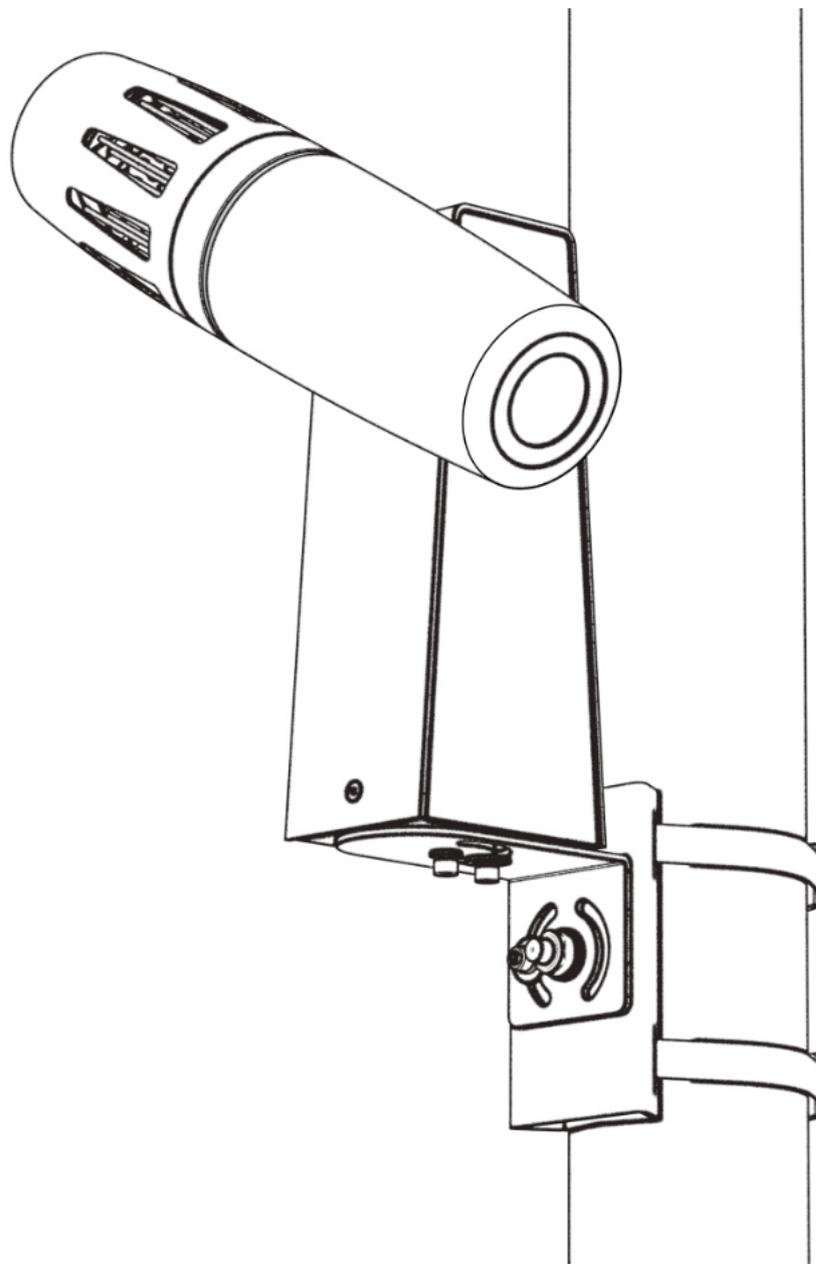


PHOS 25–85 s pole mount



Imprint

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1st edition / January 2021

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1. Safety instructions

1.1 General understanding of safety

This LED projector has a safe design and fulfils the legal requirements for product safety. The following safety instructions are designed to help you assess residual risks in order to prevent potential damage to property or personal injury. This information for use (IEC/IEEE 82079-1:2019-05) about how to use the projector should be regarded as an integral part of the product. Keep the information in a safe place for future reference. If you pass the projector on, ensure that this document goes with it. It provides important information required to work safely with the product. Please read the information for use (IEC/IEEE 82079-1:2019-05) carefully before assembling and commissioning the LED projector. Familiarise yourself with the section on safety instructions thoroughly. Always observe the instructions provided in the information for use (IEC/IEEE 82079-1:2019-05) for all work carried out. Any applicable regulations on accident prevention and environmental protection and any recognised technical rules governing safe and proper work must also be observed. Proper handling and careful maintenance will have a significant effect on the performance and reliability of your projector. Assembly and operating errors and poor maintenance will lead to malfunctions which could have been avoided.

1.2 Intended use

The PHOS s pole mount is a compact LED projector (referred to as the 'projector' below) for displaying graphics and text using light projection.

- The projector is suitable for use in damp rooms and environments and also for outdoor areas.
- The projector is not suitable for corrosive environments. (e.g. factory farms, swimming pools, tunnels, offshore installations, coastal areas up to 1 km from the sea).
- The ambient temperature should not exceed 35°C. Otherwise, the projector cannot be adequately cooled and electronic components may fail prematurely.
- The projector is suitable only for use with glass projection motifs, so-called 'gobos'. Do not insert any other projection motifs or objects into the projector! The projector can be damaged by unsuitable projection motifs and can result in fire.
- When using the projector, make sure that the bright beam of light does not dazzle anyone, especially if there is a safety risk posed by temporary dazzling (e.g. for road users, people using stairs, etc.).
- Children and those with cognitive impairments are not permitted to operate the projector. Children and those with cognitive impairments must always be supervised in the vicinity of the projector.
- Do not modify or dismantle the projector. Otherwise, the projector may no longer meet the safety requirements. Users may only use it in the way described in this manual. Only expert service technicians may carry out repairs.
- The manufacturer does not accept any liability for damage caused by improper use or assembly.

1.3 Danger of electric shock

Contact with power supply voltage poses a risk of fatal electrocution.

- Only allow a qualified electrician to make electrical connections.
- The projector is a Class I electrical device in accordance with IEC 61140. Ensure that the device is properly grounded via the electrical connection.
- Ensure that national regulations governing the operation of electrical devices are always observed.
- Before carrying out any electrical, maintenance, cleaning or disassembly work, make sure the mains supply to the projector is voltage free and secured to prevent it from being switched on again by unauthorised persons.
- The mains cord must not be damaged. Avoid placing loads on the mains cord. The mains cord must not be kinked, pulled, twisted or pinched. Do not install the projector in a location where the cord can be stepped on. A damaged mains cord can cause electric shock and fire and must be replaced immediately.
- Operate the device only with the housing fully closed.

1.4 Heat and fire hazard

- Do not operate the device near highly flammable substances (e.g. alcohol, petrol).
- The projector may be operated only when securely installed and at a fixed angle. A projector which has toppled over or a projector head which has dropped can cause surfaces to catch fire.

- The projector's beam of light can reach high temperatures at close range. Keep flammable materials at a safe distance (0.5 m) from the light exit point. This distance increases the more projectors are used to illuminate one location. Ensure that flammable materials (e.g. curtains) are kept away from the danger area.
- The projector heats up during operation. Risk of burning! Let the projector cool down for at least ten minutes before changing a projection motif or handling the projector in any other way.
- The projector is actively or passively cooled depending on its type and requires an unrestricted flow of air for cooling. Keep a minimum distance of 30 cm from walls and objects on all sides.
- Do not cover the projector with film or insulating materials. Do not operate the projector in enclosed housings. Cooling is only effective if the hot air being released can escape and cool air can flow in freely.
- Protect the front lens from direct sunlight. Sunlight is concentrated through the front lens and can cause damage or fire inside the projector

1.5 Optical radiation hazard

The projector is classified in risk group 2 (RG-2) of the photobiological hazard classes in accordance with the DIN EN 62471-5 standard. The following safety regulations must be observed to combat the risk of glare caused by visible optical radiation:

- Do not stare directly into the beam of light.
- Never look directly into the beam of light at close range (<1 m). Permanent eye damage may occur if you expose yourself to the beam of light within the danger area.
- Install the projector in places where a distance of more than 1 m can be maintained from the eyes of people exposed to the beam of light.
- Change the gobo only when the projector is switched off.
- Do not make any modifications to the projector's optical components (projection lens, other lenses, bulbs). Use original accessories only and replace damaged components only with original spare parts. A device which has been modified may be categorised into a higher photobiological risk group.

