

Operating and Maintenance Instructions

# Mira LED Procedure Exam Light Floor Stand



**A**mico

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# Introduction





Thank you for your purchase of the Mira LED Procedure Exam Light.








This installation manual gives you instructions on how to install the Mira LED Procedure Exam Light for a Floor Stand version of your purchase. For instructions on operation, maintenance and further description of the product please refer to the Operation and Maintenance Manual included.

Please read the following instructions very carefully and follow the safety instructions and requirements.

## Symbols Used in This Manual

The warning symbols indicate all instructions that are important for safety. Failure to comply with them can lead to injury, damage to the luminaire or the equipment. In combination with the following signal words the warning symbols means:

 <b>DANGER</b>	Can lead to death or serious injury
 <b>WARNING</b>	Can lead to injury
 <b>CAUTION</b>	Can lead to damage to property
	Comply with operating instructions
<b>CE</b>	CE conformity mark
	Protective conductor
<b>N</b>	Neutral conductor/return conductor for the electrical current
<b>L1</b>	Live conductor

	Storage humidity
	Storage temperature
	Disposal
	Manufacturer
	Read manual
	Do not step
	Do not lean

Trademarks: All trade names mentioned in these instructions are the exclusive property of the relevant manufacturers.

# Safety Instructions

## Intended Use

The Mira LED Procedure Exam Light is intended to provide illumination for minor procedures, diagnosis, or examinations. It is to be used near the patient to support treatments, which pose no risk to the patient in the event of any interruption caused by light failure. It is meant for continuous operation.

## User Profiles

### Medical Staff

All persons with medical training who work in the field for which they were trained.

### Cleaning Staff

All persons familiar with national and workplace hygiene requirements.

### Electricians

All persons with training in electronics and electrical technology who are familiar with the relevant standards and regulations.

### Certified Installers

Persons qualified by training, experience and knowledge of the regulations to install and remove the equipment

## Safety Instructions

Please note that certain duties must be carried out by people with the appropriate corresponding qualifications. The instructions are part of the product and must be kept so they are accessible for all subsequent users:

- These instructions are for the Amico Mira LED Procedure Exam Lights. This includes floor stand equipment.
- Please carefully read these operating instructions before using the equipment. It will help protect you and others from potential injuries that may occur.
- All work on the light (including repairs) must be done by qualified electricians only. The light must be installed by a certified installer.
- The light must not be modified or manipulated. Use in any other manner than with the original parts may result in different specifications and life-threatening dangers.
- Only persons with medical training are permitted to operate the equipment.
- Only trained cleaning personnel are permitted to clean the equipment.
- The light must not be used in an explosive environment. The power supply to the light is a potential ignition source.
- The light must be used in dry rooms only.
- The light must not be left on unattended.
- Keep all flammable equipment and objects away from the lighthouse and cone during use.
- Do not use a damaged light. Defective cables can also be a potential hazard. Do not position cables near heat sources or sharp edges.
- Eye damage. Never look directly at the light cone.

# Safety Instructions

- Replace damaged lenses before using the light again.
- The light must be connected to the mains with a protective earth to prevent electric shock.
- Never apply additional loads to the lighthouse and spring arm.
- Do not cover the light with a cloth or similar material while operating.
- If problems are encountered that have not been addressed in these operating instructions, please contact your supplier in the interest of your own safety.

Please keep these operating instructions in a secured place near the device. This ensures easy access to safety instructions and important information should the need arise.

- The inspections and maintenance work, as described on page 18, should only be done by trained service technicians. Anyone else is not authorized to perform inspections and maintenance work.
- The adjustment work should only be carried out by a hospital technician or someone with similar qualifications. Anyone else is not authorized to perform adjustment work.
- This equipment has been built accordingly and is operationally safe. Nonetheless, it may still present some danger, especially if not used according to the operating instructions as specified in this manual.
- Modifications are never to be made for any reason. This is to ensure safety for all persons involved. Any modifications made to the system void the warranty.
- The contents of the operating instructions are subjected to change without notice.

## Warning Levels

### **DANGER**

Indication of hazards that can lead to death or serious injury if measures are disregarded.

### **WARNING**

Indication of hazards that can lead to injury if measures are disregarded.

### **CAUTION**

Indication of hazards that can lead to damage to property if measures are disregarded.

### **EXPLOSION HAZARD**

Non-compliance with this symbol may result in damages or injuries due to explosion.

### **ELECTRIC SHOCK**

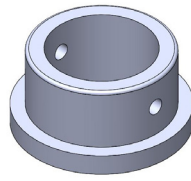
Non-compliance with this symbol may result in damages or injuries due to electric shock.

