

# **LASERMET LASER BLOCKING ROLLER BLINDS**

## **INSTRUCTION MANUAL**



**CERTIFIED LASER BLOCKING ROLLER BLINDS  
TO BS EN IEC 60825-4**

# LASERMET Roller Blind Instruction Manual

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# 1 Declaration of Conformity



**LASERMET LIMITED**

**LASER BLOCKING CURTAINS, ROLLER BLINDS & WINDOW BLOCKS**

**Made from Lasernet Material:   BLOCK-MAT-HP2  
   BLOCK-MAT-HP3WW  
   BLOCK-MAT-HP4BB**

## DECLARATION OF CONFORMITY

This is to certify that the Laser Blocking Curtains, Roller Blinds, & Window have been tested in accordance with the following directives and standards and found to comply.

Lasernet certifies that this product complies with the basic requirements for health and safety as provided by the following directives and standards:

Directives:           Machinery Directive 2006/42/EC

Standards:           EN 60825-4:2006 +A1:2008 +A2:2011  
                               *Safety of Laser Products, Part 4 – Laser Guards*

<b>Irradiated Area</b>	<b>PEL (T3) 10s</b>	<b>PEL (T2) 100s</b>
4 mm <sup>2</sup>	3.9 MW/m <sup>2</sup>	2.2 MW/m <sup>2</sup>
2000 mm <sup>2</sup>	0.62 MW/m <sup>2</sup>	0.35 MW/m <sup>2</sup>

Supplier:           Lasernet Limited  
                           Lasernet House  
                           137 Hankinson Road  
                           Bournemouth  
                           BH9 1HR  
                           Dorset  
                           United Kingdom

Country of Origin: England

Signed:



Paul Tozer  
 Managing Director

Date: 11 February 2021



## 2 Safety Warnings

This device is intended to be used as part of a safety system which may be used to protect personnel and equipment from possible injury, damage, or loss.

As such it must be installed and wired according to these instructions and tested by suitably qualified persons. No attempt may be made to tamper with the parts, open them, or use them outside of the parameters contained herein.

The units are only designed to be fixed to surfaces using their inbuilt fixing holes. They must not come into contact with each other or any other moving part when in use. The parts should never be subject to impact or mechanical strain.

Safety switches should never be defeated or bypassed. It is imperative that all steps are taken to ensure that any spare actuators are made unavailable, such that they cannot be used to defeat the switch or reduce the protection offered by the system in any way.

If the equipment is used in a manner not specified by Lasernet, the protection provided by the equipment may be impaired.

Lasermet reserves the right to change the design, modify the operation of functions or add new features at any time without prior notice.

### 3 Concept

All Lasermet laser-blocking roller blinds are made from Lasermet's specially developed laser blocking material and are CE marked and certified to EN 60825-4 (Safety of Laser Products Part 4: Laser Guards). (Hospitals in the UK should adhere to the requirements of the NHS Estates HBN 26 – "Facilities for surgical procedures").

#### Laser Blocking Roller Blinds

Made-to-measure to fit virtually any size of window, Lasermet laser blocking roller blinds are available as encapsulated blinds and can be supplied for either surface or recessed mounting. The maximum size is 4m width x 4m drop.

#### Encapsulated Roller Blinds

Lasermet's encapsulated roller blinds are built into a white finish aluminium frame, which encapsulates the top, both edges and bottom of the blind. This eliminates any possibility of laser beams passing round the sides of the blind, blocks out all direct light and provides a neat finish. They are operated by either, a chain, crank handle or electric motor.



Several options are available for the encapsulated laser blocking roller blinds as follows:

- |                                 |  |
|---------------------------------|--|
| <b>Chain operated</b>           | – Simple to operate and use.   |
| <b>Crank handle operated</b>    | – Ideal for installations where the blind may be difficult to reach or where chain operation is not appropriate. |
| <b>Motorised (mains 230VAC)</b> | – Used where large heavy blinds are in operation.  |
| <b>Wireless</b>                 | – The end limits are set electronically using the switch.  |
| <b>Hard-wired</b>               | – The end limits are mechanically set using grub screws.   |

#### 24VDC Power Supply

**Warning** - Lasermet's power supply must be used. Using a different 24VDC supply can permanently damage the motor and will invalidate the warranty.

#### 24VDC wireless

This is the most popular option where either single or multiple blind sets can be used. For example, a room could have 4 blinds and they could all be operated by a single switch if required. The end limits are set electronically using the switch.

#### 24VDC dry contact

The low voltage provides an added level of safety, while eliminating the wireless function for sensitive environments. The end limits are set electronically using the switch.

**Interlocked Blind**

A maglock switch is positioned at the bottom of the blind so that when the operator switches the blind to be lowered the interlock switch is energised. Either a single channel interlock can be used, or a dual channel interlock switch can be used with the ICS Series of Interlock controllers.

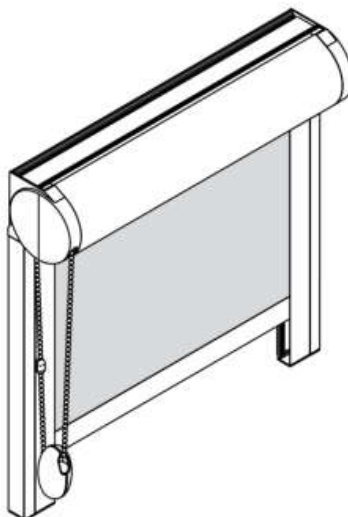
**Integrated Interlocked Blind**

The motorised blind can be connected to Lasernet's interlock controller which can then enable the motorised blind to close and will only permit the laser to be powered once the interlock switch has been closed confirming that the blind is down.

Lasernet provides a full range of laser interlock equipment including control systems, interlock switches, illuminated warning signs, laser shutters, door locks, external power supplies etc. which can be connected to provide a complete laser interlock system. Full support, design and installation is available from Lasernet, please contact us for any queries. Contact details are given at the end of this manual.

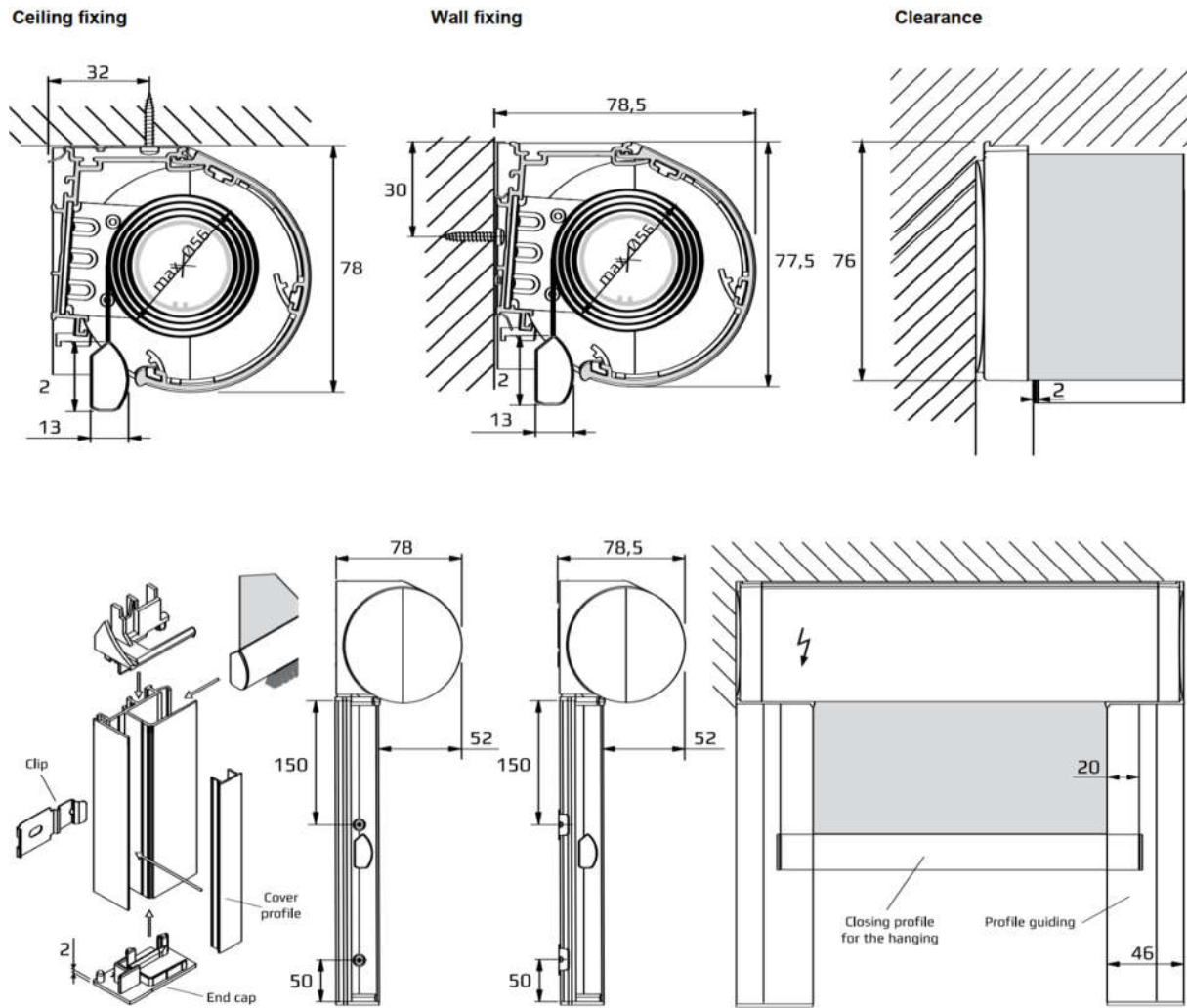
## 4 Roller Blind Options and Specifications