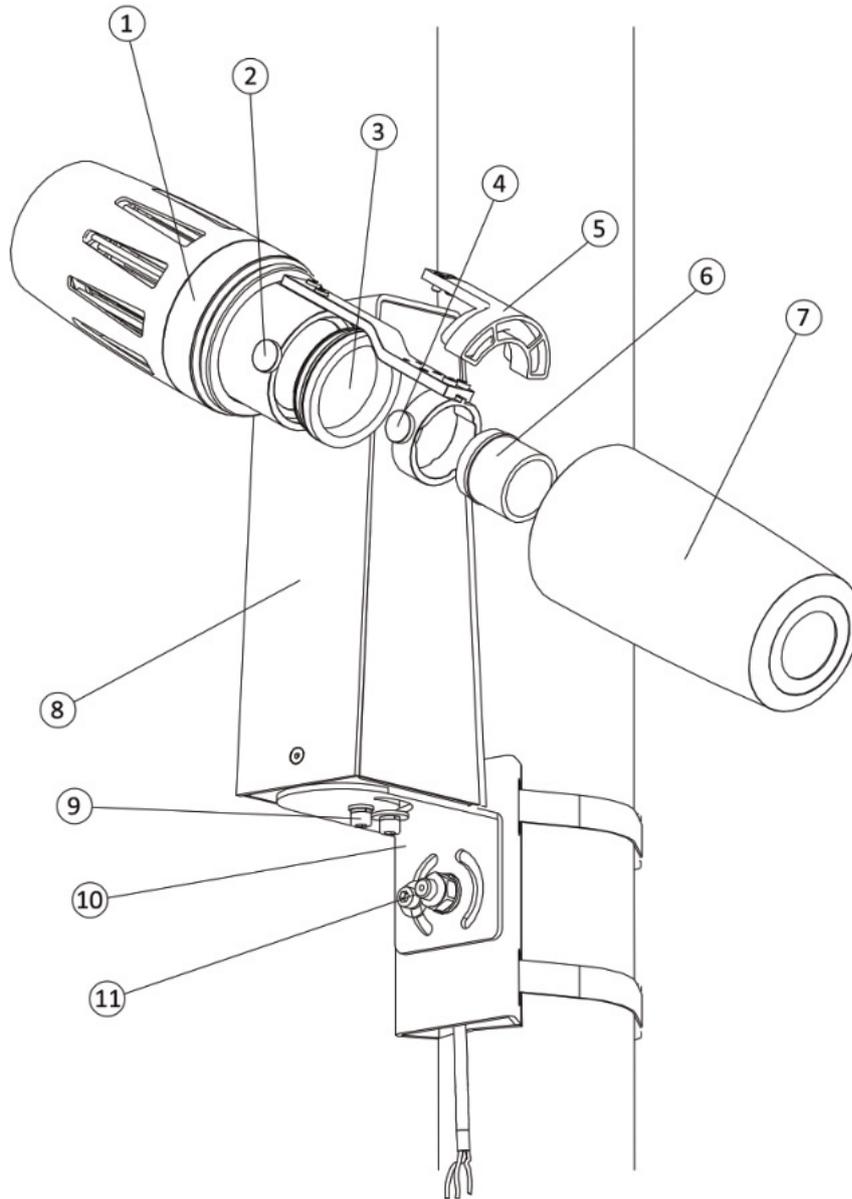
1.6 Assambly instructions

The projector must be firmly attached to a stable and load-bearing surface or structure.

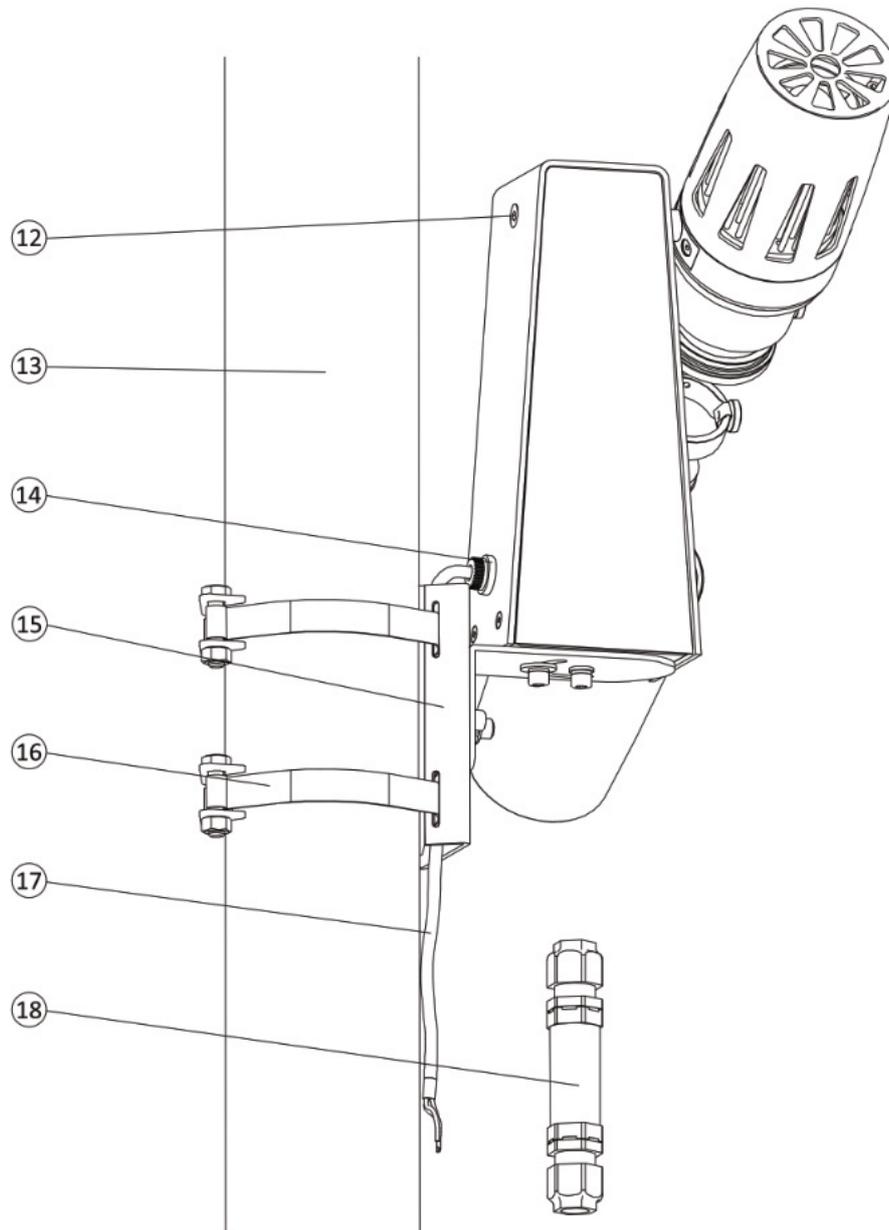
Local regulations on the safety of buildings, especially the Ordinance on Places of Public Assembly, must be observed:

- Building regulations of the federal states. Safety of construction sites and buildings
- Ordinance on Places of Public Assembly
- Ordinance on the Construction and Operation of Special Buildings

2. Overview of the PHOS s pole mount



①	Projector head comprising: • LED • Heat sink with / without fan • Optical system holder	⑩	Mounting bracket
		⑪	Fixing screws for mounting bracket
② & ④	Knurled screws for gobo case holder and projection lens holder	⑫	Adjustment screw for tilting the projector head
③	Gobocase	⑬	Mast / support system
⑤	Drypack holder	⑭	Strain relief for power cable
⑥	Projection lens	⑮	Mounting plate
⑦	Casing	⑯	Mounting strap with turnbuckle
⑧	Device stand	⑰	Connection cable
⑨	Fixing screws for device stand	⑱	Cable sleeve



3. Definition of terms

Term	Definition
LED projector	An optical device that uses an internal light source (LED) to display a two-dimensional template (gobo) on an image surface.
LED	Light Emitting Diode Semiconductor component that emits light.
Gobo	Projection motif A glass template used to display logos, patterns, texts or images with a projector.
Projection lens	The most important component in a projector. One or more optical lenses that concentrate the light, making it possible to emit a projection.
Focal length	This is a measure of how strongly the projection lens concentrates beams of light. Short focal length: wide cone of light Long focal length: narrow, concentrated cone of light

4. Mounting and installation

- Your new LED projector must be securely installed before you start using it. The mounting plate is designed for round surfaces. Surfaces and corners that do not match the plate geometry do not provide the optimal hold.
- Ensure that the supporting structure can handle this load. It must not deform when the mounting strap is tightened and it must be able to carry at least four times the expected load. Information about the weight of your device is provided in the technical specifications. Plastic masts are not suitable.
- Use only original accessories and spare parts from Derksen that have been specially designed for fitting to the device. Do not modify, disassemble or damage the mounting accessories, as they may then not meet the safety requirements.
- When using protective plates for the support system, it must be ensured that the protective plate cannot deform so that adequate fixing is still guaranteed.
- Test the alignment of the projector before assembling it. Once they have been used, mounting straps and turnbuckles must not be used again when removed.