# Scope of Delivery

## Included Hardware



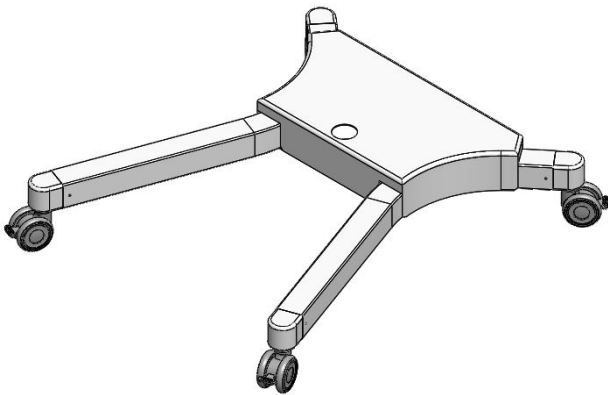
1x Spring Arm



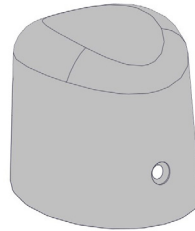
1x Stand Collar



1x Post



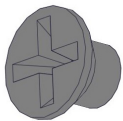
1x Roller Base



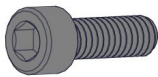
1x Corner Cap



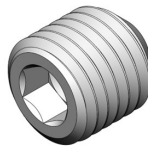
1x Power Cord



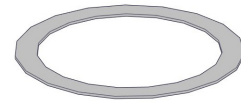
1x #4 Phillips Screw



2x 1/4" Hex Screws



2x M6 Set Screws



1x Shim

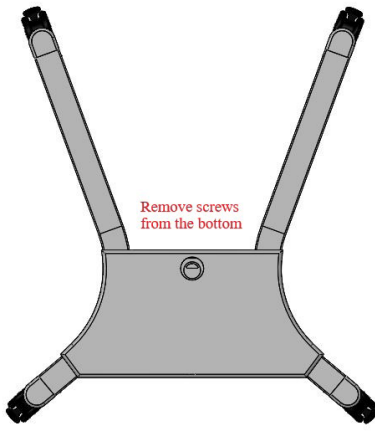
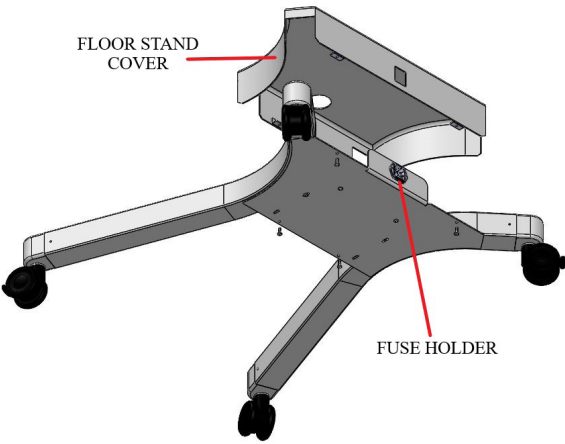
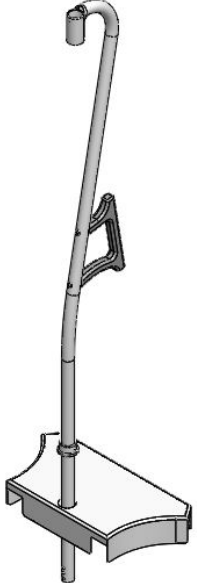


2x Locking Ring

# Assembling the Floor Stand

## **WARNING**

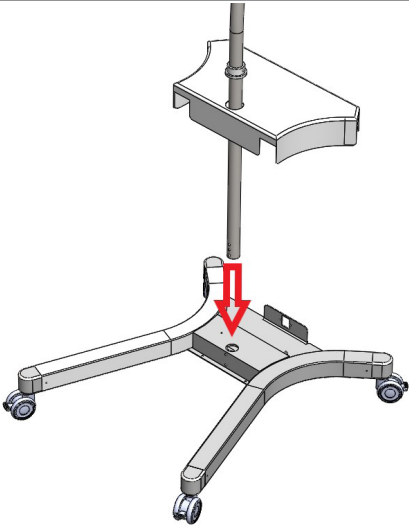
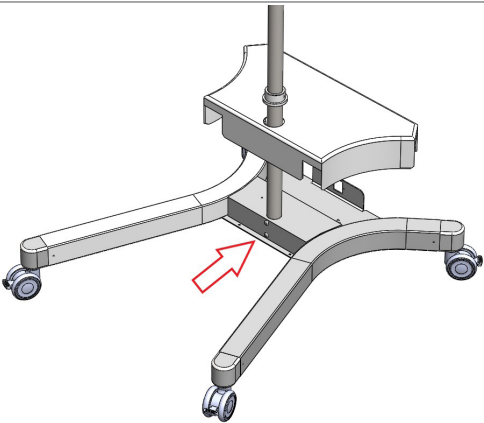
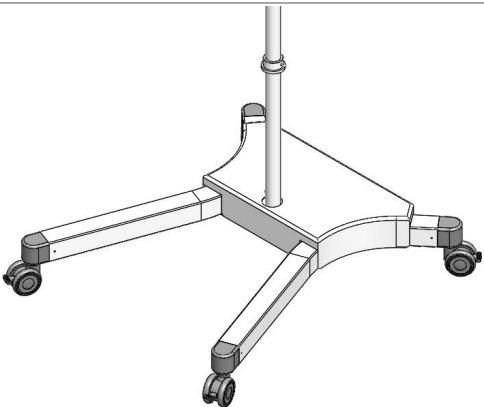
### **DANGER OF INJURY FROM UNFOLDING SPRING ARM**

1.	Remove the 4 screws from the bottom that are holding the floor stand cover.	
2.	Remove the floor stand cover by removing the fuse holder by pushing on its tab and pulling outward.	
3.	Insert the cover and stand collar through the floor stand post.	

