



# MAGNUM 360

MANUAL FOR ROLL UP SCREENS

# DIRECTORY

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# GENERAL INFORMATION

## ROLL-UP PROJECTION SCREEN MAGNUM

Roll-up screen MAGNUM 360 is a permanently installed projection screens consisting of a roll-up tube that is attached to a drive system (Elektromat) on one side and pivoted on the opposite.

The safety devices according to DIN 56950-1 are parts of the drive system Elektromat and consists of a mechanical safety brake unit and a rotary limit switch with two adjustable emergency stop positions. Both safety devices are parts of the drive system Elektromat.

The lateral bearing positions are connected to a two-part screen casing made of aluminum sheet (protective casing). The projection material is rolled up on the winding tube and has a weighting profile (bottom bar) at its lower end.

The winding tube maintains the height and the projection material is unrolled downwards.

The drive (tubular motor) can be exchanged without dismantling the projection screen if necessary.

Projection screen MAGNUM 360 is used for displaying images, videos, films, etc. supplied by a projector. MAGNUM 360 projection screens can be mounted to the ceiling or to the wall via a separate bearer construction on site

Detail information on the roll-up screen and the serial number VAT can be found on the type plate on the back of the screen material in the bottom left corner and at the top of the protective casing.

The screen material corresponds to a building material class in accordance with DIN 4102-1 and is in line with the limit values for waviness according to ÖNORM A 2115.

For the technical details and projection-specific material parameters please refer to the corresponding product data sheet. **[www.AVstumpfl.com/projectionmaterials](http://www.AVstumpfl.com/projectionmaterials)**

## QUALITY AND SAFETY

The roll-up projection screen is in line with the applicable European guidelines and standards (incomplete excerpt):

Directive 2006/42/EC on Machinery

Low Voltage Directive 2014/35/EU

Electromagnetic Compatibility Directive 2014/30/EU

DIN 19045-2 Projection of still pictures and motion pictures - Part 2: Screens

DIN 56950-1 Entertainment Technology - Machinery Installations - Part 1: Safety requirements and inspection

DIN 56950-4 Entertainment Technology - Machinery Installations - Part 4: Safety requirements for serially manufactured projection screens

DIN EN 60335-1 and 2 Household and similar electrical appliances - Safety - Part 1: General requirements and Part 2: Special requirements

## DECLARATION OF CONFORMITY

According to the EU-Machinery Directive (2006/42/EG) the roll up screen MAGNUM is a machine.

## WARRANTY

The roll up screen MAGNUM may only be used as a projection screen.

No persons are allowed to stay in the operation area. For all damages to persons and property which occur from inappropriate use the warranty will be invalid and the manufacturer cannot be held responsible. The intended use also includes the observance of all instructions and information contained in this operating manual.

The warranty period for production deficiencies is 24 months.

The general terms and conditions are available at [www.AVstumpfl.com](http://www.AVstumpfl.com).

<https://avstumpfl.com/agb>

## UNAUTHORIZED MODIFICATIONS

Unauthorized modifications to a MAGNUM roll up screen or the door control TS970, will invalidate all liability and warranty claims.

## CHANGING THE IMAGE HEIGHT - WARRANTY of FLATNESS

Each roll-up screen is set to the ordered picture height and the flatness is optimized for this image height. A guarantee claim for the flatness exists exclusively for the ordered image height.

Please note that a subsequent adjustment of the image height can lead to a change in the flatness!

## NOTE

Always keep the manual close to the installation site! The manual MAGNUM 360, installation instructions ELEKTROMAT and installation instructions door control TS970 must be accessible to the operator and for maintenance work.

# SAFETY INSTRUCTIONS

## TRANSPORT – MOUNTING



The roll-up screen must be secured during transport and assembly in accordance with the total weight. During lifting work, no person must remain in the danger zone below the suspended load (roll-up screen): The load must be distributed evenly and secured against falling!