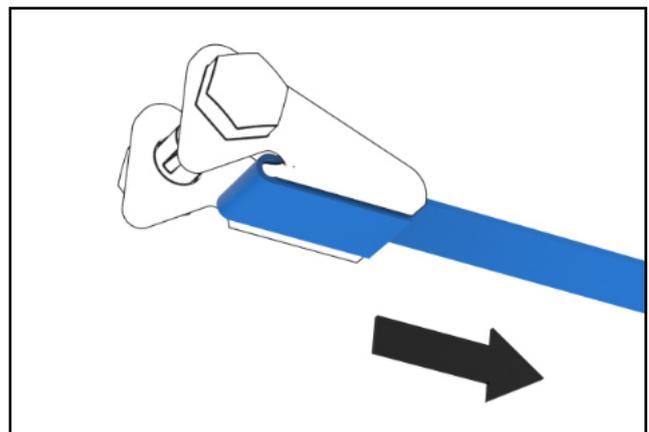
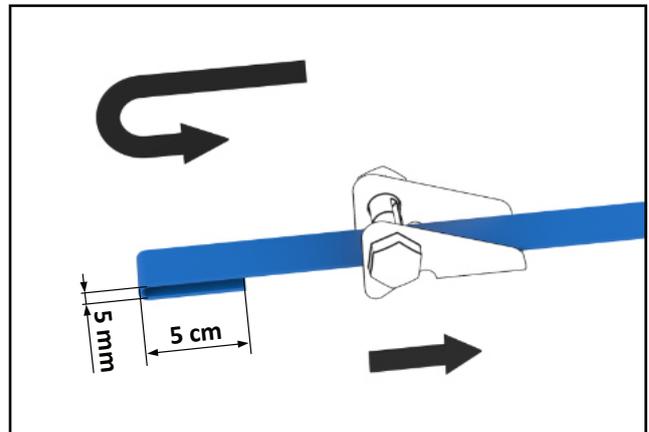
WARNING! Risk of falling parts!

A falling part can cause serious injury or death.

- ▶ Secure the projector and mounting accessories during assembly to prevent them from falling down.

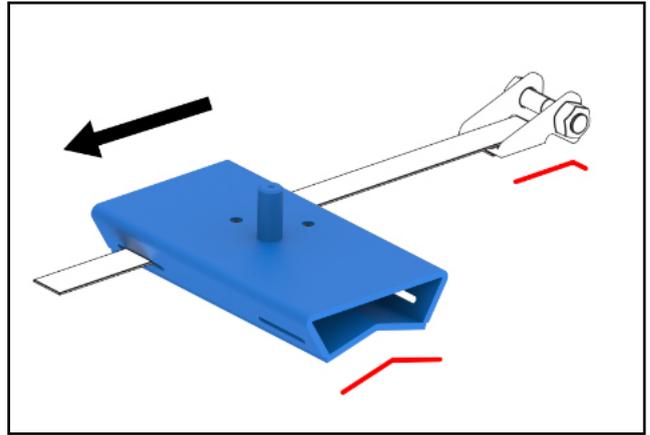
4.1. Mounting the support plate

1. Bend a piece of the mounting strap approximately 5 cm long back by 180°. The gap created by this hook should be about 5 mm.
2. Feed the mounting strap under the clamping screw and into the turnbuckle as shown.
3. Pull in the mounting strap until the hook engages fully in the turnbuckle.

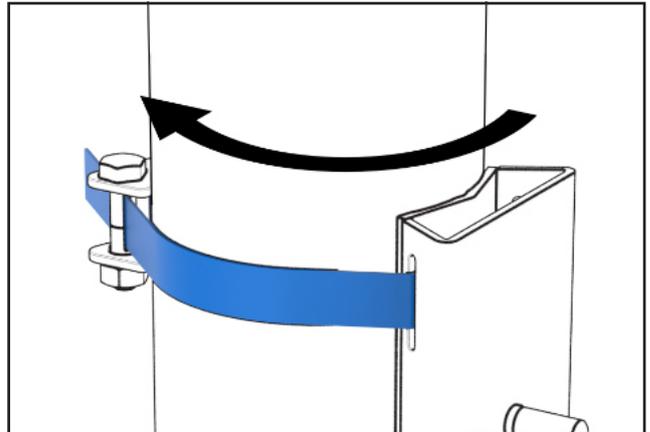


Mounting

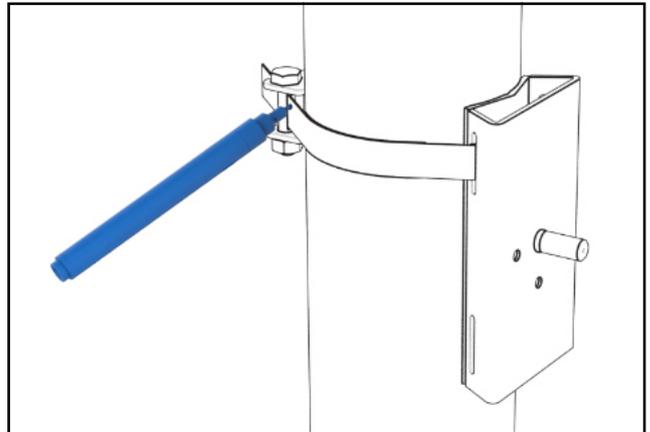
4. Thread the mounting strap into the mounting plate. The angled surfaces of the mounting plate and the turnbuckle, which will later surround the mast, must be aligned.



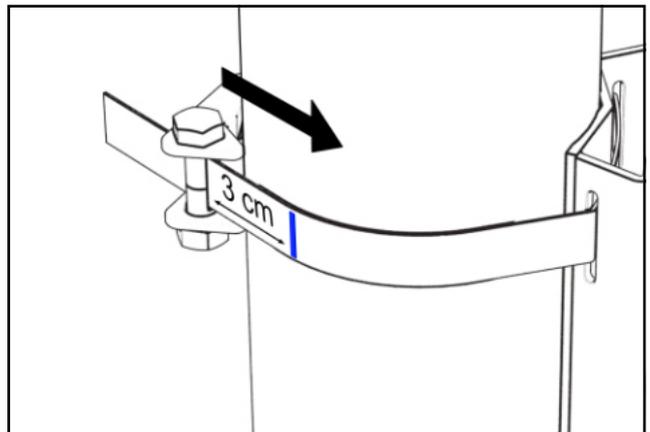
5. Loop the mounting strap around the mast. As far as possible, position the turnbuckle opposite the mounting plate and ensure that the head of the clamping screw is on the top. If necessary, refit the clamping screw.
6. Guide the free end through the slot in the clamping screw.



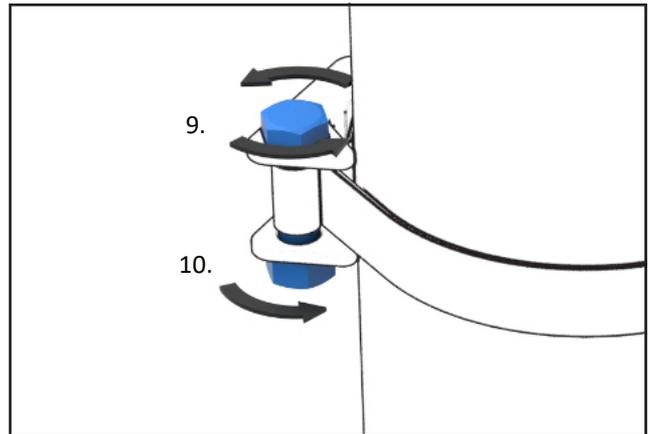
7. Initially tighten the mounting strap by hand and mark the strap immediately in front of the clamping screw.



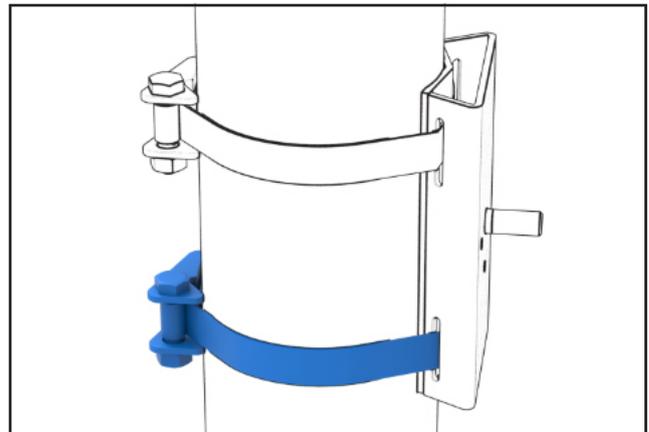
8. Slide the mounting strap back until the marking is about 3 cm away from the clamping screw.



9. Rotate the clamping screw by about 1½ turns anticlockwise until the mounting strap is tight around the circumference of the mast and the mounting plate holds firmly in one position.
10. Lock the clamping screw with the nut to prevent loosening as a result of vibration.



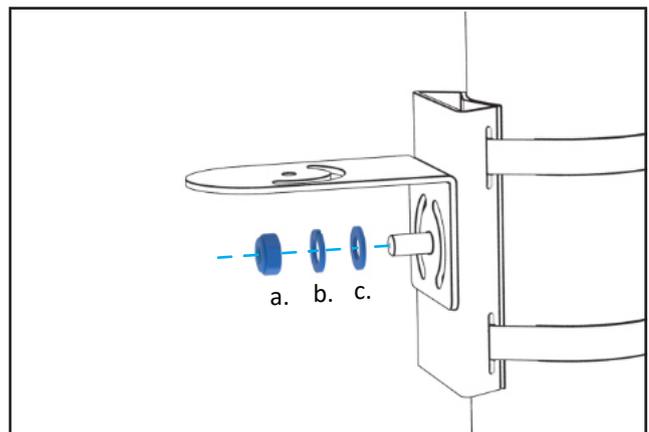
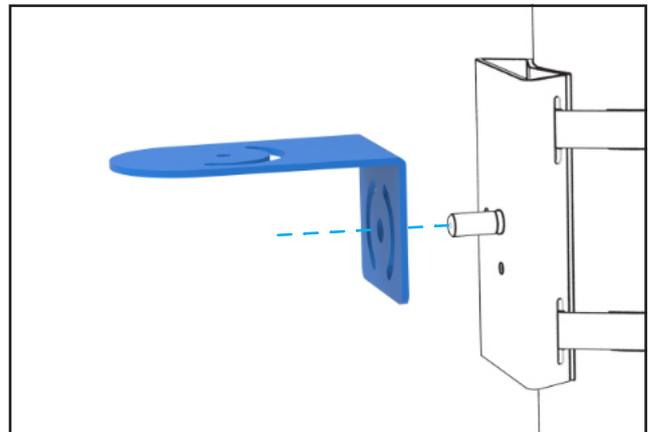
11. Repeat steps 1 to 10 to fit the second mounting strap.