### 4.1 Medium Chain-operated Laser Blocking Roller Blind



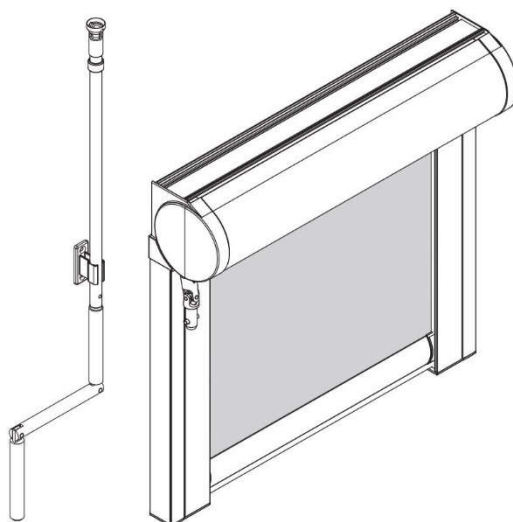
Dimensions	Width min. 0.3 m, max. 2.0 m Height max. 1.5 m
Max. Braking Capacity	5.0 kg
Manually Operated Blind	Side-pull gear with protection against unwinding by means of a brake mechanism. The brake mechanism permits the exact, stepless positioning of the blind in any desired position.
Cassette Profile	Round 78.0 x 77.5 mm extruded aluminium (Al Mg Si 0,5 F22) fitted on the round end cap of the brackets
Tube Shaft	Ø27.0 / Ø36.0 mm steel (0.35 mm K40)
Precision Shaft	Ø29.0 / Ø38.0 mm extruded aluminium (Al Mg Si 0,5 F22)
Two-profile Bottom Rail	13.0 x 29.0 mm extruded aluminium (Al Mg Si 0,5 F22)
Plastic Parts	High-quality, UV-resistant, temperature-resistant, abrasion-proof
Profile Guiding	Roller blind material extends 20 mm on both sides into the profile guiding.
Angle of inclination	max. 15°
Profile	Colour matches the cassette colour.
Profile Dimensions	Cross section 46.0 x 26.0 mm Length max. 4.0 m
Operation	Manual operation with nickel-plated steel ball chain Ø4.5 x 6.0 mm
Operation Side	Optional left or right
Operation Height	Roller blind height x 0.75 (or individual)
Bead Stop	By matching chain connector
Colour	Powder coated white (RAL 9016)

### Measuring and Options



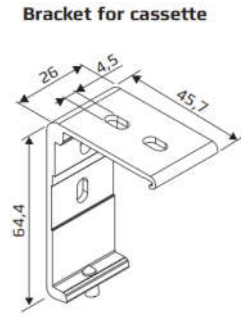
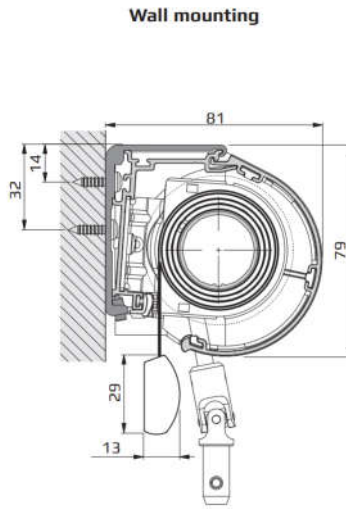
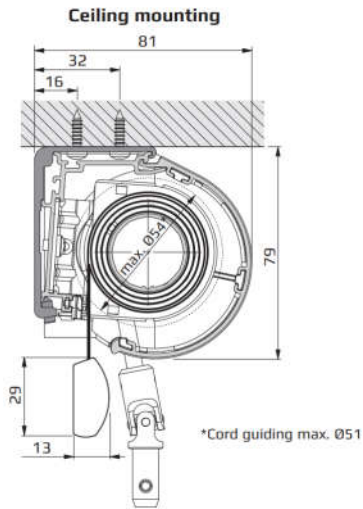


## 4.2 Medium Crank-operated Laser Blocking Roller Blind

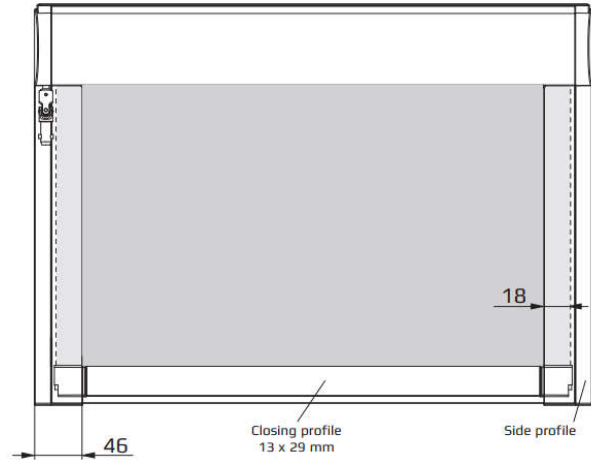
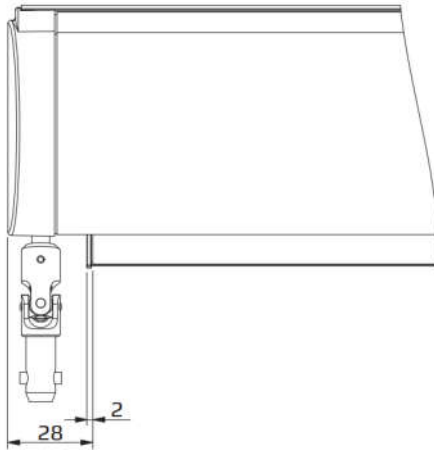


Dimensions	Width min. 0.3 m, max. 2.8 m Height max. 3.0 m
Max. Braking Capacity	12.00 kg
Manually Operated Blind	Rod-option designed for fast, smooth, and silent operation. Rod-operated blinds controlled by a detachable crank handle rod.
Cassette Profile	17.5 x 69.5 mm extruded aluminium (Al Mg Si 0,5 F22) fitted on the round end cap of the brackets
Tube Shaft	Ø36.0 mm steel (0.35 mm K40)
Precision Tube	Ø38.0 / Ø43.0 mm extruded aluminium (Al Mg Si 0,5 F22)
Two-profile Bottom Rail	11.0 x 21.0 mm extruded aluminium (Al Mg Si 0,5 F22)
Round Bottom Rail	Ø15.0 mm
Plastic Parts	High-quality, UV-resistant, temperature-resistant, abrasion-proof
Cord Guiding	Ø1.0 mm steel cord, plastic-coated, black
Angle of inclination	max. 15°
Operation	Crank gear box with a reduction of 3:1 and end position adjustment. Crank exit front or backside. Replaceable collapsible handle holder for collapsible handle in 25 and 35 mm.
Operation Side	Optional left or right
Operation Length	1.5 / 2.0 / 2.5 m (or individual)
Fixing	Adjustable top and bottom stop
Bracket Fixing	wall, ceiling, or reveal
Cord Guiding	Guide wire fixings can be fitted direct on the frame or underneath.
Colour	Powder coated white (RAL 9016)