The total weight is displayed on the roll-up screen type plate or on the packaging. For mounting use hoisting equipment which is approved for the weight of the roll up screen. Make sure the roll-up screen is transported and mounted horizontally and torsion-free to prevent the safety brake from engaging. Do not put additional mechanical load on the lightweight aluminium casing.

## MECHANICAL MOUNTING:

### NOTICE

Before assembly check the roll-up screen for transport damage! Information on how to proceed in cases of transport damage is provided on the info sheet IMPORTANT INFORMATION.



Before assembly make sure that the wall or the ceiling is able to carry the load. Choose the screws/ attachment material in accordance with the weight of the projection screen and the condition of wall or ceiling. The permissible loads on walls, fastenings, connecting and transmission elements must not exceed the maximum holding force and catch torque.

### NOTICE

In order to ensure optimal flatness of the projection surface avoid assembly within the vicinity of radiators, ventilation and air condition systems. To ensure safe and trouble-free operation make sure that the roll-up screen is installed in an absolutely horizontal and torsion-free position!

## ELECTRICAL INSTALLATION



The electrical installation is to be performed by a trained electrician from a licensed expert company only. Please hand over this manual and the connection directions that are supplied separately with the motor Elektromat and the door control TS970 to the executing expert.

The electrical installation may only be carried out in a voltage-free state!  
Secure the system against unintentional reconnection!

Prior to the installation check the isolation of the connecting cable and the cable feedthrough at the casing for damage. Check that there is no ohmic continuity between the connecting cable and the roll-up screen casing so that any danger by indirect contact is excluded. Control units must not be installed in the operating area of the roll-up screen.

## FIRST-TIME OPERATION

### **NOTICE**

When starting the roll-up screen for the first time secure the immediate area of the screen and its movement range. During first-time operation the screen should be moved in steps only. When there are signs of danger or danger situations roll-up screen operation must be stopped immediately. During the test run the operator must always have full and direct sight of the roll-up screen.

Remove the transport protection (protective film) and make sure that the bottom bar did not get stuck in the roll-up screen casing during transport or assembly and that the screen material can unwind without any problems!

## OPERATION

### **⚠ CAUTION**

The operator must undergo a training regarding the technical construction and operating principle to ensure safe operation. The operator must have basic knowledge of the industry safety standards. Take appropriate measures to ensure that the roll up screen cannot be operated by untrained persons or activated unintentionally.

The projection screen must only be operated in a well lit environment so as to recognize any danger situations that might occur. During operation the operator must always have full and direct sight of the roll-up screen so as to be able to stop it immediately when a danger situation occurs.

Supervision by adults is required when putting the roll-up screen into operation.

During operation the movement range and the immediate area of the roll-up screen must be secured. No persons are allowed below the roll-up screen!

Before winding up the screen check the bottom bar and the screen material for damage and remove any possible obstacles within the movement range. No additional loads must be attached to / or lifted by the bottom bar.

In the case of recognizable damage to the roll-up screen it must immediately be taken out of service. It can only be put back into service after being repaired and checked/cleared for use by an expert.

## MAINTENANCE TIPS - CLEANING

### **⚠ CAUTION**

During work at the roll-up screen make sure that it cannot be started accidentally.

Protect the screen material from soiling. If necessary clean it with a slightly damp and soft cloth. Do not use any aggressive cleaning agents, such as acetone, terpentine, cellulose thinners or ethyl alcohol or similar substances.

## MAINTENANCE

Drives, bearings and other rotating parts of the roll-up screen are permanently lubricated and are maintenance-free. The roll-up screen must be protected from soiling. Maintenance and repair work must only be carried out by authorized experts.

## SAFETY INSPECTION

### NOTICE

MAGNUM roll-up screens must undergo annual safety inspection.

In case of visible damage or unusual noises during the operation the roll-up screen must immediately be taken out of service. It must only be returned to service upon successful repair and inspection/clearance for use by an expert.