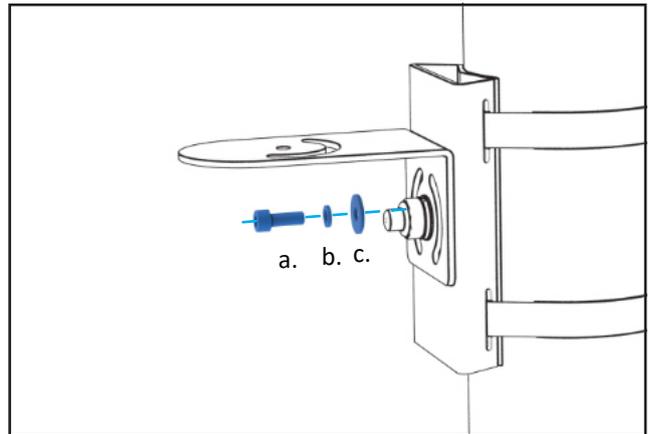
4.2. Fitting the mounting bracket

When completing the following steps, ensure that you fit the screws, spring rings and washers in the sequence specified. Use the hexagon socket wrench supplied to do so.

1. Slide the mounting bracket over the threaded pin of the mounting plate.
2. Fasten the mounting bracket with the self-locking nut (a.), spring washer (b.) and washer (c.)

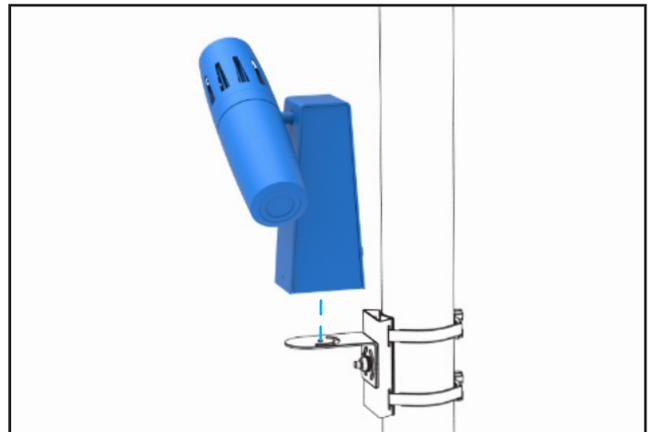


3. Align the mounting bracket and mount the cylinder head screw (a.) with spring washer (b.) and washer (c.)
4. Check that the articulated bracket is firmly seated on the mounting plate.

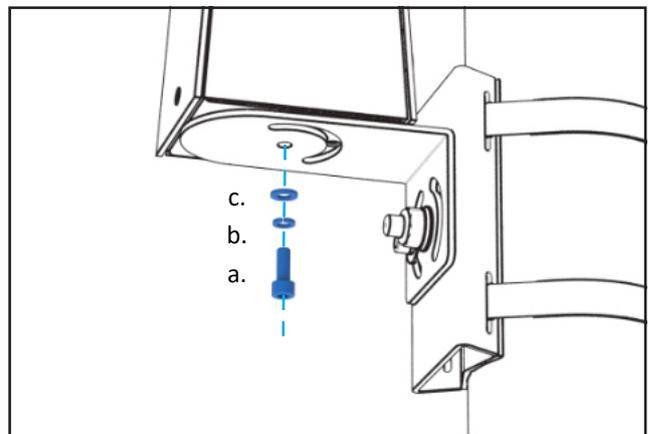


4.3. Mounting the projector

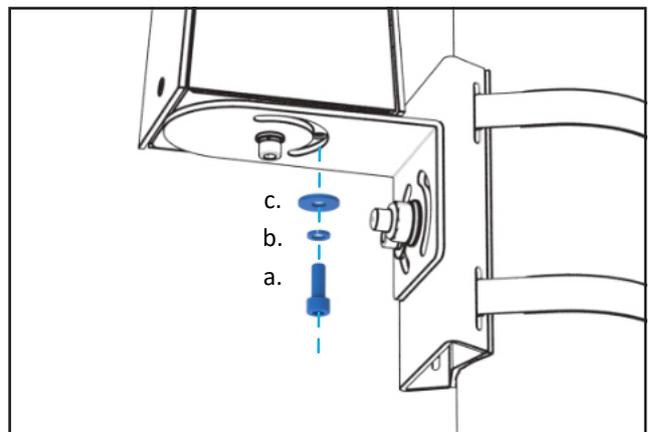
1. Position the device stand on the mounting bracket so that the threaded holes in the base plate line up with the holes in the mounting bracket.



2. Secure the projector with the cylinder head screw (a.) with spring washer (b.) and washer (c.) in the centre hole.



3. Mount the cylinder head screw (a.) with spring washer (b.) and washer (c.) in the curved long hole. The base plate of the device stand has two threaded holes to allow mounting in any position.
4. Check that the projector is firmly seated on the mounting bracket.





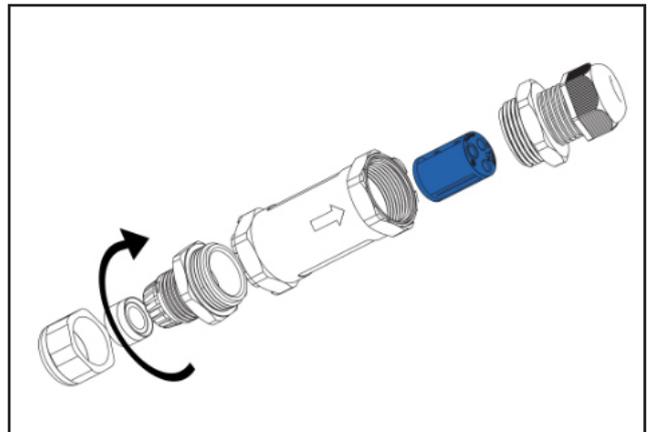
WARNING! Danger of electric shock!

An electric shock can cause serious injury or death.

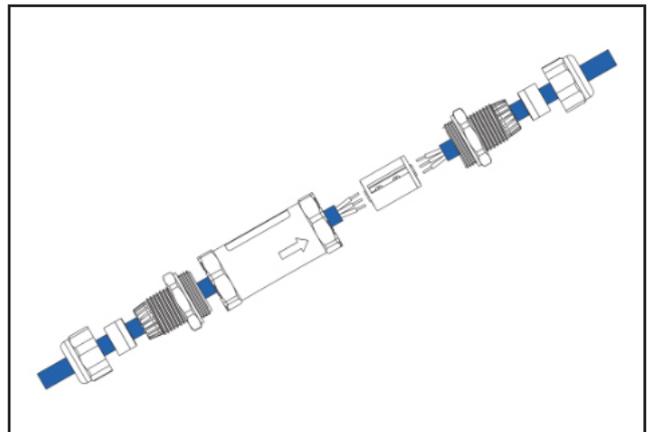
- ▶ Only allow a qualified electrician to carry out electrical connections.

4.4 Connecting to the power supply

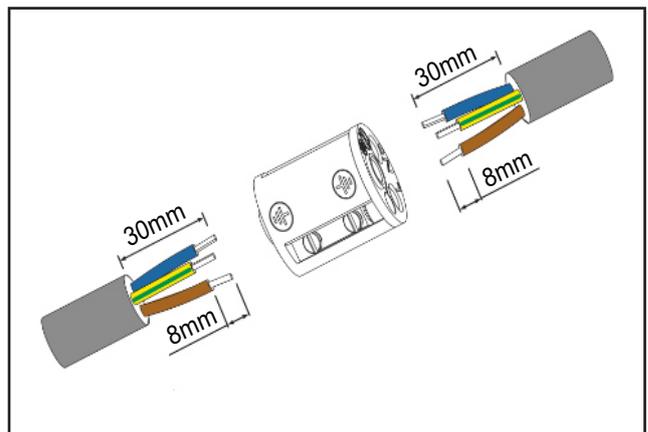
1. Unscrew the individual parts of the connecting sleeve.
2. Remove the terminal block.



