAGE 4: Install the axle and adjust



1. Adjust the distance between the bearing and the motor bracket and the guide rails so that the shutter has room to wind around the axle. The diameter of the roller d is shown in step 3. At this stage, decide on the position of the crank pivot joint and adjust the position of the gear in line with the pivot pin (8x8 mm). When in use, the angle between the pivot and the crank should be as slight as possible, so that the joint is light and does not put any strain on the crank's joint.

Attachment of the pivot joint is shown in step 5. Note the effect of this adjustment also on fixture of the joint in stage 5a

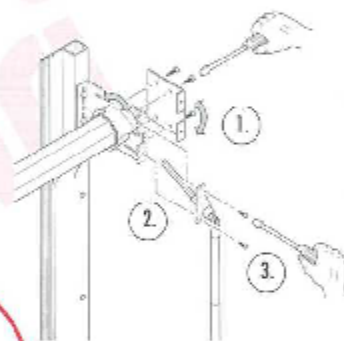
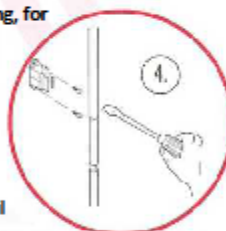
2. Lift the axle into position in front of the end which will house the gearing.
3. Using an Allen wrench, adjust the length of the axle to the appropriate length using the adjusting screw.
4. Make sure that the axle is straight and make any necessary adjustments to the mounting brackets (see Figure 4A). Lock the mounting brackets with a drill screw.
5. Lock the opposing ball bearing with a screw as shown in Figure 5A.



STAGE 5A: Crank assembly on mounting bracket

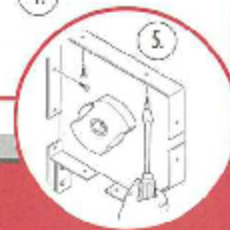
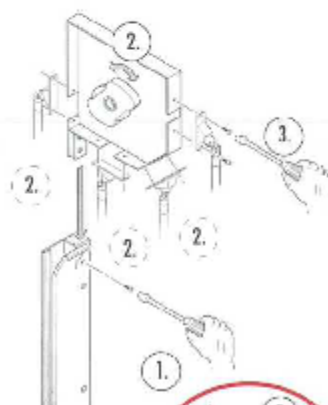
1. Attach the crank's mounting plate to the mounting bracket. The pivot's mounting plate may also be attached at a 45° angle to the mounting bracket.
2. Fit the pivot pin (8x8mm) into the hole provided in the gearing in accordance with the adjustment carried out in step 4. Trim the pivot pin (8x8mm) to a suitable length.
3. Attach the pivot to the pivot mounting plate.
4. Attach the crank holder to either the stem of the crank or the handle to suit.

ATTENTION ! If the customer provides their own casing, for example gyproc or laminate boards, the pivot of the crank should be fixed to the surface of the casing without using its mounting plate.



STAGE 5B: Crank assembly on casing

1. Attach the end piece of the casing to the guide rail with a drill screw.
 2. Fit the pivot pin (8x8mm) into the hole provided in the gearing. If necessary, adjust as described in step 4. Trim the pivot pin (8x8mm) to a suitable length. Please note the different fixing options and their ease of use (= slightest possible angle between the pivot and the crank when using the crank)! Mount the axle in position according to stage 4.)
 3. Attach the crank to the end piece of the casing. **ATTENTION!** The pivot will be removed from the casing in step 7.
 4. Attach the crank holder to either the stem of the crank or the handle to suit.
- NOTE!** You can reinforce the end of the casing by fixing it to the wall/ceiling in a few places (see figure 5).



STAGE 6: Installing the shutter and checking its operation

1. The gearing has a built-in stopper which works as the lower limit. Turn the axle with the crank in the shutter's lowering direction until it reaches the lower limit and leave it there.
2. Lift the Rullari shutter over the axle to the guide rails and attach the roller to the axle to secure the shutter either directly from the top edge (see Figure 2A) or with a retaining spring (see Figure 2B), depending on the model.
3. Attach the plastic upper limit stopper.
4. Ensure that the Rullari shutter can function unhindered. Note clearance max 5 mm (see Figures 2A and B).