# Assembling the Floor Stand

**⚠ WARNING**

**DANGER OF INJURY FROM UNFOLDING SPRING ARM**

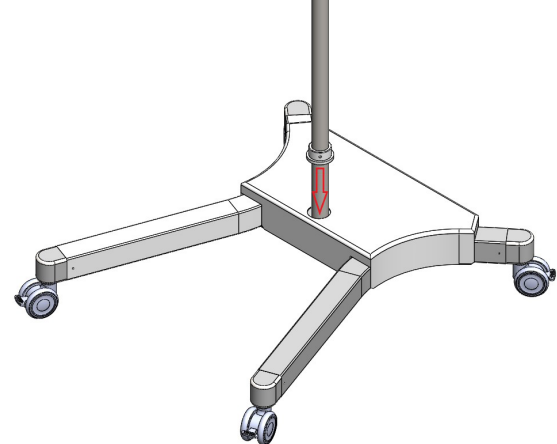
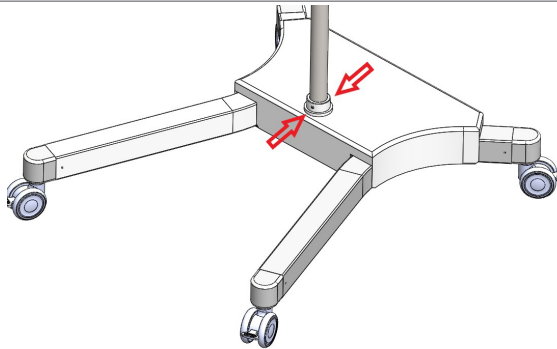
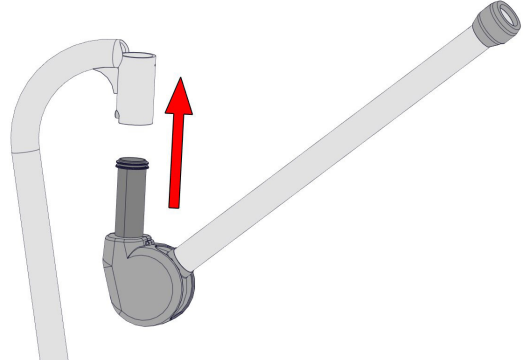
4.	Attach the post to the base.	 A perspective view of the floor stand base with a vertical post being inserted into a hole. Two red arrows point downwards from the top of the post, indicating the direction of insertion.
5.	Secure the post with the given two (2) ¼" Hex screws.	 A perspective view of the floor stand base with the vertical post inserted. Two red arrows point to the locations where the hex screws should be inserted into the base to secure the post.
6.	Slide the cover onto the base and screw it from the bottom.	 A perspective view of the floor stand base with the vertical post inserted and secured. A cover is shown being slid onto the base, covering the post and the base plate.



# Assembling the Floor Stand

## **WARNING**

**DANGER OF INJURY FROM UNFOLDING SPRING ARM**

7.	Bring the stand collar down and place it on the cover.	
8.	Put the M6 set screws on both sides of the stand collar.	
9.	Slide the spring arm onto the post.	

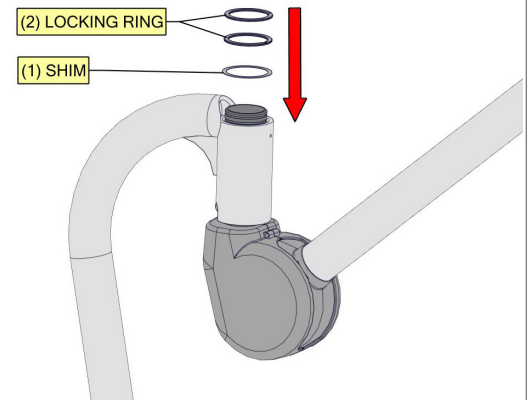
# Assembling the Floor Stand

## **WARNING**

### **DANGER OF INJURY FROM UNFOLDING SPRING ARM**

10. Secure the spring arm using the provided (1) shim and the (2) locking rings.

See below for installing the locking rings.



### **Install the Locking Rings**

1. Separate the multiple coils and inset an end into the groove.
2. Press down around the circumference and wind the ring into the groove.



### **Uninstall the Locking Rings**

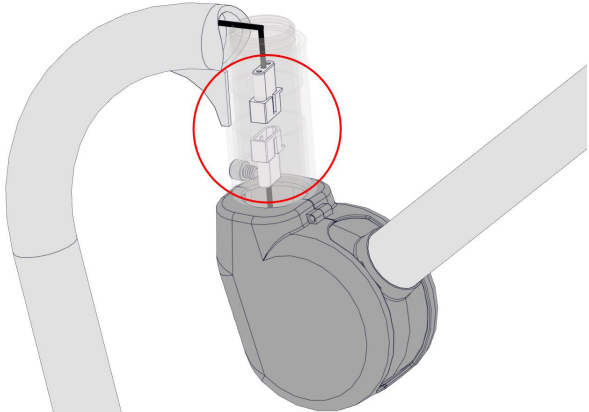
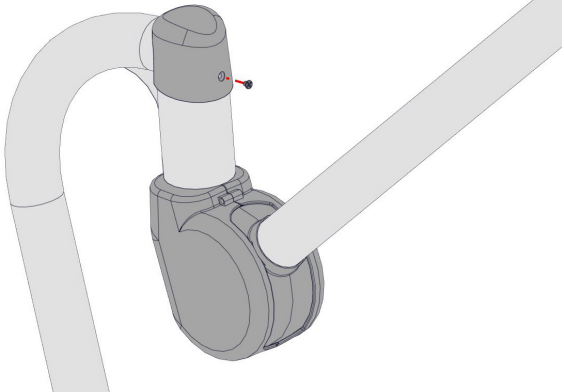
1. Insert a screwdriver (or similar flat object) into removal notch.
2. Use tool to pry out first end of ring.
3. Grab ring and spiral it out of the groove.