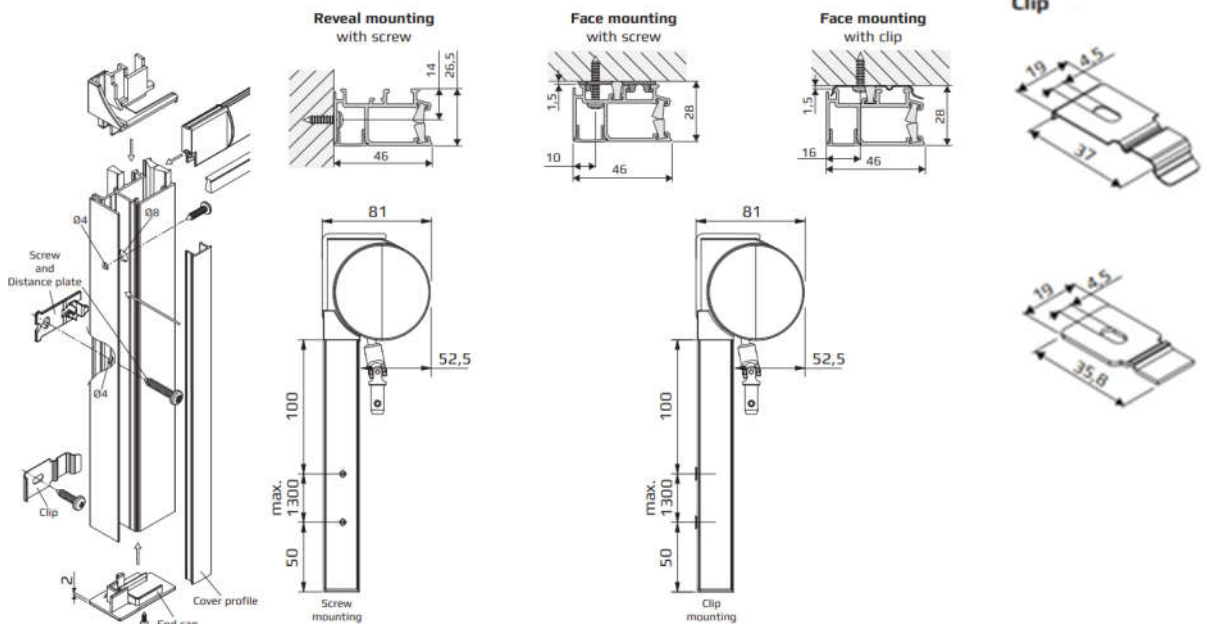
Measuring and Options



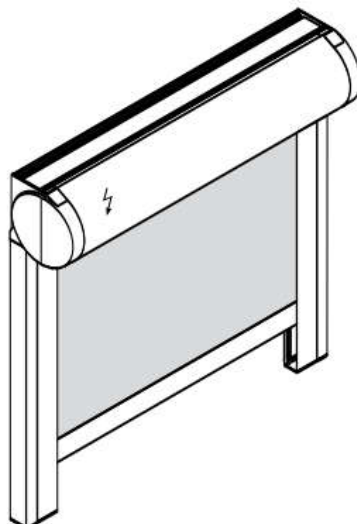
**Dimensions**



**Side profile**



### 4.3 Medium Motorised Laser Blocking Roller Blind

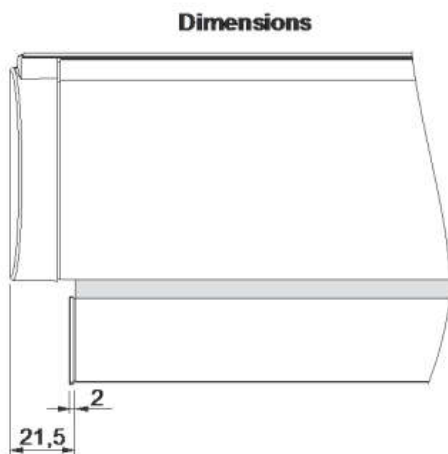
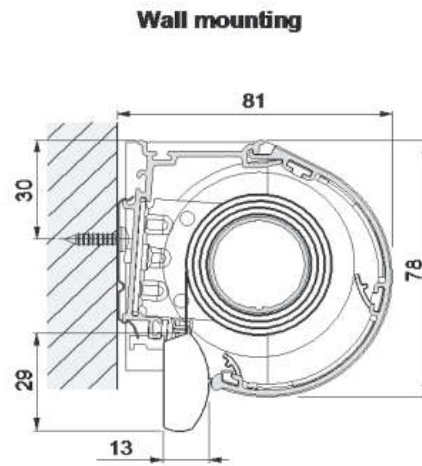
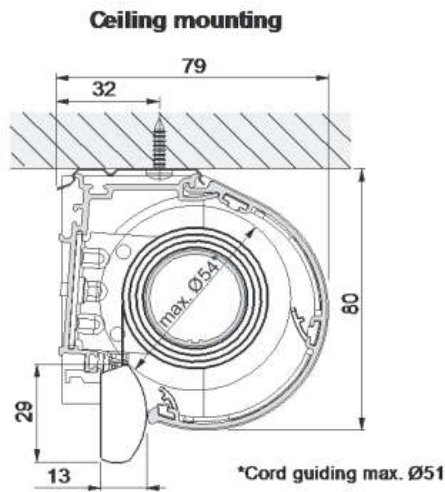


Dimensions	Width min. 0.45 m, max. 2.00 m Height max. 1.50 m
Max. Braking Capacity	3.5 - 4.5 kg
Motorised Blind	The roller blind is wound and unwound using an electric motor. The motor can be operated via a switch on the wall or by remote control and permits the exact, stepless positioning of the blind in any desired position.
Cassette Profile	Round 78.0 x 77.5 mm extruded aluminium (Al Mg Si 0.5 F22) fitted on the round end cap of the brackets
Tube Shaft	Ø27.0 / Ø36.0 mm steel (0.35 mm K40)
Precision Shaft	Ø29.0 / Ø38.0 mm extruded aluminium (Al Mg Si 0.5 F22)
Two-profile Bottom Rail	13.0 x 29.0 mm extruded aluminium (Al Mg Si 0.5 F22)
Round Bottom Rail	Ø15.0 mm
Plastic Parts	High-quality, UV-resistant, temperature-resistant, abrasion-proof
Profile Guiding	The roller blind material extends 20 mm on both sides into the profile guiding
Angle of Inclination	max. 15°
Profile	Colour matches the cassette colour.
Profile Dimensions	Cross section 46.0 x 26.0 mm Length max. 4.00 m
Colour	Powder coated white (RAL 9016)

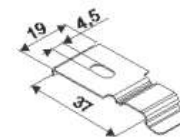
**Motor Operation**

Roller blind drive motor	SOMFY Sonesse 30 RTS
Protection Class	II
Protection Index	IP 31
Rated Torque	2Nm
Rated Speed	28 rpm
Rated Output Voltage	24VDC
Weight	0.495kg
Tube Diameter	36, 38mm
Length	407mm
Connection	2.5m cable
Connecting Cable	2 x 0.25mm <sup>2</sup>