Figure 2A: Models CD 600 and CD 800

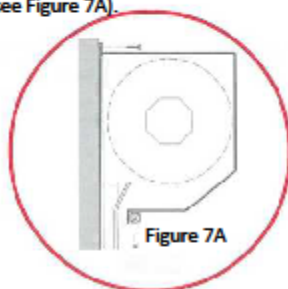
max 5 mm
Locations of the roller fixing screws on the axle with the shutter at the lower limit. **ATTENTION!** The lower screw A also functions as automatic locking.

Figure 2B: Models CD 50, CD 150 and CD 200

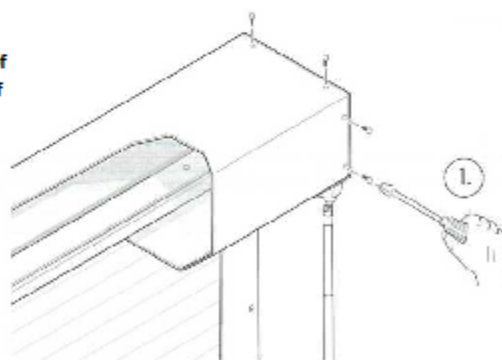
max 5 mm
Fixing the Rullari to the spring. **ATTENTION!** The automatic locking cord B can be fixed under the same screw as the fixing spring.

1. After installing the shutter, remove the pivot from the end piece of the casing, make a hole in the casing's protective cover for the pivot pin and attach casing's protective cover and the pivot with screws.

In the case of wide roller blinds, the casing can be supported at its upper edge by one or more screws to the wall. The bottom edge of the casing can also be supported by a tube attached to the ends of the casing (see Figure 7A).



STAGE 7: Option with prefabricated casing



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RULLARI VERTICAL CURTAIN INSTALLATION GUIDE

1. Fix the bottom and top guide rails securely, using countersunk screws. **Attention! The sliding surfaces of the guide rails must be smooth.**
2. The guide rails must be parallel to each other
3. Fix the axle assembly from the top and bottom
4. Cut the lower guide rail to the appropriate length - leave a gap of approx. 2-3 mm between the plate and the guide rail
5. Open the lower guide rail end as shown in the picture (see figure 1)
6. Cut and open the upper guide rail end in the same way as for the lower guide rail.
7. Adjust the height of the plate so that the upper surface of the plate is flush with the sliding surface of the lower guide rail.
8. Lift the curtain to the edge of the plate and push the curtain into the guide rails, such that the shutter is in the closed position.
9. Tighten the spring in the direction indicated by the arrow, initially about 15 turns.
10. Secure the curtain to the axle with one screw and test the shutter.
11. If the curtain does not make a tight roll around the axle when it is closed - tighten the spring.
12. If the curtain feels too heavy - reduce the spring tension.
13. Secure the curtain to the axle with the remaining screws.
14. Attach the stoppers and handles to the first slat.
15. Close the curtain and measure the positions of the bolts on the long latches at the top and bottom of the guard rails.
16. Drill a hole of about 10 mm in the top and bottom guide rails for the long latches.
17. Test the operation of the lock - the curtain should lock and open slightly.
18. Finally, ensure that all the fixing screws are tight and clear the guide rails of any debris.