The annual safety inspection must only be performed by qualified personnel licensed in line with the national legal regulations (installing person/company, TÜV, consulting engineer).

The inspection must be performed in accordance with DGUV 17 (BGV C1) and the regulations according to DIN 56950-1 Appendix A and the applicable national regulations.

We recommend performing the following measures:

- Check form-fit, positive-fit and torsion-free mounting to ceiling or mounting bracket.
- Perform a test run
- Visual inspection of winding behavior
- Check for operating noises at the bearing locations
- Check operating limit switches (stop point of upper and lower limit switches)
- Check function of the emergency limit switches by mechanical triggering
- Visual inspection of the connection between bottom bar and screen material
- Check electrical installations and safety installations
- Check "dead man's control" for screens with more than 5 m width or height
- Check the drive Electromat according to the separate operating instruction
- Check the control unit TS970 „Dead man's control" according to separate operating instruction

## DISASSEMBLY

### WARNING

For disassembly the same safety instructions apply as listed for TRANSPORT - MOUNTING on page 5.

## DISPOSAL

At the end of its lifetime this product must not be disposed of with normal household waste but needs to be taken to a collection site for recycling.

Disassembly of a MAGNUM roll-up screen takes a few steps only and by separate disposal of the waste you can make an important contribution towards environmental protection.

In separated form the materials can be recycled.

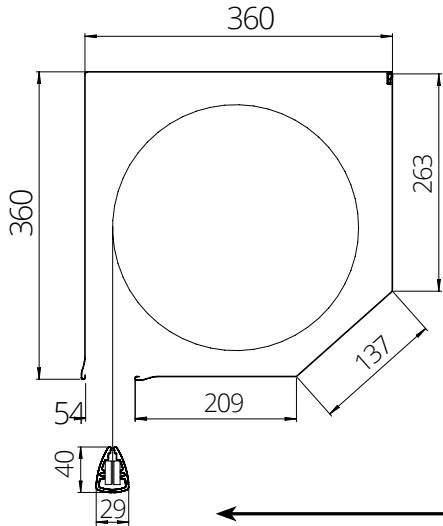
Casing components and bottom bar are made of aluminum and the lateral brackets are made of steel.

For the projection screen material refer to the type plate.

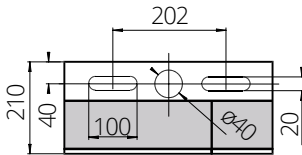
The motor drive is to be disposed of at a collection center for electric devices.

Contact your local disposal company for the address of a collection center.

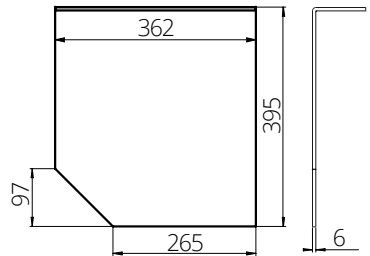
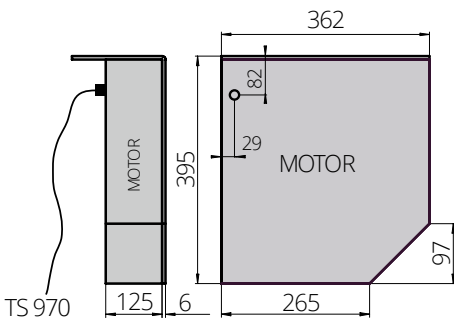
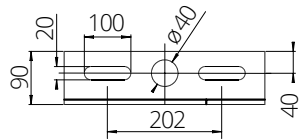
# Cross Section MAGNUM 360-Casing