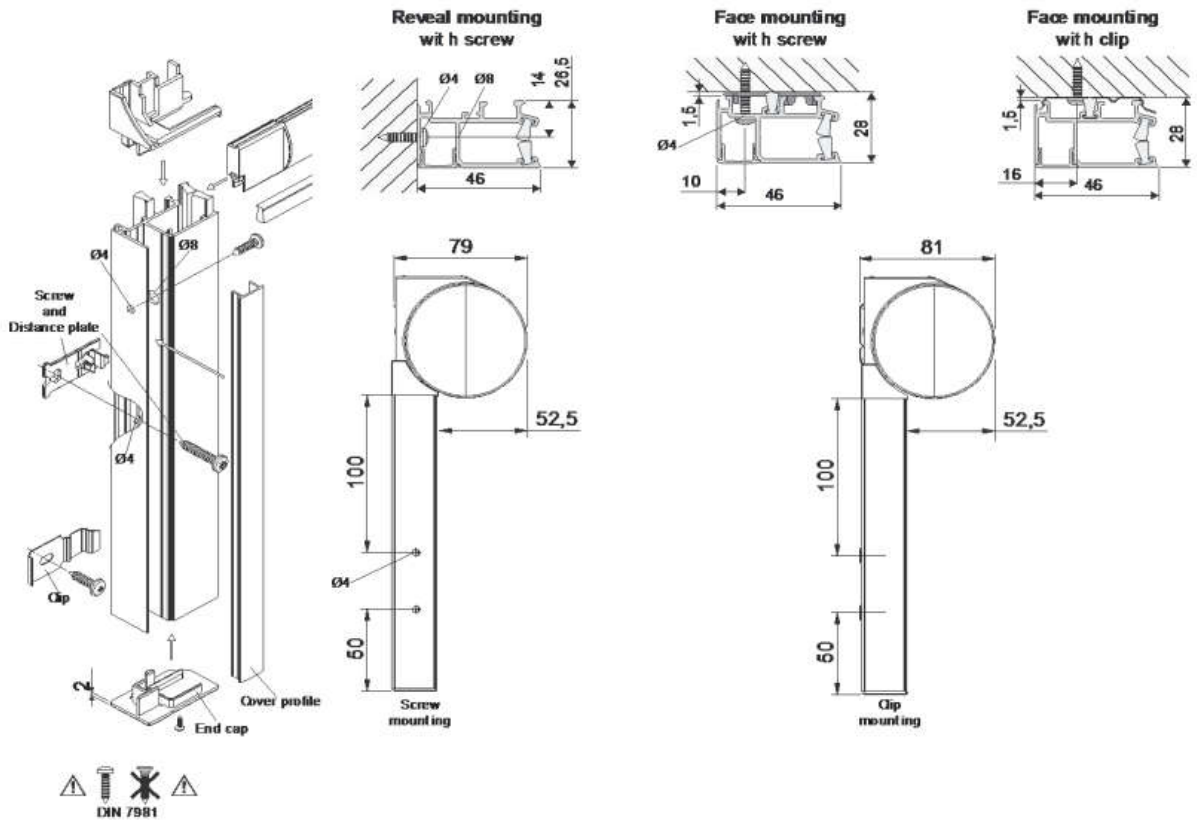
**Measuring and Options**



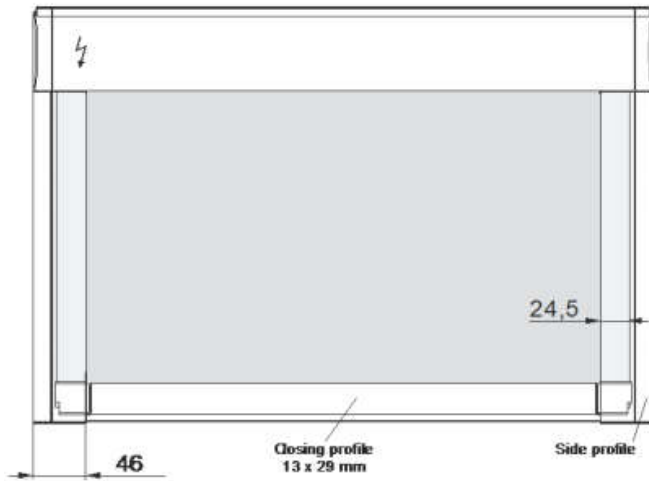
**Clip for cassette and side profile**



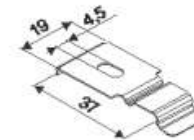
**Side profile**



**Dimensions**



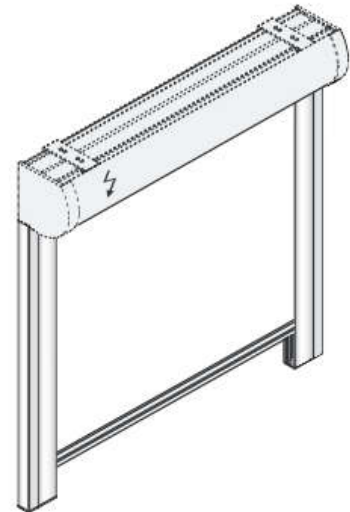
**Clip for cassette and side profile**



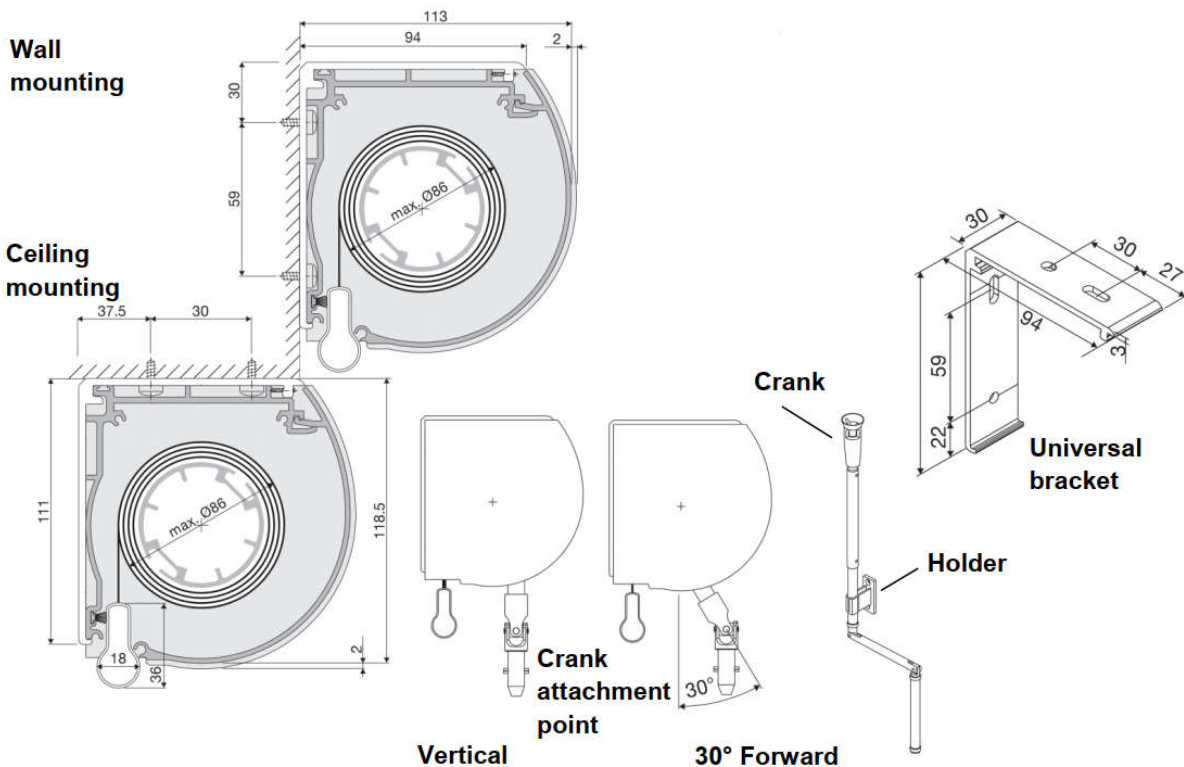
## 4.4 Large Laser Blocking Roller Blind Chain, Crank or Motor-operated

To keep below the maximum hanging weight of 12kg, the maximum area of Orca laser blocking material is 9sqm using the weight /area of 1.3kg/sqm.

Roller Blind	Width max. 3.00m (see note above) Height max. 3.00m (see note above)
Hanging Weight	max. 12.0 kg (by chain operation with lifting spring)
Operation	Optional left or right Ø4.5 x 6.0 chain Crank operation (white or grey) Motor operation
Operation Height	Chain length = blind height x 0.75 Crank length 1.5 / 2.0 / 2.5 m
Colour	Standard white (RAL 9016)
Mounting	Ceiling or wall with universal bracket