3. Feed the projector connection cable and your supply line through the components of the connecting sleeve as shown.

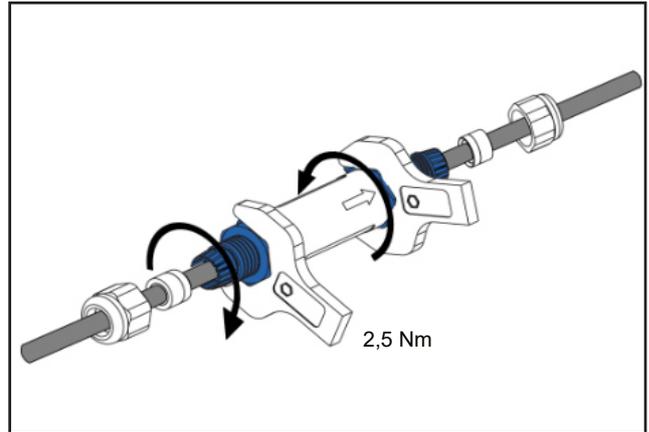


4. Connect the two cables to the terminal block.
5. Ensure the device is powered with the power supply voltage specified on the product data sheet (230 V) and your supply cable is connected to a protective conductor via the corresponding contact on the terminal block

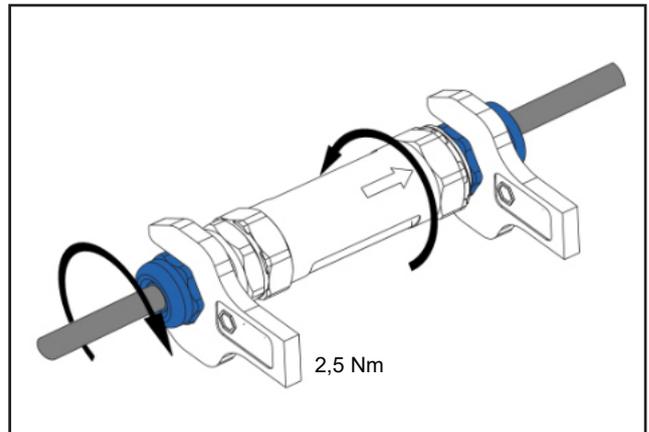


Installation

- Lock the sleeve with the threaded sections of the strain relief using the specified torque.



- Screw the caps onto the strain relief using the specified torque.



5. Setting up and operating the projector

**WARNING! Risk of burns!**

You can burn yourself on projector parts which have become hot.

- ▶ Let the device cool for at least 10 minutes before any set-up work.

**WARNING! Optical radiation hazard!**

Optical radiation can cause temporary or permanent eye damage.

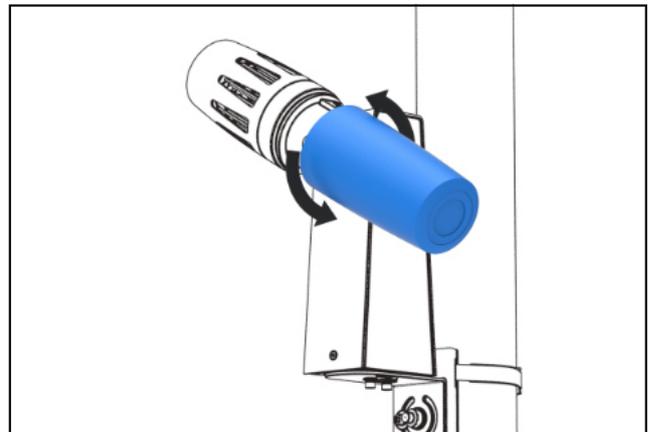
- ▶ Never stare directly into the beam of light.

Some of the steps below require the projector to be switched on. Optical radiation can cause high temperatures at close range and may be dangerous for your eyes. Exercise appropriate caution. Only switch on the projector once the gobo has been inserted. Carry out set-up work as soon as possible after switching on the device.

Do not allow moisture or damp to enter the projector when setting it up. This can condense on the front glass of the casing during operation and significantly impair the quality of the projection. If moisture nevertheless appears in the device, a silica gel pad (drypack) is included in the PHOS s pole mount in the projector head above the projection lens. The silicagel in the drypack absorbs the moisture from the ambient air. This can take a few days. If moisture still condenses on the front glass, the drypack must be replaced (see section 5.5). Remove visible water droplets with a dry cloth.

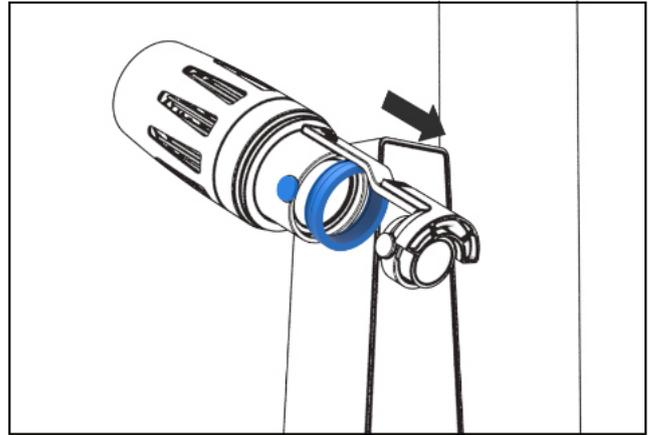
A few settings still need to be made to the projector head in order to set up projection as you wish.

- Carefully remove the casing from the projector head.

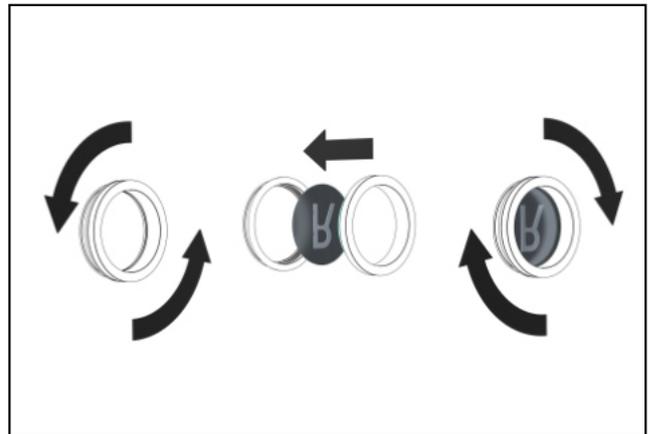


5.1 Inserting/changing the projection motif (gobo)

1. Loosen the knurled screw.
2. Remove the gobo case.

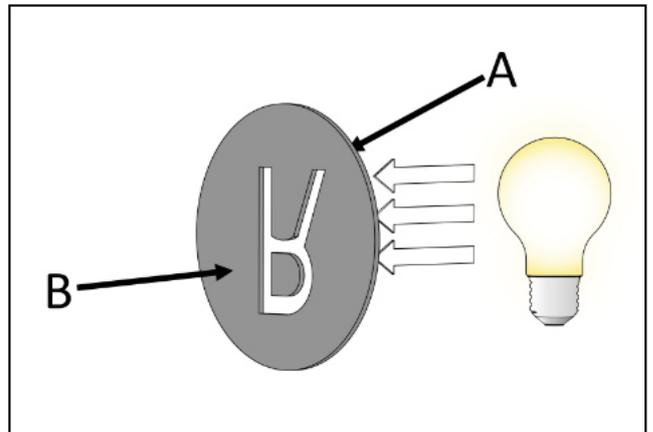


3. Unscrew the gobo case halves.
4. Insert the gobo into the case with the motif back-to-front. The front side must face the light source.
(Note: Touch only the edges of the gobo when inserting it into the case.)
5. Ensure that the gobo is placed flat in the case.
6. Screw the gobo case halves together. Carefully press against the gobo so that it is firmly and securely positioned in the case.

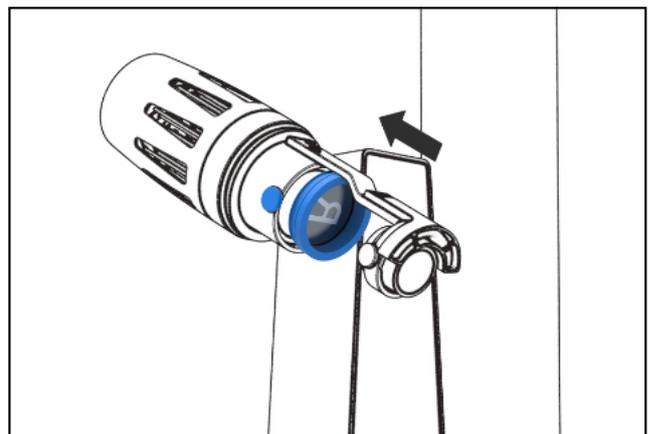


A. Front side: The coated side of the gobo. The front side faces the light source.

B. Dark side: The dark part of the coating can be seen through the glass. The dark side faces the projection lens.



7. Insert the gobo case into the projector head.
8. Tighten the knurled screw.





WARNING! Risk of burns!

You can burn yourself on projector parts which have become hot.

- ▶ Let the device cool for at least 10 minutes before any set-up work.



WARNING! Optical radiation hazard!

Optical radiation can cause temporary or permanent eye damage.

- ▶ Never stare directly into the beam of light.

- Switch on the projector.