Mounting Bracket  
left



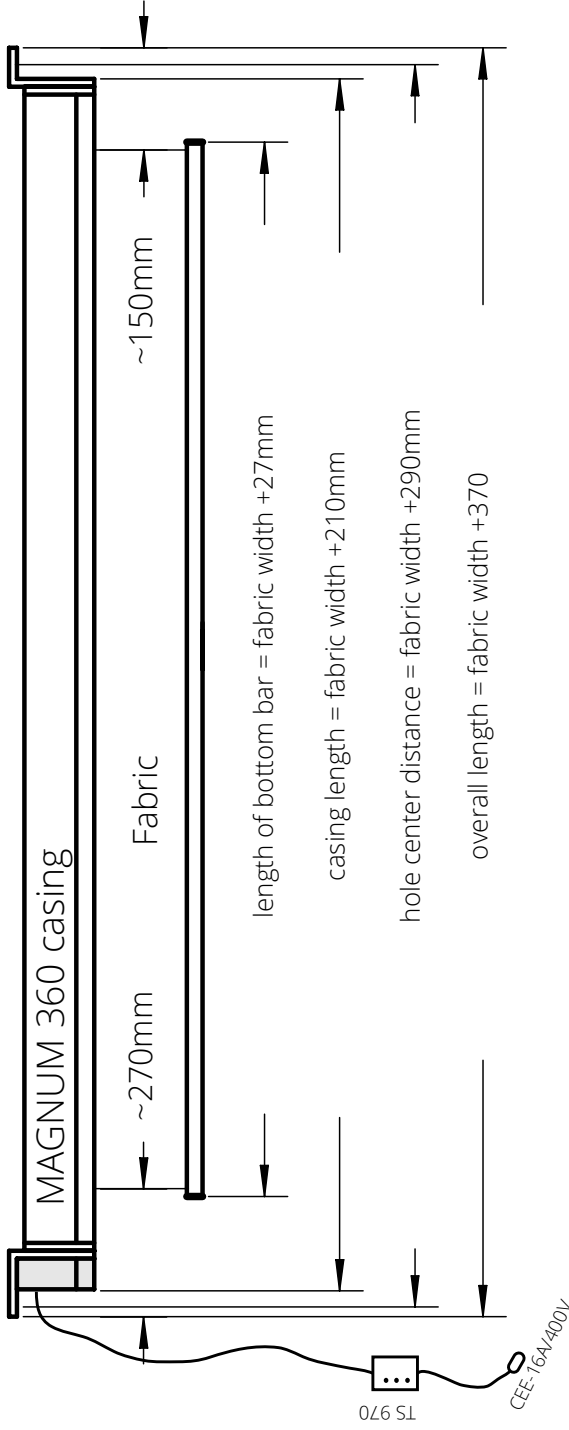
Mounting Bracket  
right





# MAGNUM 360

Abmessungen der Projektionswand



motor cable 400V/16A incl. control panel TS 970 and CEE connector,  
cable length 9m

overall length: +/- 7mm

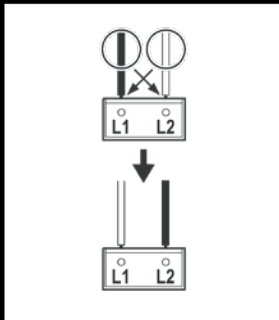
THE BRACKETS OF THE PROJECTION SCREEN MUST BE MOUNTED FORCE-FIT AND POSITIVE-FIT TO THE CEILING CONSTRUCTION ! DO NOT PUT ADDITIONAL MECHANICAL LOAD ON THE CASING ! THE MOUNTING MUST ENSURE THAT NO DISTORTION CAN ARISE !

# ELECTRICAL INSTALLATION



Work at 400V mains voltage must only be performed by a licensed electrical company. Please hand over this manual and the separate connection directions of the drive Elektromat and door control TS970 to the executing expert.

The drive ELEKTROMAT is wired as standard for a clockwise rotating 3 x 400 V mains in a star connection and is prepared for dead man's operation via the door control TS970. The MAGNUM 360 roll-up projection screen is connected via a CEE-16A plug of the door control system TS970. The TS970 door control is additionally equipped with a phase monitoring relay SCHRACK UR5P3011 to prevent initial operation in a counter-clockwise rotating 3x400V mains.