### Measuring and Options

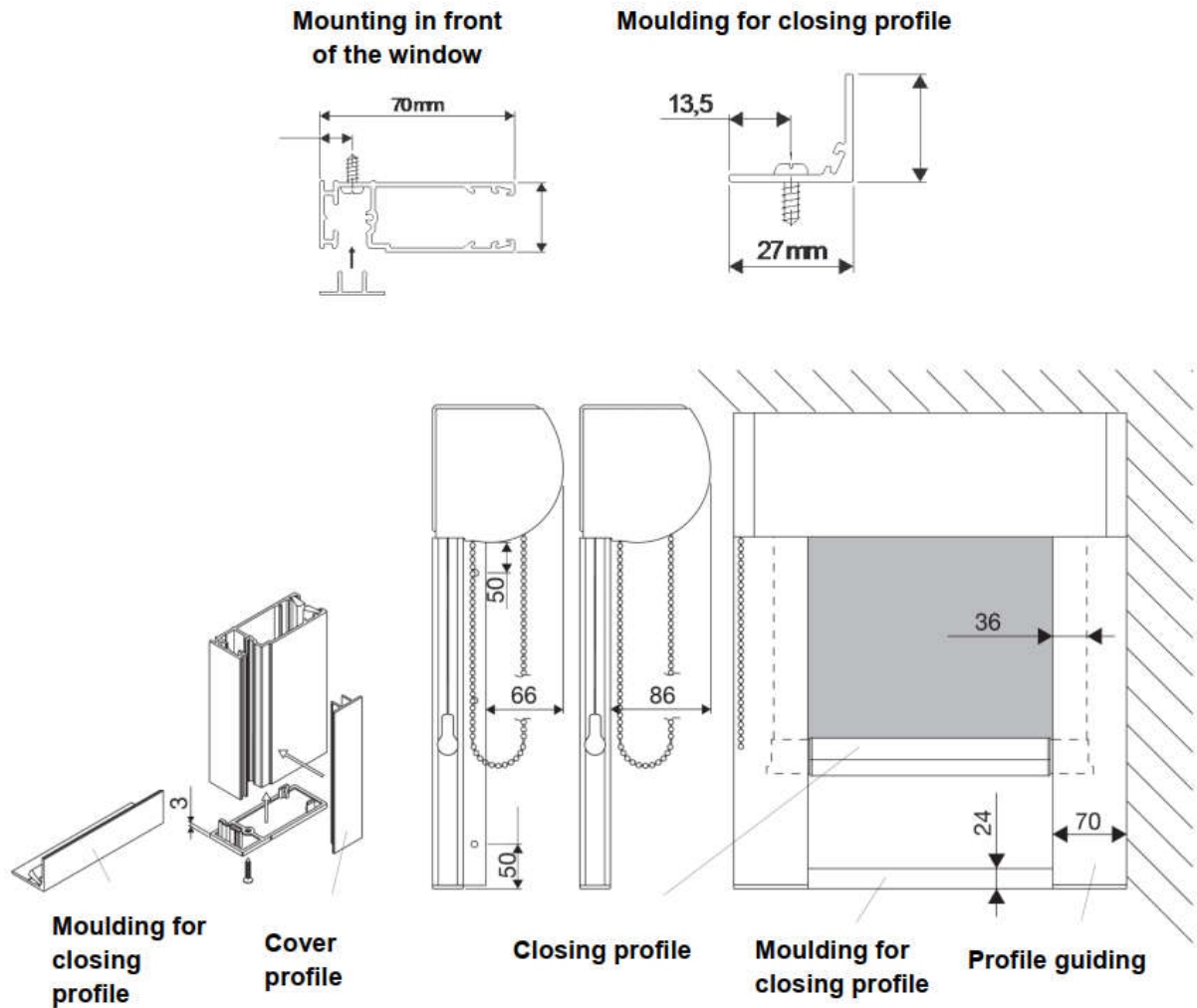


### Profile Guiding

The laser blocking material extends 36mm into the profile guiding. Maximum angle of inclination 15°

Profile Colour	Matches the cassette colour.
Dimensions	Cross section 70 x 27 (47) mm
	Length max. 4.00 m

**Note:** The roller blind and the profile guiding must be mounted parallel and perpendicular.

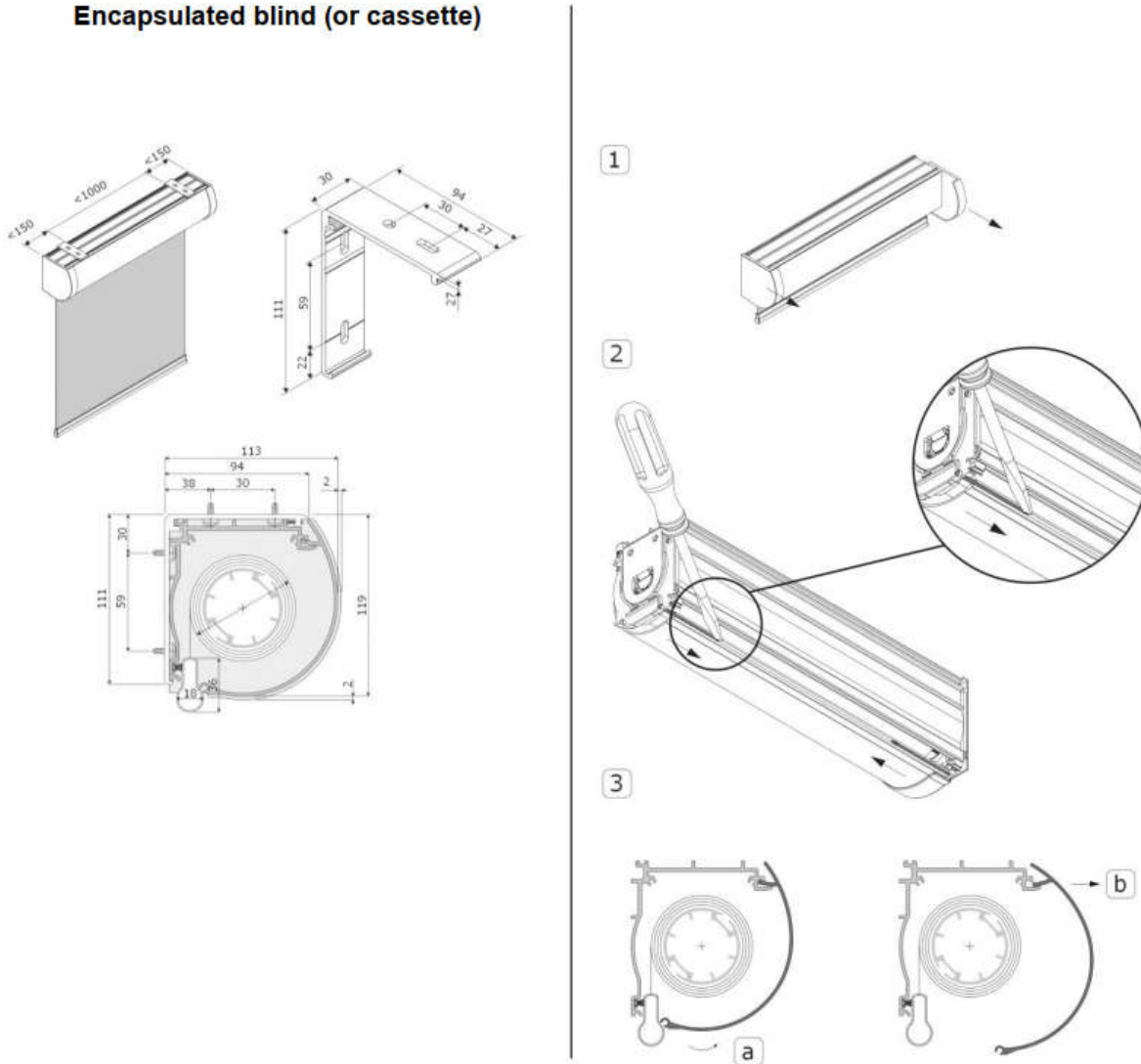


## 5 Installation

Please note, blinds must be fitted by skilled personnel. Any incorrectly installed blind could result in an unsafe installation. Alterations to the blind must be approved by Lasernet. Always use appropriate screws and plugs suitable for the wall or ceiling where the blind is to be fitted.