# Assembling the Floor Stand

**⚠ WARNING**

**DANGER OF INJURY FROM UNFOLDING SPRING ARM**

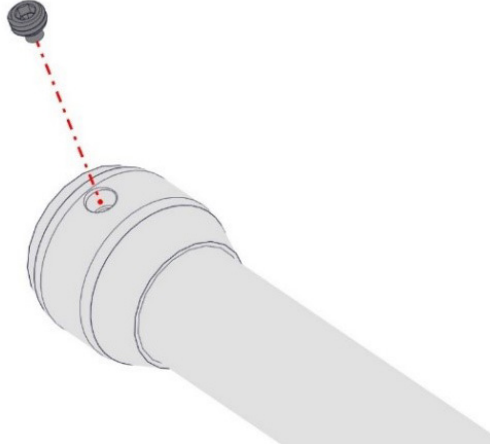
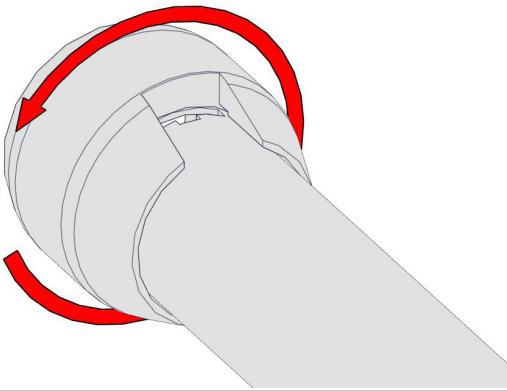
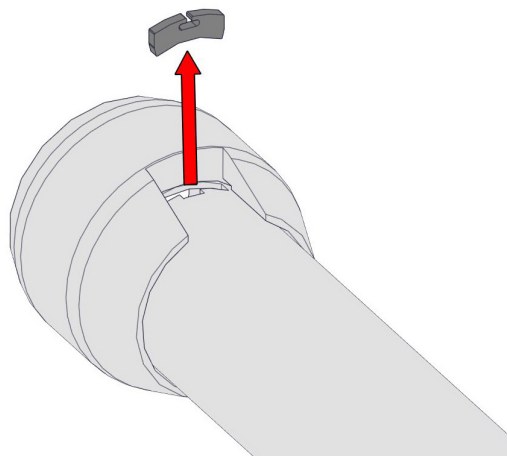
11.	Join the arm connector to the connector in the top of the post.	
12.	Place the end cap on the post and secure it with the #4 Philips screw.	

# Installing the Lighthouse

## CAUTION

**DAMAGE CAN BE CAUSED BY FALLING LIGHTHEAD**

**DANGER OF INJURY THROUGH INCORRECT FITTING OF THE LIGHTHEAD**

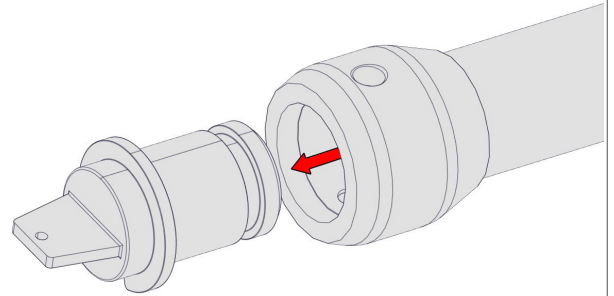
1.	Remove the screw.	
2.	Rotate the sleeve so the notch and slot are aligned.	
3.	Take out the safety segment.	

# Installing the Lighthead

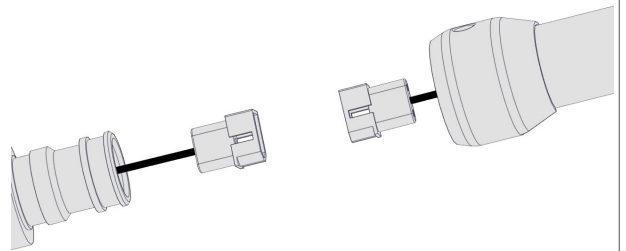
**⚠ WARNING**

**DANGER OF INJURY FROM UNFOLDING SPRING ARM**

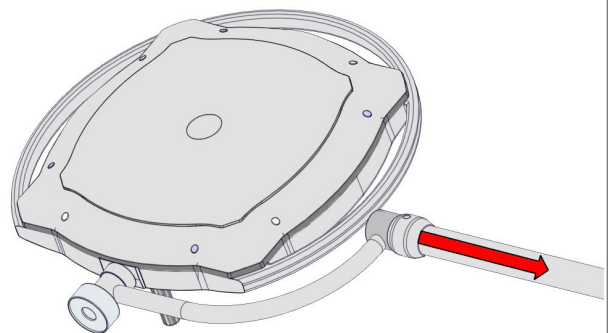
4. Take out the plug from the arm.