If the phase monitoring relay is triggered, a counter-clockwise rotating three-phase current is applied and two phases must be exchanged at the supply of the door control in order to generate a clockwise rotating field. Refer to the ELEKTROMAT installation instructions on page 11.

# ADJUSTMENT OF STOP POSITIONS

MOTOR LEFT/ SCREEN MATERIAL BACK AND MOTOR RIGHT/  
SCREEN MATERIAL FRONT

## AUSLIEFERUNGSZUSTAND

The roll-up screen MAGNUM 360 is factory-preset to the ordered image size and the correct direction of rotation. It is therefore not necessary to commission the controller, execute initial programming or to re-adjust the stop position!

The installation instructions are for the completion of the system documentation and are only required for adjustment work in case of a changed operating situation.

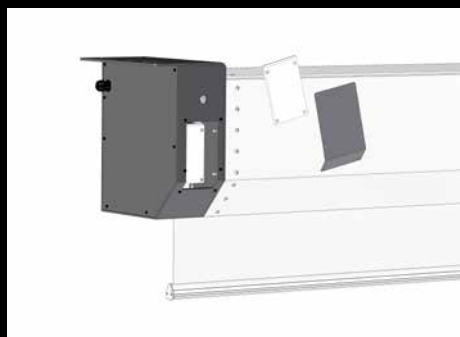
### **NOTICE**

A change in direction of rotation via the gate control, as described in the installation instructions TS970 on page 22, **MUST NOT** be carried out!

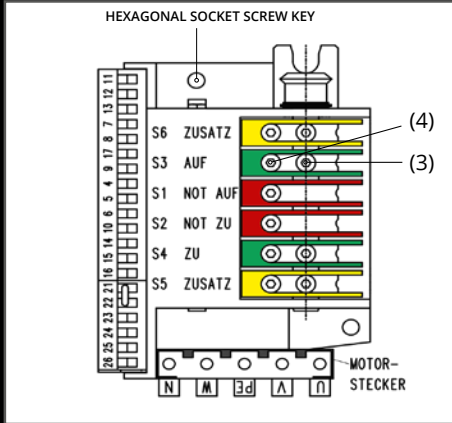
A change in direction of rotation leads to damage to the roll-up screen!

## STOP POSITION ADJUSTMENT CAM LIMIT SWITCH

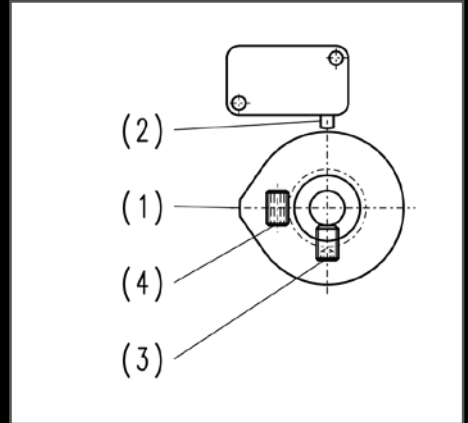
Stop position adjustment is done via the cam limit switches of the drive ELEKTROMAT.  
Open the front housing cover and the cover of the cam limit switch unit. (See picture below).



# STOP POSITION ADJUSTMENT CAM LIMIT SWITCH



Cam switch overview

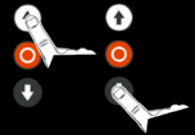


Detail cam switch

## COARSE ADJUSTMENT

(picture above and bottom left)

Use the UP and DOWN keys of the door control TS970 to move to the desired position.