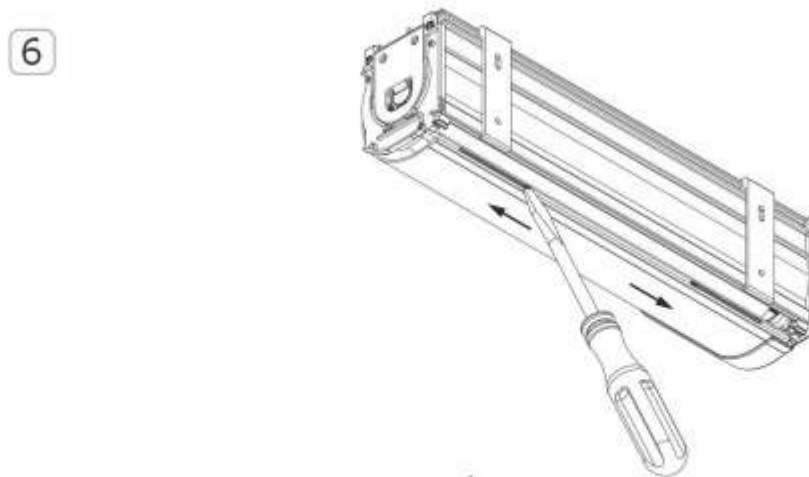
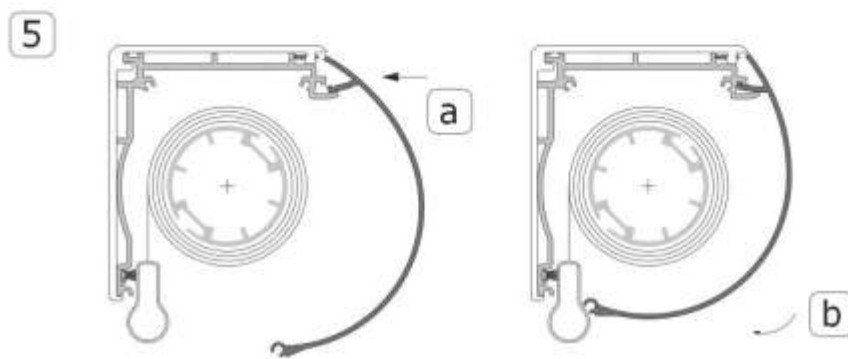
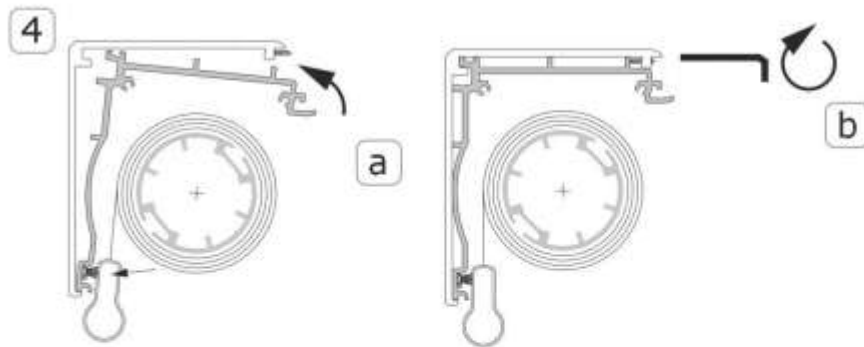
In the interest of safety, for example in hospitals, please adjust pull cords and chains to keep them out of reach of children and/or patients where appropriate and install safety devices such as cleats and cord tidies to limit access to cords.

### Encapsulated blind (or cassette)

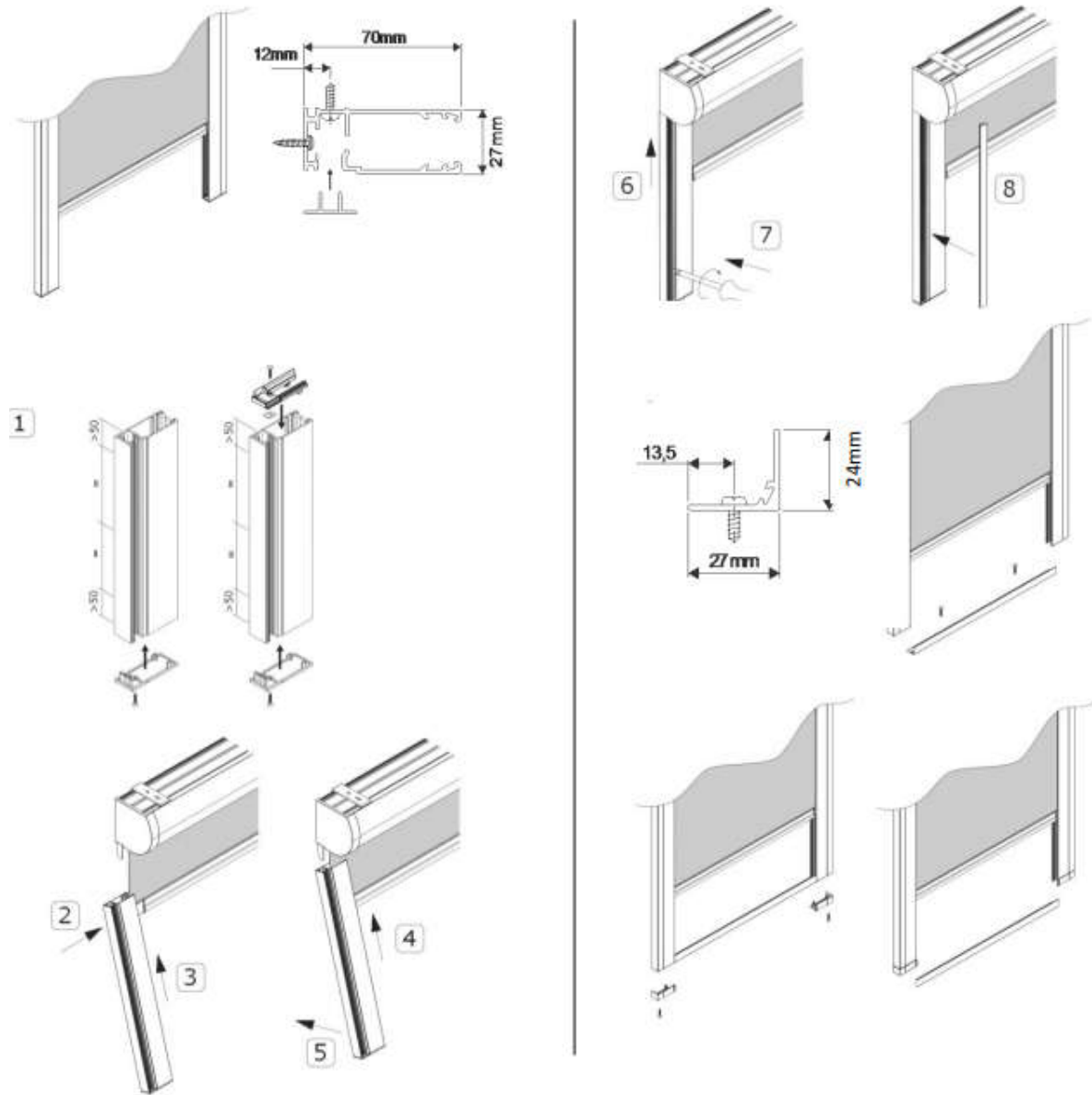




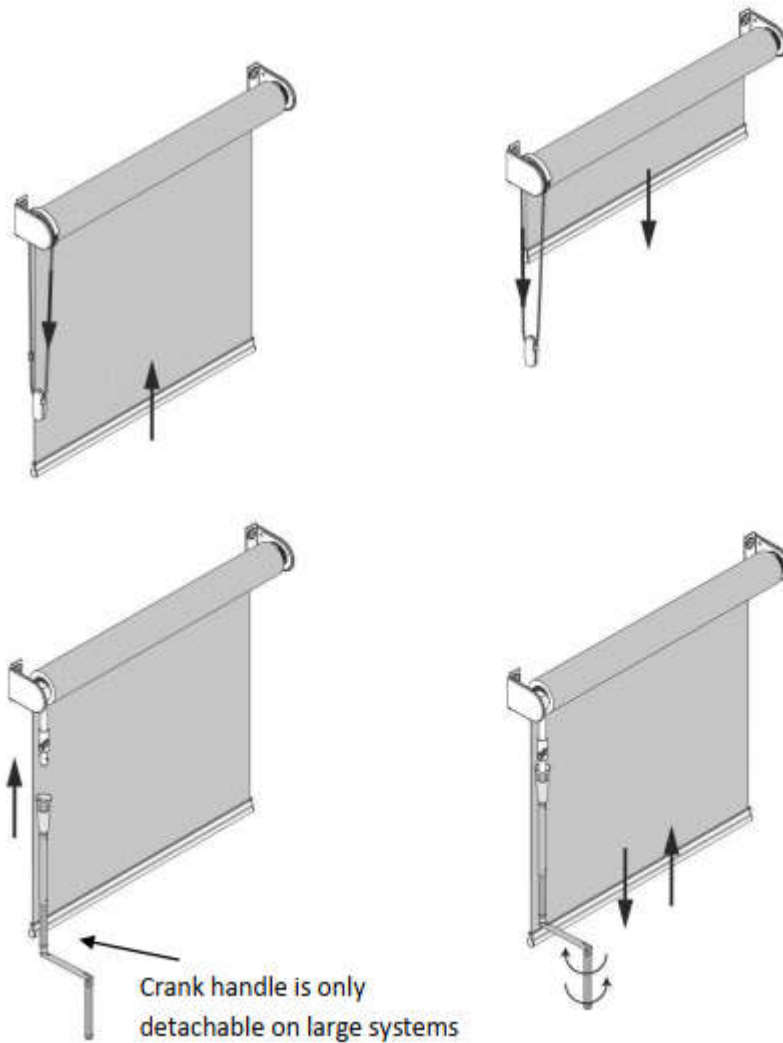
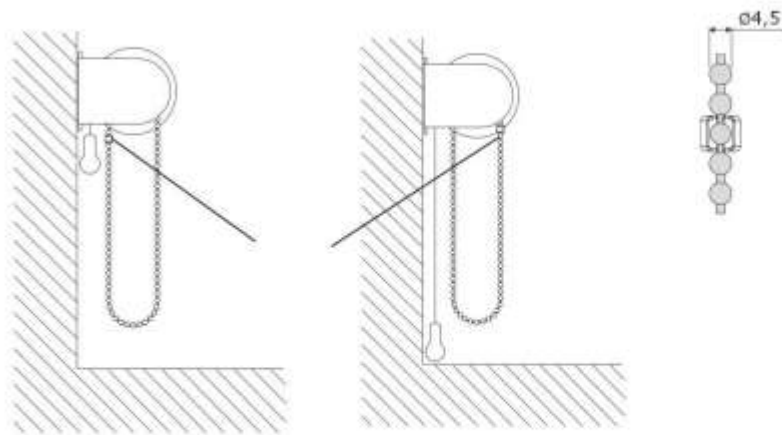
**Encapsulated blind (or cassette)**