5.2 Aligning the projector head

1. Loosen the countersunk screw.
2. Tilt the projector head into the desired position.

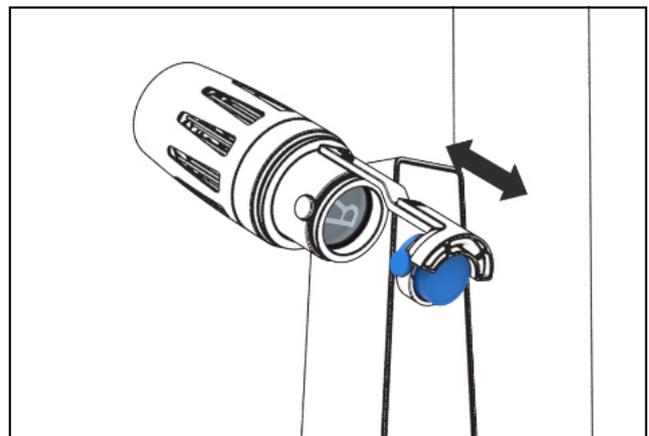
(Note: There is a mechanical stop to limit the rotation of the projector head and prevent damage to the cable. Do not tilt the projector head without first loosening the countersunk screw.)

3. Tighten the countersunk screw.



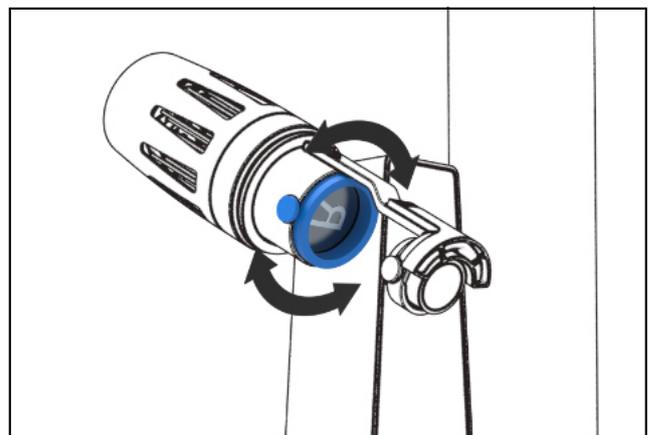
5.3 Adjusting the focus of the motif

1. Loosen the knurled screw.
2. Move the projection lens within the holder until the motif is in focus.
3. Tighten the knurled screw.



5.4 Aligning the motif

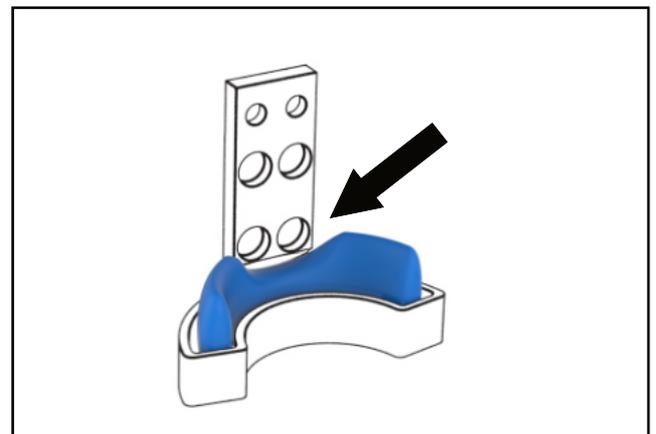
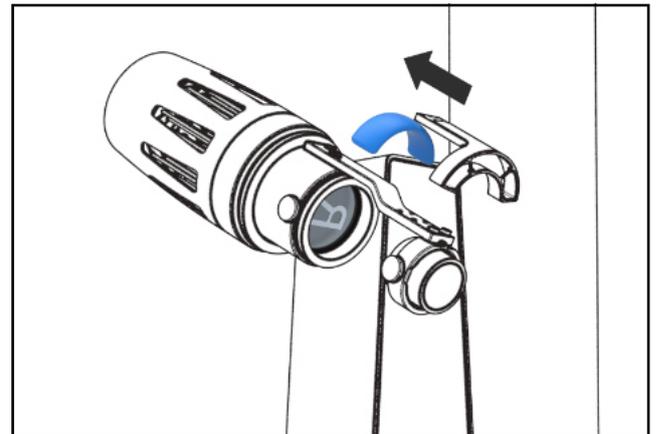
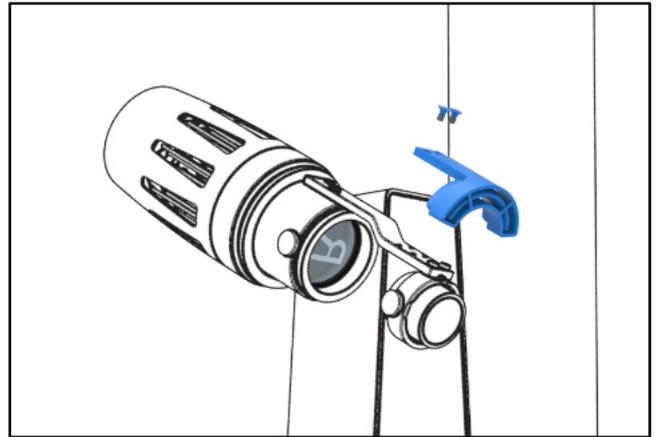
1. Loosen the knurled screw until the gobo case can be rotated.
2. Rotate the gobo case until the motif has been aligned as desired.
3. Tighten the knurled screw.



5.5 Removing moisture

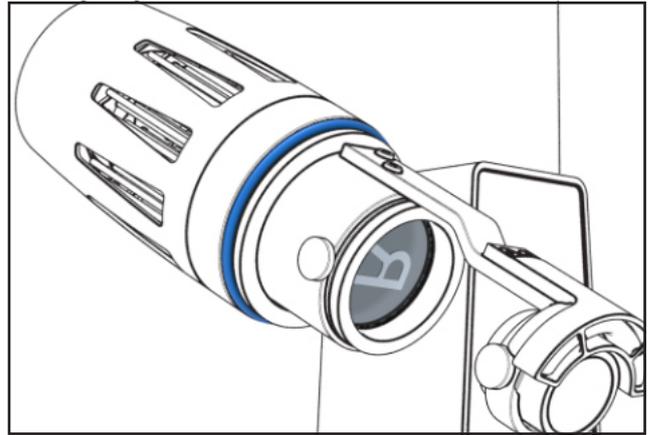
Replacing the drypack in the projector head

1. Release the two countersunk screws and remove the drypack holder from the support rail.
2. Remove the used drypack.
3. Push the new drypack carefully into the cage so that the two recesses for the screw heads in the projection lens holder are exposed.
4. Fit the drypack holder with the two countersunk screws.

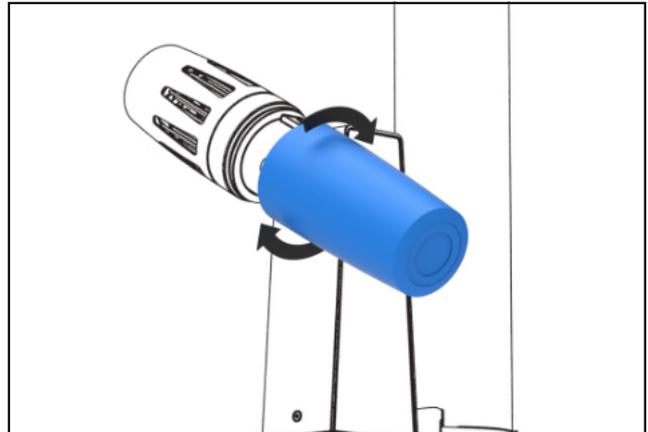


5.6 Locking the projector head

1. Ensure that the sealing ring is in the position provided for it.
2. The sealing ring must not be contaminated with oil, lubricant or other agents.



3. Screw the casing onto the projector head with at least 6.0 Nm to ensure that it is leak tight.



6. Cleaning



WARNING! Danger of electric shock!

An electric shock can cause serious injury or death.

- ▶ Switch off the mains supply to the projector before cleaning it.

- Clean the projector surface using a damp cloth and commercial cleaning agents. The surface can be damaged by solvents in the cleaning agents.
- The preferred way of cleaning the heat sink is with compressed air. Cooling is not affected by a light build-up of dust. You should clean the projector every 6 months in locations where a lot of dust is created (e.g. industrial plants). A cleaning interval of 1-2 years is suitable for a normal environment.
- Use lens cleaning cloths if you notice any dirt on the projector's optical lenses.

7. Disposal

7.1 Disposal of packaging

Please do not dispose of packaging waste together with household waste. It should be disposed of separately. There are established facilities in your area for returning waste (e.g. recycling or waste paper bins). Further information on how to dispose of packaging properly and on the options available for returning packaging waste can be obtained from your city or municipal council.

7.2 Disposal of the projector

European Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE) provides the framework for EU-wide return and recycling of used equipment. This directive was enacted in German law with the national Electrical and Electronic Equipment Act (ElektroG). In accordance with the ElektroG, Derksen Lichttechnik GmbH is registered as a manufacturer on the German EAR register (Register of Used Electronic Devices). WEEE reg. no.: DE 98055625

Our products are manufactured exclusively for the B2B (business to business) sector, and they must not be disposed of with household waste or at collection points at local public waste disposal facilities. At the end of the projector's life, please return it to Derksen Lichttechnik GmbH.