CHECKLIST / ORDER NO: _____

	OK	ATTENTION!
SLATTED SHUTTER	_____	_____
GUIDE RAILS	_____	_____
BRACKETS	_____	_____
MOTOR / GEARING / SPRING	_____	_____
AXLE	_____	_____
STOPPER + BEARING + BEARING CASING	_____	_____
LOCK	_____	_____
OPERATION SWITCH	_____	_____
HANDLES	_____	_____
PROTECTIVE COVER	_____	_____
TYPE PLATE	_____	_____
GUIDE RAIL FIXING SCREWS	_____	_____
UNSEALED FIXING SCREWS FOR THE AXLE	_____	_____
PROTECTIVE COVERING FIXING SCREWS	_____	_____
INSTALLATION INSTRUCTIONS, OPERATING INSTRUCTIONS, MAINTENANCE INSTRUCTIONS	_____	_____

DATE: ___ ___ - 20___ SIGNATURE: _____

RULLARI SHUTTER DOOR COMMISSIONING PROTOCOL

LOCATION: _____ SHUTTER SERIAL NUMBER: _____

INSPECTION LOCATION:	INSPECTOR:	NOTES:
DOOR PANEL CONDITION		
DOOR PANEL SURFACE TREATMENT		
DOOR PANEL FIXING TO WINDING TUBE		
BOTTOM SLAT + BUMPER RUBBER		
MANUFACTURER'S INFORMATION AND TYPE PLATE		
BRACKET CONDITION		
BRACKET FIXING		
ZERO END BEARING		
MOTOR END BEARING		
CONDITION OF GUIDE RAILS		
SURFACE TREATMENT OF GUIDE RAILS		
MOUNTING OF GUIDE RAILS		
CONDITION OF SLIDING SURFACES		
CONDITION OF THE WINDING TUBE		
MOTOR FIXING		
MOTOR LIMIT SETTING		
MOTOR HEATING – OPTION		
CONTROL CENTRE CONDITION AND FIXING		
ELECTRIC CABLE FIXING		
FUNCTIONING OF SAFETY CONTACT STRIP		
FUNCTIONING OF PHOTO SENSORS		
EMERGENCY USE		

PLACE AND DATE:

_____ - ____ - 20____

SIGNATURES:

CONTACT

FITTER

RULLARI SHUTTER DOOR COMMISSIONING PROTOCOL

LOCATION: _____ SHUTTER SERIAL NUMBER: _____

INSPECTION LOCATION:	INSPECTOR:	NOTES:
DOOR PANEL CONDITION		
DOOR PANEL SURFACE TREATMENT		
DOOR PANEL FIXING TO WINDING TUBE		
BOTTOM SLAT + BUMPER RUBBER		
MANUFACTURER'S INFORMATION AND TYPE PLATE		
BRACKET CONDITION		
BRACKET FIXING		
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MOTOR END BEARING		
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SURFACE TREATMENT OF GUIDE RAILS		
MOUNTING OF GUIDE RAILS		
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CONDITION OF THE WINDING TUBE		
MOTOR FIXING		
MOTOR LIMIT SETTING		
MOTOR HEATING – OPTION		
CONTROL CENTRE CONDITION AND FIXING		
ELECTRIC CABLE FIXING		
FUNCTIONING OF SAFETY CONTACT STRIP		
FUNCTIONING OF PHOTO SENSORS		
EMERGENCY USE		

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RULLARI SHUTTER DOOR COMMISSIONING PROTOCOL

LOCATION: _____ SHUTTER SERIAL NUMBER: _____

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DOOR PANEL CONDITION		
DOOR PANEL SURFACE TREATMENT		
DOOR PANEL FIXING TO WINDING TUBE		
BOTTOM SLAT + BUMPER RUBBER		
MANUFACTURER'S INFORMATION AND TYPE PLATE		
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ELECTRIC CABLE FIXING		
FUNCTIONING OF SAFETY CONTACT STRIP		
FUNCTIONING OF PHOTO SENSORS		
EMERGENCY USE		

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RULLARI SHUTTER DOOR COMMISSIONING PROTOCOL

LOCATION: _____ SHUTTER SERIAL NUMBER: _____

INSPECTION LOCATION:	INSPECTOR:	NOTES:
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DOOR PANEL SURFACE TREATMENT		
DOOR PANEL FIXING TO WINDING TUBE		
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