**Side profile**



**Operation**



## 5.1 Assembly

### Step 1

Carefully unpack the kit and identify the components shown in Figure 1.



Figure 1

### Step 2

Fit the L shaped bracket to the framework using the face fix or top fix holes. See Figure 2.

The L shaped brackets should be positioned 100mm in from either end and no more than 600mm apart.

### Step 3

If the space is greater than 600mm 24" fit an additional bracket or brackets.

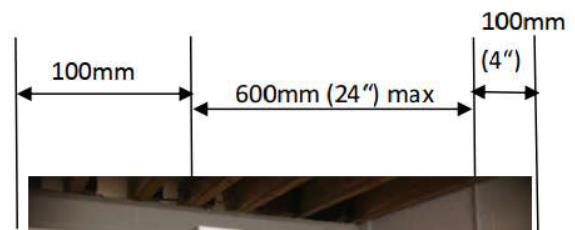
Location of grub screw viewed from below



Figure 2

### Step 4

Make sure the grub screw is located at the bottom. See Figures 2 and 3.



### Step 5

Locate the top of the cassette into the lip at the front of the L shaped bracket (see Figure 4).

### Step 6

Push the bottom of the cassette back into the bottom of the bracket and secure by turning the grub screw (using a 2mm Allen key).

Grub screw



Figure 3



Figure 4

**Step 7**

Position the side guides by offering up each guide to the cassette, making sure the edge of the side guide is positioned on the outside of the cassette end cap. See Figures 5 and 6



Figure 5

Side guide      Cassette end cap

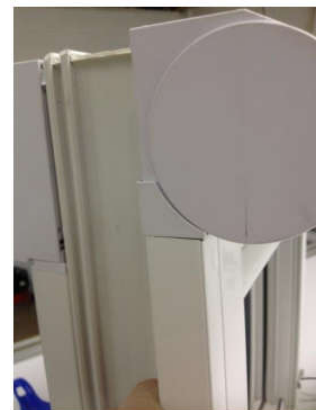


Figure 6

After positioning

**Step 8**

Draw a line down a short section of the side guide on window frame with a pencil. This is to locate the edge of the where the spring clip will be fitted. See Figure 7.



Figure 7

**Step 9**

Remove the side guide and fasten the spring clips to the framework as shown in Figure 8.



Figure 8

**Step 10**

Repeat this procedure with the guide on the other side.

**Step 11**

Locate the edge of the spring clip with the edge of the side guide and snap into place. Repeat with the other side. See Figure 9.

Spring clips should be positioned no more than 1000mm (36") apart.



Figure 9

**Step 12**

Attach the cord tidy in a suitable position to keep the chain stable.

**Step 13**

Pull the blind to the open position and attach a chain stopper to the back chain as it enters the end cap.

**Step 14**

Pull the blind to the closed position and attach a chain stopper to the front chain as it enters the end cap.

## 6 Wiring

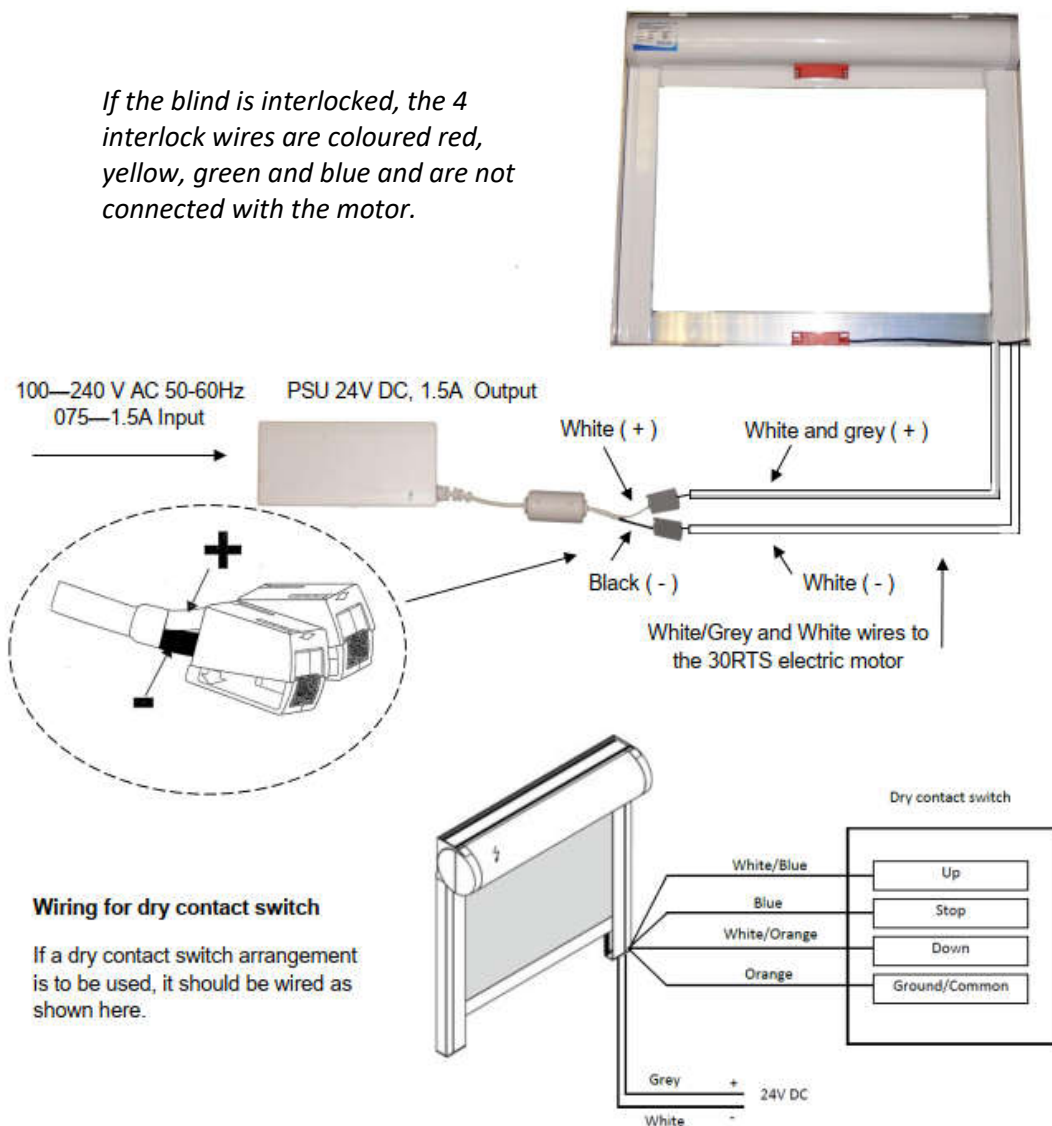
You must read this before wiring up the power supply to the motor in the motorised roller blind. Failure to observe and implement the correct wiring as shown will invalidate the warranty and will destroy the motor.

The wiring must be done by a competent person.