5. Join the arm connector to the lighthead connector.



6. Insert lighthead to the arm.

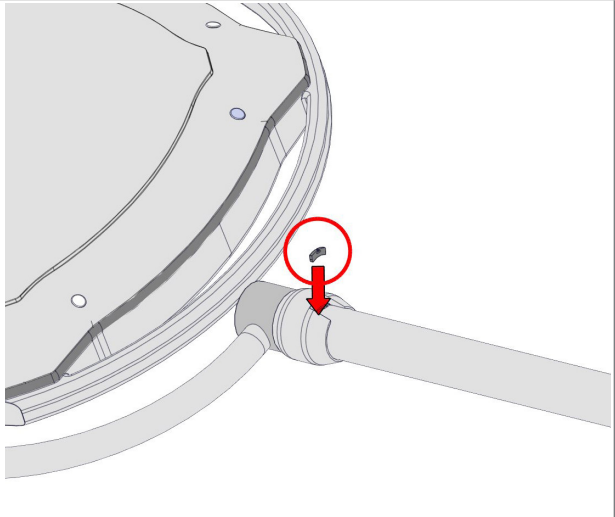
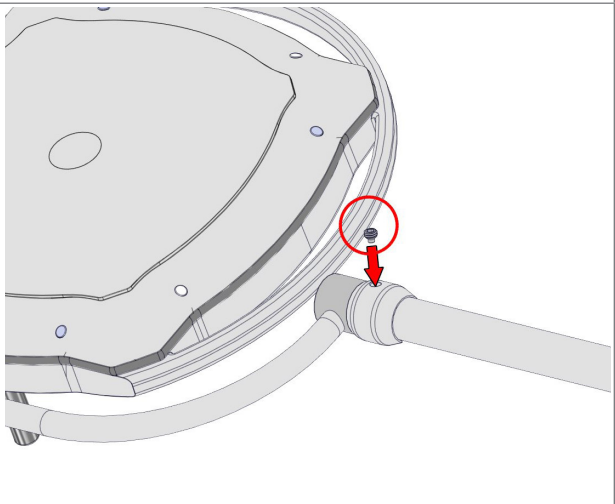
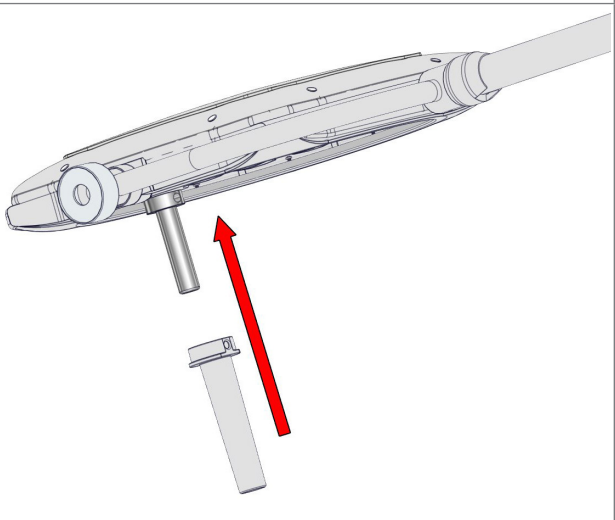


# Installing the Lighthouse

## CAUTION

**DAMAGE CAN BE CAUSED BY FALLING LIGHTHEAD**

**DANGER OF INJURY THROUGH INCORRECT FITTING OF THE LIGHTHEAD**

7.	Insert the safety segment back.	
8.	Turn back sleeve and tighten screw according to requirements of the friction from the lighthouse.	
9.	Clip the handle on the lighthouse.	

# Operation

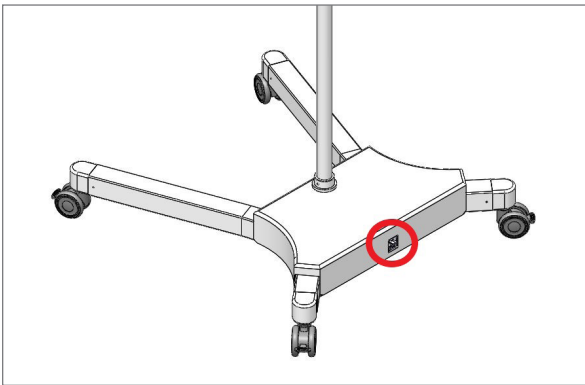
## **WARNING**

### **DANGER OF DEATH FROM ELECTRIC SHOCK**

- Do not plug in a damaged power cable
- Replace damaged power cable before using light again
- The mains voltage and frequency must match the data on the name plate
- Connect to a mains connection with a protective earth only
- Do not position the floor-stand such that disconnection of power plug is obstructed

### **NOTICE:**

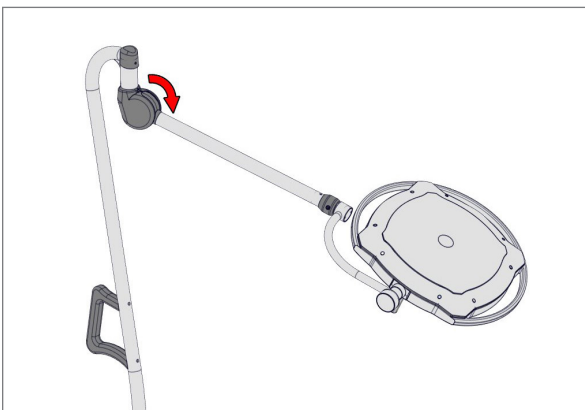
- Wind the power cable to the cable retainers when it is not being used.