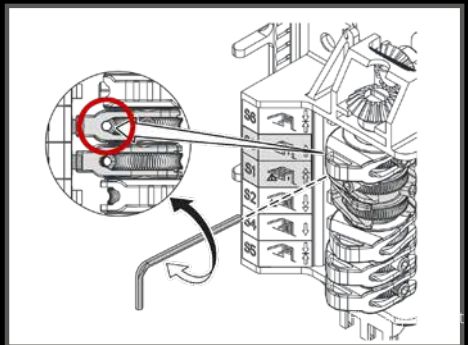
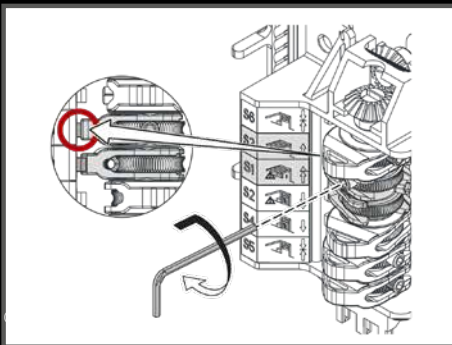
Turn the switching cam (1) of the corresponding limit switch to the center of the tappet (2) and tighten the coarse adjustment screw (3) using the hexagonal socket screw key supplied. (Fig. 1)

## FINE ADJUSTMENT

(picture above and bottom right)

Check the coarse stop position adjustment.

Correct the stopping position with the fine adjustment screw (4) if necessary. The fine adjustment screw can be moved from both sides with the hexagonal socket screw key supplied. Carry out the final inspection.



## EMERGENCY LIMIT SWITCHES

The corresponding emergency limit switch is automatically preset by the above-described limit switch setting. The switching point for the emergency limit switch may have to be corrected via the fine adjustment screw, so that when the operating limit switch fails, the roll-up screen still stops safely.

# EMERGENCY MANUAL OPERATION NHK

## (EMERGENCY HAND CRANK)

The emergency hand crank is for the operation of the roll up projection screen without electrical power supply. The emergency hand crank is located in the drive housing and attached to the ELEKTROMAT. Open either the side or front cover of the drive housing to remove the hand crank.

### SERVICE

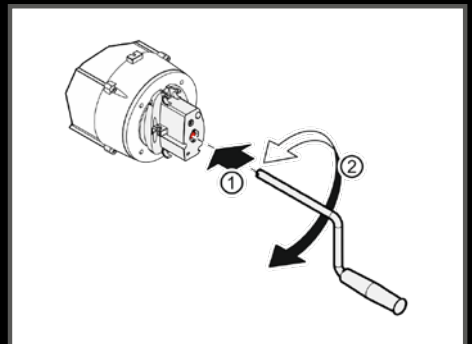
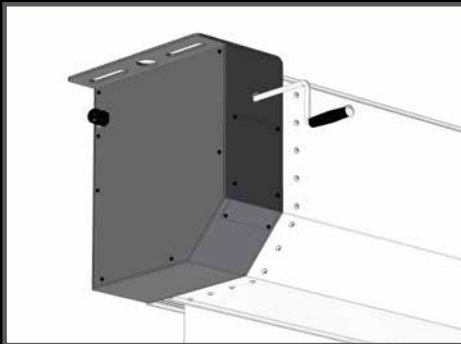
- Switch off the power supply
- Take a safe position

**⚠ WARNING** Injury due to improper operation or falling objects!

- Remove the cap on the drive housing
- Insert the crank and turn it until it clicks into place (1)
- The insertion of the emergency hand crank interrupts the control voltage. Electrical operation is no longer possible
- Unwind and rewind the projection surface by turning the crank (2).

### NOTICE

- Injury due to improper operation or falling objects!
- Do not move the roll up screen beyond the stop positions
- Attach the crank to the drive after use.



# TENSIONING UNIT

Any changes in the room climate (temperature, humidity, winter/summer) may cause the screen material to slight expand or shrink and result in some sort of waviness near the bottom bar.

Rollup projection screens INLINE and MAGNUM offer the possibility to compensate for these changes by adjusting the tension on the bottom bar.

**1** Unscrew the two Phillips screws and remove the end caps. Behind these end caps you will find the central set-screw. **2** Turning this screw clockwise increases the tensile stress.

**3** Turning the screw counter-clockwise reduces the tensile stress.