The white wire is the +24VDC from the power supply. The black wire is the negative terminal from the PSU.

Connect the white wire from the PSU to the Grey/White wire from the roller blind motor.

Connect the black wire from the PSU to the white wire from the roller blind motor.



## 7 Maintenance

Lasernet's laser blocking roller blinds do not require regular maintenance. There are no preventative maintenance requirements.

### 7.1 Cleaning

However, if the unit needs to be cleaned abrasive cleaning materials must not be used as they may cause damage.

The laser blocking material can be cleaned with soapy water (mild detergent) or it can be cleaned with Klorosept (or similar — used in hospital environments) using a soft cloth or similar. The laser blocking material has been tested with Klorosept as described below. Klorosept is therefore recognised as a safe fluid to use when cleaning Lasernet's laser blocking roller blind material.

### 7.2 Laser Blocking Material Test Report

In an in-house study, NaDCC solutions (Klorosept) at concentrations up to 10,000mg/l available chlorine were used to evaluate the effects of chlorine on the texture, appearance (colour), smell and weight of Lasernet Laser Blocking Curtain samples.

The Lasernet material which was supplied by Lasernet UK was divided into four equal size pieces measuring 153 x 168mm approximately and subjected to a range of test parameters as detailed below.

**Note:** Soaking of blinds is not a standard practice in hospitals but was used as an extreme worst-case exposure scenario to exaggerate any possible adverse effects.

### Test Results

No.	Conditions	Weight before	Weight after 2 hours	Weight after 24 hours	Appearance/ Smell/ Texture after 2 hours	Appearance/ Smell/ Texture after 24 hours
1	Sample wiped once with 10,000mg/l solution and left to dry in air	28.1328g	28.1356g	28.1474g	No Change	No Change
2	Control Sample left to soak in deionised water	27.8612g	28.7328g Allowed to air dry for 30 mins = 28.2938g & still drying  Returned to solution.	29.8128g Allowed to dry completely overnight = 27.7846g	No Change	No Change
3	Sample left to soak in 1,000mg/l solution	28.4258g	29.3188g Allowed to air dry for 30 mins = 29.0236g & still drying  Returned to solution.	30.8120g Allowed to dry completely overnight = 28.4274g	No Change	No Change in appearance or texture.  Bitter-sweet odour from sample.
4	Sample left to soak in 10,000mg/l solution	28.4198g	29.4652g Allowed to air dry for 30 mins = 29.2296g & still drying  Returned to solution.	31.4662g Allowed to dry completely overnight = 28.9150g	No Change in appearance or texture.  Slight bitter-sweet odour from sample.	No Change in appearance or texture.  Slight bitter-sweet odour from sample.



## 8 Programming the Controller for Motorised Blinds



There are three buttons on the front

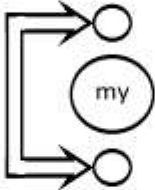
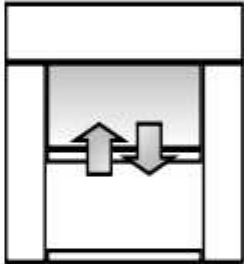
- ← Up
- ← "My" favourite position and Stop button
- ← Down



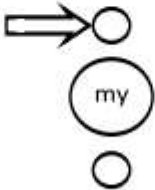
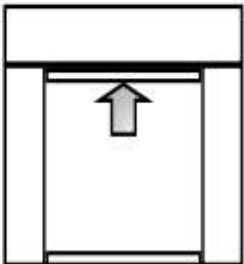
And one button on the back, "PROG"

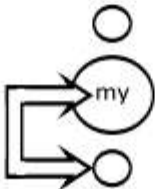
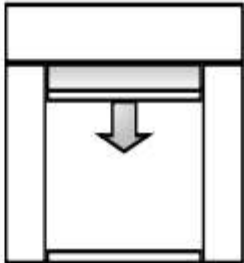
### Setting the run time

- 1 Press and hold the UP and DOWN buttons together until the blind jogs

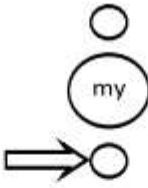
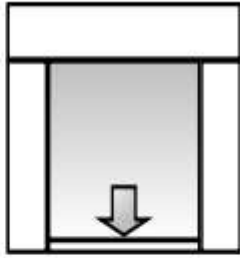
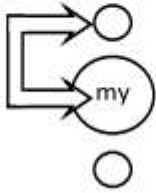
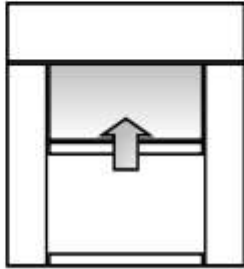
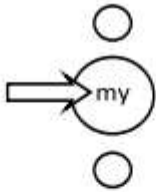
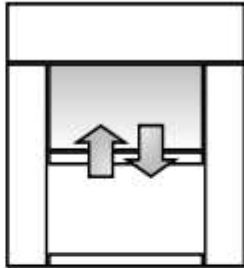
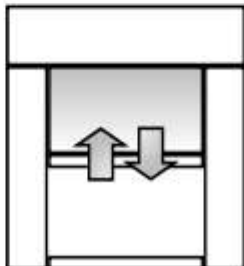



The blind jogs
- 2 Press the UP button to raise the blind to the top limit position



- 3 Press and hold the STOP and DOWN buttons until the blind moves down

The blind will move down.  
Stop the blind using the MY button before it reaches the bottom

- |   |  |  |  |  |
|---|--|--|--|--|
| 4 | <p>Press and hold the DOWN button until the blind reaches the lower limit position</p> |   |    |  |
| 5 | <p>Press and hold the STOP and UP buttons together until the blind moves up</p>        |   |    | <p>The blind will move up to the top position and stop</p> |
| 6 | <p>Press and hold the Stop button until the blind jogs</p>                             |  |   | <p>The blind jogs</p>                                      |
| 7 | <p>Press and hold the red PROG button on the back of the unit until the blind jogs</p> |  |  | <p>The blind jogs</p> <p>Run time set</p>                  |

## 9 Specifications

Fire Rating      NFP 92-503 M2  
                       NFPA 701 Test Method 1  
                       ASTM E 84 Class 1 / Class A

### Orca Curtain Material

Irradiated Area	PEL (T3) 10s	PEL (T2) 100s
4 mm <sup>2</sup>	3.9 MW/m <sup>2</sup>	2.2 MW/m <sup>2</sup>
2000 mm <sup>2</sup>	0.62 MW/m <sup>2</sup>	0.35 MW/m <sup>2</sup>

### Wolf Curtain Material

Irradiated Area	PEL (T3) 10s	PEL (T2) 100s
4 mm <sup>2</sup>	248 kW/m <sup>2</sup>	140 kW/m <sup>2</sup>
2000 mm <sup>2</sup>	124 kW/m <sup>2</sup>	70 kW/m <sup>2</sup>

## 10 Warranty

Lasernet provide a 12-month warranty for defects in materials and manufacture, from the date of installation or delivery. This warranty covers the laser blocking material on the blind and the structure of the blind unit. Installations completed by Lasernet are covered against defects in workmanship for 12 months.

The motor has a five-year warranty on electrically driven blinds. Electrical connections must be made in accordance with the installation instructions. Any failure to follow these instructions invalidates the warranty as any incorrect wiring can cause irreparable damage to the motor.

24V motors must be powered using a Somfy transformer. Using any other 24V DC supply will invalidate the warranty.

Damage or defects caused by other factors are not covered. For example, industrial contamination, incorrect cleaning, storm damage. Consequential loss is not covered under warranty. Compensation for indirect or direct loss or damage is expressly excluded. Rectification of the defects or a replacement does not initiate a new warranty period.

No claims, under the warranty, are valid in the case of minor, technically unavoidable deviations in colour, patterns or structure or in the case of dimensional deviations of  $\pm 5$  mm.

All roller blinds are made-to-measure units. For this reason, cancellation of orders placed and the return and or exchange of the goods are excluded.

For all deliveries, payments and other legal transactions, English law takes precedence for any litigation.

## 11 Contact Details

Lasernet provide a full range of laser interlock equipment including interlock switches, illuminated warning signs, laser shutters, entry keypads with built-in fail-safe override timer, door locks, external power supplies etc. which can be interconnected to provide a complete system. We also supply equipment and consultancy covering all aspects of laser safety. Full support, design, and installation is available from Lasernet, please contact us for any queries.

For sales and technical support:

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Website: [www.lasermet.com](http://www.lasermet.com)

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