1. Plug in cable (red circle).
2. Install the cable to the main supply.

### **TRANSPORT:**

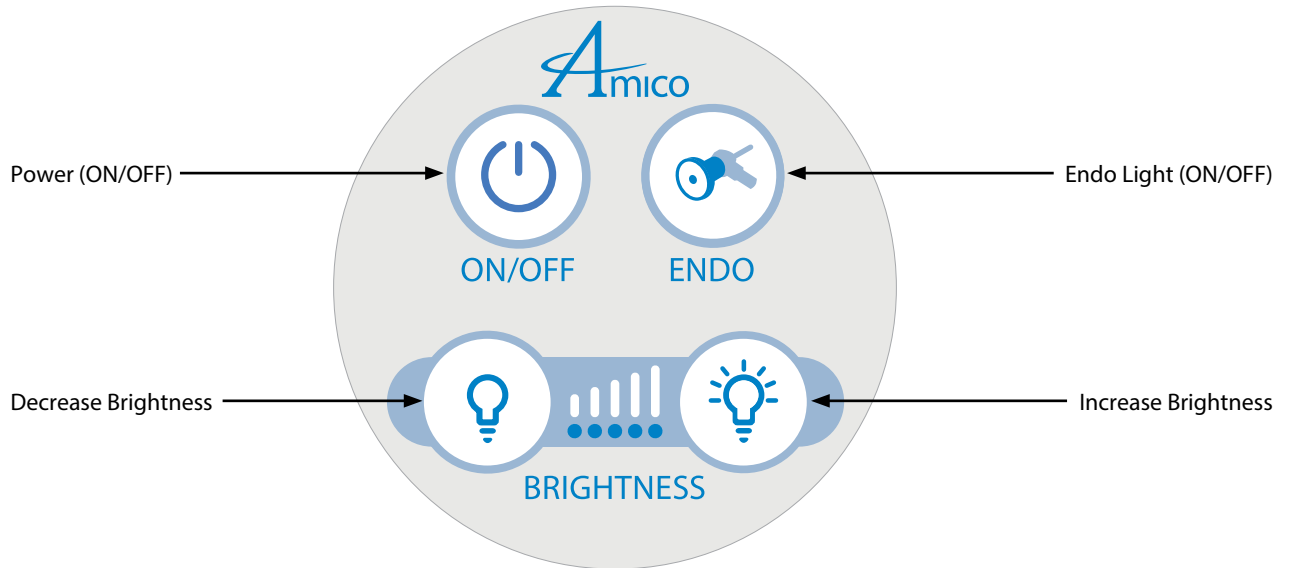
- Before transporting the Floor Stand, make sure the lighthead is in the moving position.
- Moving position can be achieved by bringing the lighthead to its lower most position as described.



# Operation

## Mira LED - All Models

Switch on the light from the control pad at lighthouse.





# Disinfecting, Cleaning, and Sterilization

## **NOTICE:**

Damage due to improper cleaning.

- Do not use alcohol, solvent or cleaning agents containing chlorine or scouring agents
- Damage to lens by concentrated disinfectant or solvent
- Follow the manufacturers recommended mixing ratio
- Use of incorrect cloths may scratch lens

## **NOTICE:**

A dirty lens will reduce the illuminating power.

- Clean lens regularly
- Spray and wipe disinfection is permitted
- Clean the lens with a leather cloth soaked in cleaner
- Spray disinfectant in horizontal position

## **NOTICE:**

The external components of the light can be disinfected with the following diluted products:

- Lysoformin
- Dismozon
- Hexaquart plus
- Sagrotan – fast disinfecting cleaner
- Tuffie5

## **NOTICE:**

The local government regulations for disinfection must also be observed in addition to these instructions.

## **NOTICE:**

Sterilize handle at 120°C and 1.05 bar for 30 minutes.

# Maintenance

## DANGER

### ELECTRIC SHOCKS ARE LIFE-THREATENING

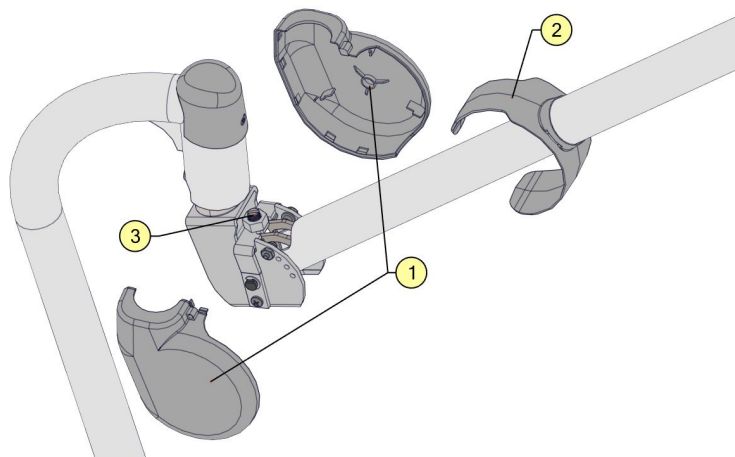
- Remove the connector from the power supply and put the switch in the "OFF" position
- The connector cable must be checked for damage at least once per year

### NOTES:

- Maintenance and repairs must only be carried out by qualified electricians
- The corresponding user profile is described in Safety Instructions pages 5-6

## Setting the Spring Force

**NOTE:** The spring force is set at the optimum setting in the factory.



1. Uninstall the elbow caps by removing the screw securing it.
2. Slide the elbow cap cover to reveal the adjustment screw and push arm to upper position.
3. Rotate the adjustment screw accordingly to set the spring force:
  - Turn screw counter clockwise (+) to increase spring force (when spring arm lowers)
  - Turn screw clockwise (-) to decrease spring force (when spring arm rises)

# Notes on the Arm Systems

## Selection of Fastening Material

We recommend the use of (not included in the delivery) counter-plates for fastening to drywall.