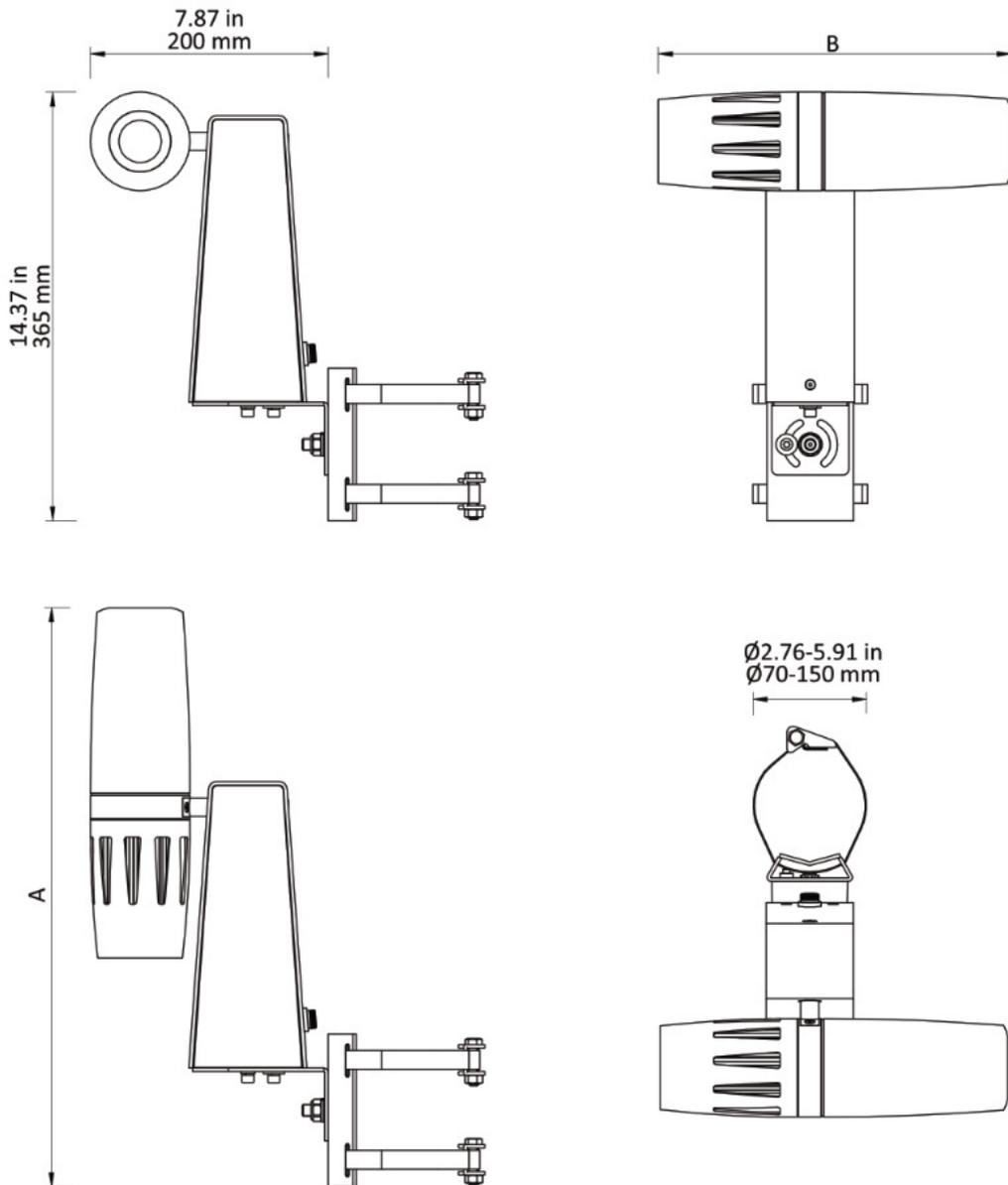
Contact Derksen by phone, post or email (info@derksen.de) with the subject 'Electronic device disposal' ('Elektrogeräte Entsorgung') and, if possible, provide the following information: Purchaser, purchase date, your postal address. By returning products to the manufacturer, you are helping to support responsible use of natural resources and environmentally friendly disposal of waste materials.

8. Technical Specifications

8.1 General information

	PHOS s pole mount 25	PHOS s pole mount 45	PHOS s pole mount 65	PHOS s pole mount 85
Housing material	steel / aluminium / powder coated			
Weight with projection lens 45mm / 65mm 85mm / 135mm	8.86 lbs / 8.60 lbs 8.60 lbs / 9.28 lbs 4,02 kg / 3,90 kg 3,90 kg / 4,21 kg	9.08 lbs / 8.82 lbs 8.82 lbs / 9.50 lbs 4,12 kg / 4,00 kg 4,00 kg / 4,31 kg	9.74 lbs / 9.48 lbs 9.48 lbs / 10.16 lbs 4,42 kg / 4,30 kg 4,30 kg / 4,61 kg	10.19 lbs / 9.92 lbs 9.92 lbs / 10.60 lbs 4,62 kg / 4,50 kg 4,50 kg / 4,81 kg
On/Off switch	not available			
Area of application	outdoor area / damp indoor environments			
Ambient temperature	-30°C - +35°C			
Cooling	passive cooling	active cooling / fan		
Noise level	0 dBA	25 dBA		
Bulb	22 W High-Power LED	40 W High-Power LED	60 W High-Power LED	80 W High-Power LED
Average service life of LED (L70) at 25°C	35.000 hours			
Colour temperature	6.300-6.700 Kelvin			
Luminous flux of the projector with a 85mm projection lens	1.570 Lumen	2.390 Lumen	3910 Lumen	4730 Lumen
Gobo size / image size	Ø 50 mm / Ø 40 mm			
Input voltage	220 – 240 V AC, 50 / 60 Hz			
Power consumption	29 W	51 W	62 W	92 W
Power factor	cosφ = 0,5	cosφ = 0,5	cosφ = 0,8	cosφ = 0,58
Max. number of devices per B16A/C16A fuse	4 / 7	2 / 4	2 / 4	1 / 2
Protection class	I			
Housing protection type	IP64			
Photobiological safety pursuant to ICE62471-5:2015 EN62471-5:2015	RG-2			
Order numbers	20025610 – white 20025620 – black 20025630 – silver	20045610 – white 20045620 – black 20045630 – silver	20065610 – white 20065620 – black 20065630 – silver	20085610 – white 20085620 – black 20085630 – silver

8.2 Dimensions



Depending on the focal length of the lens selected and LED output, the dimensions shown above result in the following sizes:

Lens focal length	A: Total height of the projector
Ultra wide-angle, f=45mm	20.3 in / 516 mm
Wide-angle, f=63mm	19.4 in / 493 mm
Standard, f=85mm	19.4 in / 493 mm
Tele, f=135mm	22.2 in / 564 mm

Lens focal length	B: Total length of the projector head
Ultra wide-angle, f=45mm	12.7 in / 322 mm
Wide-angle, f=63mm	11.7 in / 298 mm
Standard, f=85mm	11.7 in / 298 mm
Tele, f=135mm	14.6 in / 370 mm