## Cleaning and Disinfection

### **DANGER**

#### **ELECTRIC SHOCKS ARE LIFE-THREATENING**

- The devices can conduct electricity and must be handled with care during cleaning and disinfection.
- If there is a power plug remove it from the socket.
- Do not use spraying methods for cleaning and/or disinfection.
- Do not spray liquid into the openings of electrical power sockets, gas sockets or devices, or allow liquid to enter these.

#### **Recommended Cleaning Agents**

Use mild soap solutions or standard detergents as cleaning agents. Wipe down the surfaces of the equipment with a dampened cloth. If necessary, use small quantities of mild soap solution as a cleaning agent. Then wipe the outer surfaces with a soft, clean cloth until they are completely dry.

#### **Disinfection Procedure**

Disinfection by wiping is intended to be the standard disinfection procedure for the support arm system. Hygiene guidelines and corresponding safety measures must be determined by the operator for the disinfection procedures that are applied.

- After the contamination by any potentially infectious material (such as blood, secretions or excrement), the areas must be disinfected immediately in a targeted way.
- Comply with application concentrations.
- Wipe the area to be disinfected rather than spraying it.
- Do not use areas that have been wiped until the disinfectant is dry.

## Testing

### **DANGER**

#### **ELECTRIC SHOCKS ARE LIFE-THREATENING**

During all testing work, disconnect the device from the power supply/remove the plug from the power socket and secure the device so that it cannot be switched on again.

#### **Every 6 months or 5,000 Arm Movements, Check for:**

- Paint damage
- Cracks in plastic parts
- Deformation of the support system
- Loosening of parts

#### **Every 2 Years:**

- The securing element of the cantilever arm must be checked and greased by a qualified professional

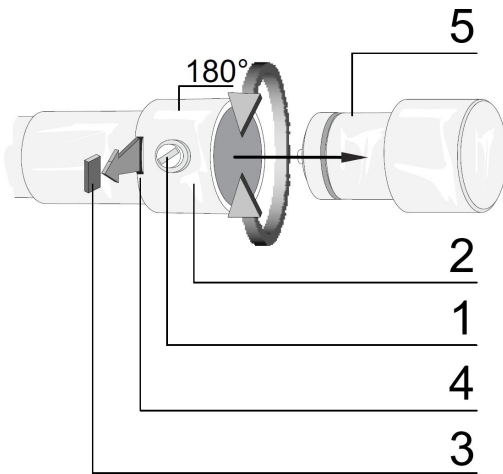
# Notes on the Arm Systems

## Disassembling for Servicing

### **DANGER**

#### **INJURY HAZARD**

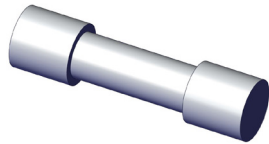
- The cantilever arm is under a high spring load. If the end device is not moved to the upper cantilever arm position, the cantilever arm will spring up, possibly causing serious injury. Only remove the end device if the cantilever arm is in the upper position.
- Disconnect the device from the power supply/remove the plug from the mains and ensure it cannot be switched on again.
- Place cantilever arm in the upper position.
- Unscrew the brake screw (1) so that the sleeve (2) can be turned.
- Turn the sleeve (2) through 180° until the securing segment (3) appears in the slot (4).
- Hold the end device head (5) firmly and remove the securing segment (3) using a narrow flat-bladed screwdriver.
- Remove end device (5) from the connection.
- Put protective cap in place.



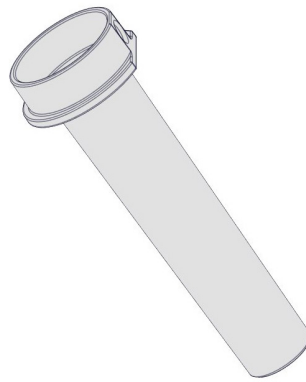
1. Brake screw
2. Sleeve
3. Securing segment
4. Slot
5. End device terminal

This system is designed to be equipped with end devices from other manufacturers. For end device operation instructions please refer to the operating instructions of the related manufacturer.

# Spare Parts



**Slow-blow 2A Fuse**  
(L-X-MIRA-FLRSTND-FUSE)



**Handle**  
(L-X-MILED-HDL-2)



**Power Cord: US PLUG**  
(L-X-MILED-FLS-PWR-CRD)

# Troubleshooting

Malfunction	Possible Cause	Remedy	User Profiles
Light does not come on	Contact fault	Switch on again	All
	Illuminant defective	Contact manufacturer's After-Sales Service	Only by manufacturer's After-Sales Service
	No mains power	Check power supply and all connections	Qualified electrician
	2A fuse defective (Mira LED Floor Stand only)	Replace fuse	Qualified electrician

# Disassembling for Servicing

**⚠ DANGER**

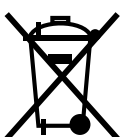
**ELECTRIC SHOCKS ARE LIFE-THREATENING**

- Remove connector from the power supply and put the switch in the "OFF" position before disassembling.

**⚠ DANGER**

**NEVER UNSCREW THE UPPER CABLE HOLDER - INJURY HAZARD**

- When both cable holders are unscrewed, the connecting piece is loose and falls downward, which could cause injury and/or damage to the cable and/or the device.



Do not dispose of this product with normal refuse. Dispose of the product at a recycling center or return it to a dealer with a disposal service depending on local regulations. Cut off the cable flush with the housing.

# Technical Data of the Lighthouse

	Units	Mira 50 LED	Mira 65 LED	Mira 90 LED
<b>Lighthouse Diameter</b>	in	18	18	18
<b>Light Intensity (Central Luminance)</b>	lx (fc)	50,000 Lux (4,762 fc) @ 1m (39.37")	65,000 Lux (6,190 fc) @ 1m (39.37")	90,000 Lux (8,571 fc) @ 1m (39.37")
<b>Brightness Control</b>	%	50-100	50-100	50-100
<b>Light Field Diameter</b>	in	6.5-12.0	6.5-12.0	6.5-12.0
<b>Depth of Illumination</b>	in	94.5	94.5	94.5
<b>Color Rendering Index</b>	Ra	95	95	95
<b>R9</b>	in	90	90	90
<b>Weight of Lighthouse</b>	lbs	11	11	11
<b>Color Temperature (Standard)</b>	K	4500	4500	4500
<b>Shadow Dilution</b>				
<b>Single Mask</b>	%	0.7	0.7	0.7
<b>Double Mask</b>	%	55.5	55.5	55.5
<b>Cavity</b>	%	100	100	100
<b>Single Mask with Cavity</b>	%	0.3	0.3	0.3
<b>Double Mask with Cavity</b>	%	55.3	55.3	55.3
<b>Number of LED's (Main)</b>		36	36	36
<b>LED Service Life</b>	hours	50,000	50,000	50,000
<b>Total Radiant Power at Maximum Intensity</b>	W/m <sup>2</sup>	178	231.4	317
<b>Electrical</b>		100-240 VAC, 50/60 Hz, 0.26 amps	100-240 VAC, 50/60 Hz, 0.31 amps	100-240 VAC, 50/60 Hz, 0.42 amps
<b>Power Supply</b>	ea	Direct Power Supply	Direct Power Supply	Direct Power Supply
<b>Mounting Options</b>		Ceiling, Wall, Floor Stand	Ceiling, Wall, Floor Stand	Ceiling, Wall, Floor Stand
<b>Certificates</b>		cETLus conform to UL60601-1; UL60601-2-41; UL certified IP54 per IEC 60598	cETLus conform to UL60601-1; UL60601-2-41; UL certified IP54 per IEC 60598	cETLus conform to UL60601-1; UL60601-2-41; UL certified IP54 per IEC 60598

# Technical Data of the Arm System

Electrical	
Nominal Input Voltage	100-240 VAC
Frequency Range	50 / 60Hz
Input Current	4A-2A
Device Protection	Class 1 Approval ETL/cETL
Any power supply with output less than or equal to 60V, current output less than or equal to 5A and a minimum of two (2) MOOP can be used with the spring arm.	
Environmental Conditions for Transport, Storage, and Operation	
<b>Storage and Transport</b> After 15 weeks the conditions for operation apply.	-10°C to +50°C Ambient 20% to 90% humidity 700 hPa to 1060 hPa
<b>Operation</b> This product should be acclimatized to its operating conditions for 24 hours prior to its first use.	+10°C to +40°C 30% to 75% humidity
Weight	
Maximum Device Load	42Nm (375 in-lb)
Mira LED Floor Stand With Lighthead	20.4 kg (45.0 lbs)
Operating Mode	
Operating Mode	continuous operation
Classification	
Mira LED Swing	Class I
Classification under 93/42 EEC – Annex IX (medical device class)	Class I
Safety Testing According to:	CSA C22.2#60601-1 IEC/EN 60601-1 2nd. UL 60601-1

# Warranty

## **Medical Lighting Solutions (Mira Series, Nova Series, Vega Series)**

Amico Lights Corporation warrants its products against defective materials and workmanship for twelve (12) months from the date of shipment. Within this period, Amico Lights Corporation will repair or replace any part on site or at the factory which is proven to be defective at Amico Lights Corporation's cost.

Furthermore, Amico Lights Corporation will warrant its material to be free from defect for an additional period of four (4) years (five [5] years from the date of shipment). Within this period, Amico Lights Corporation will replace any part at no charge, which is proven to be defective. Shipping and installation costs after the first twelve (12) months will be borne by the customer.

The spring arms for the above mentioned are warranted for a period of twelve (12) months. The warranty for the spring arms shall include parts and labor and shall commence from the date of shipment.

The warranty applies to normal usage and does not apply to any product that has been subject to alteration, abuse, negligence, or use (including voltage and/or current) other than that for which the product was designed.

Amico Lights Corporation shall not be liable for incidental or consequential damages resulting from the use of the equipment.

All claims for warranty must first be approved by Amico Lights Corporation. A valid Return Goods Authorization (RGA) number must be obtained from Amico Lights Corporation prior to commencement of any service work. Warranty work which has not been pre-authorized by Amico Lights Corporation will not be reimbursed.

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