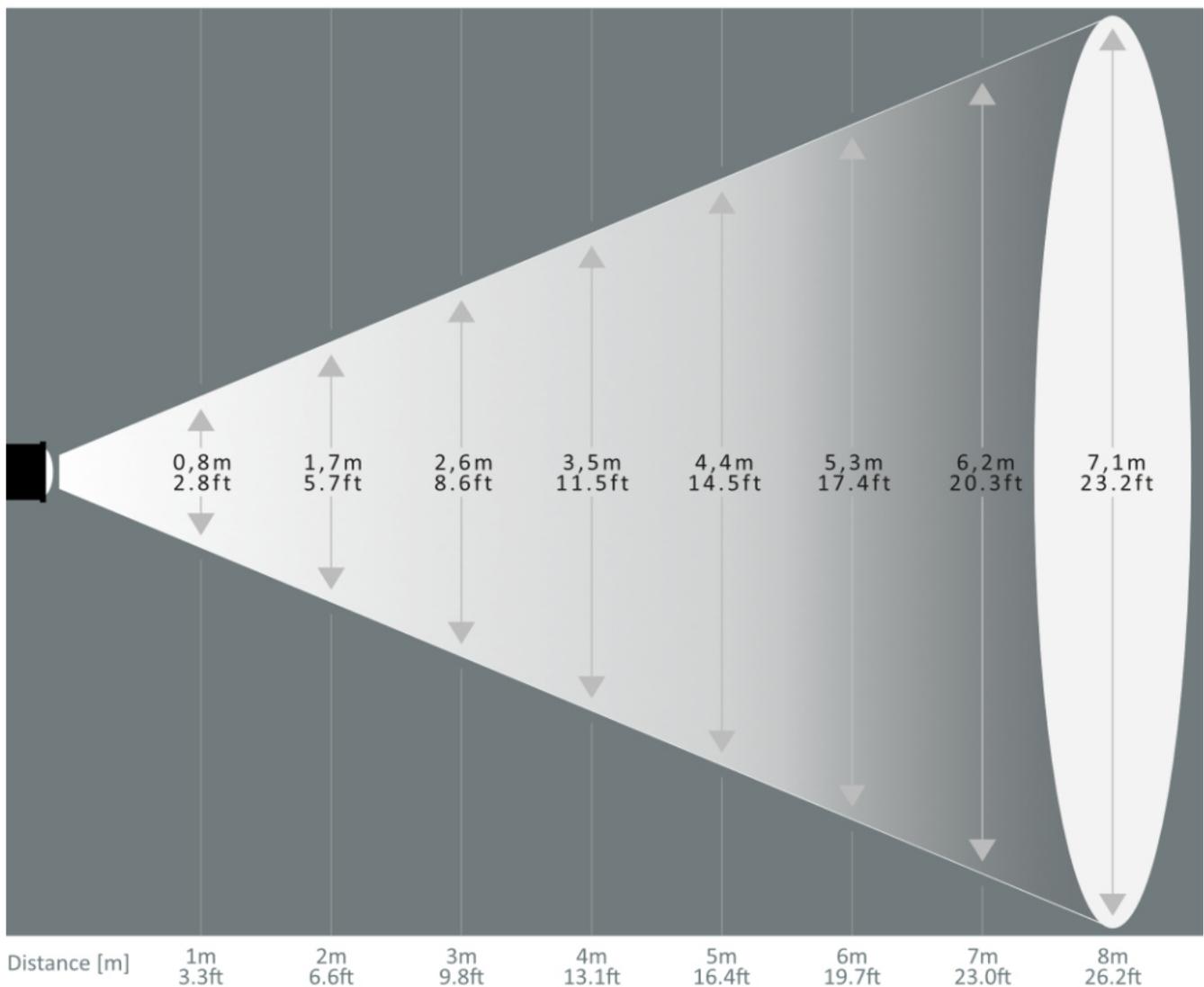
8.3. Photometric data

The focal length of your lens mainly affects possible projection sizes and distances. Please note that the illuminance decreases as the distance increases. The diagrams below provide the corresponding values as based on your projector's output.

Ultra wide-angle lens, f=45 mm, 48°

Illuminance [lux]

PHOS 25	1960	490	220	120	80	50	40	30
PHOS 45	2920	730	320	180	120	80	60	50
PHOS 65	4840	1210	540	300	190	130	100	80
PHOS 85	5880	1470	650	370	240	160	120	90



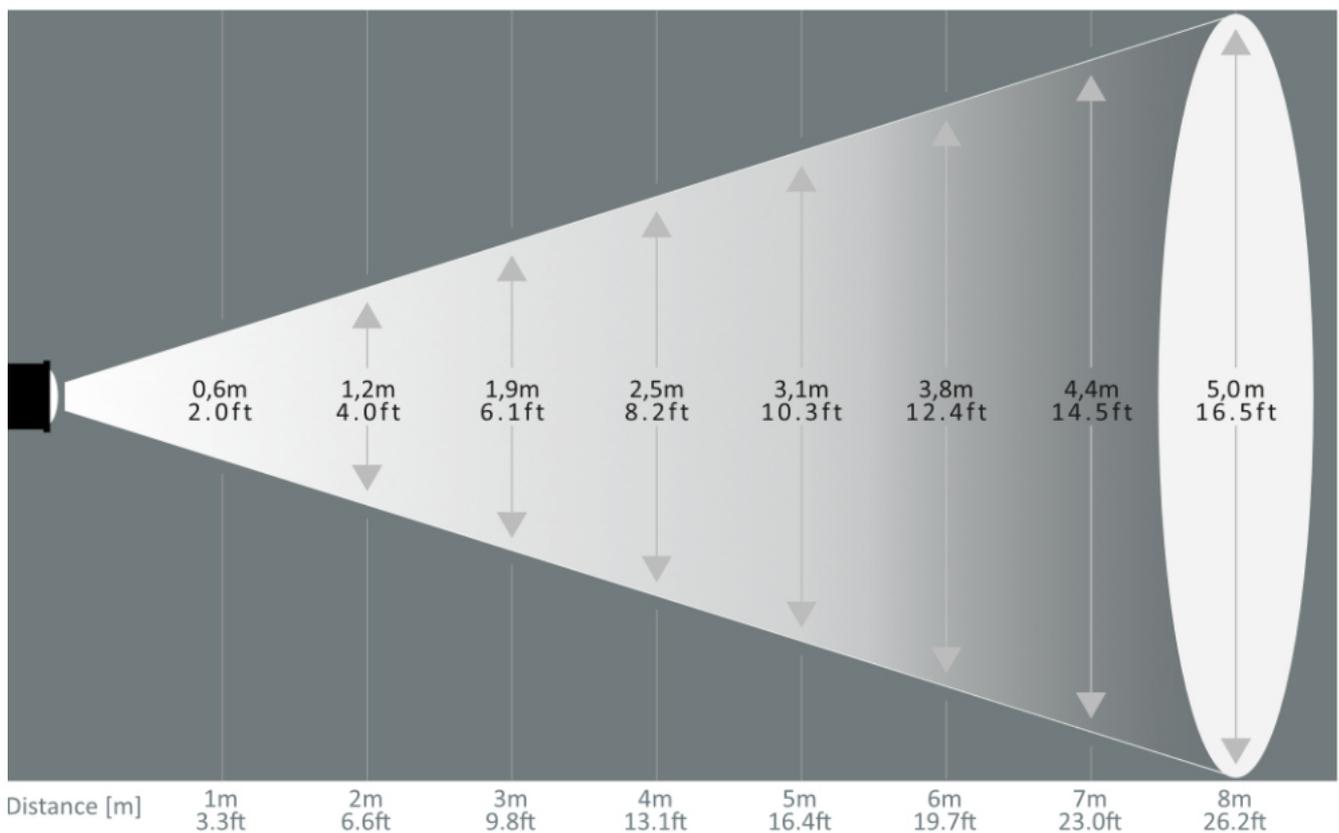
Colour code for projection brightness

- = under normal interior lighting, suitable for coloured patterns
- = in poorly lit rooms, for colourless patterns
- = recommended only for darkened rooms

Wide-angle lens, f=63 mm, 35°

Illuminance [lux]

PHOS 25	3260	820	360	200	130	90	70	50
PHOS 45	5030	1260	560	310	200	140	100	80
PHOS 65	7900	1980	880	490	320	220	160	120
PHOS 85	9230	2310	1030	580	370	260	190	140



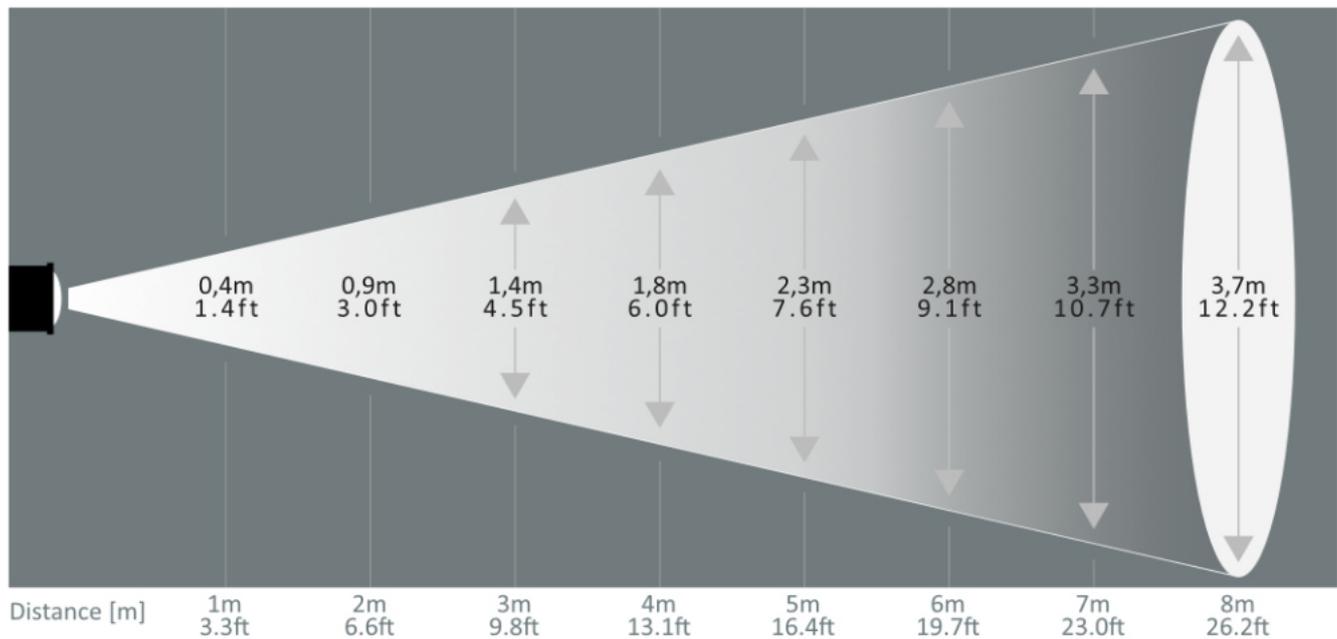
- The results presented here are approximate values. The result may deviate from reality.
- The projection sizes provide the maximum diameter that can be projected with a \varnothing 40 mm image.
- The projection pattern is circular and fills the gobo's image area. Other objects (e.g. rectangles, fonts) are adjusted to the projection area.
- The projection is directed at a right angle on to the projection surface.

Technical specifications

Standard lens, f=85 mm, 26°

Illuminance [lux]

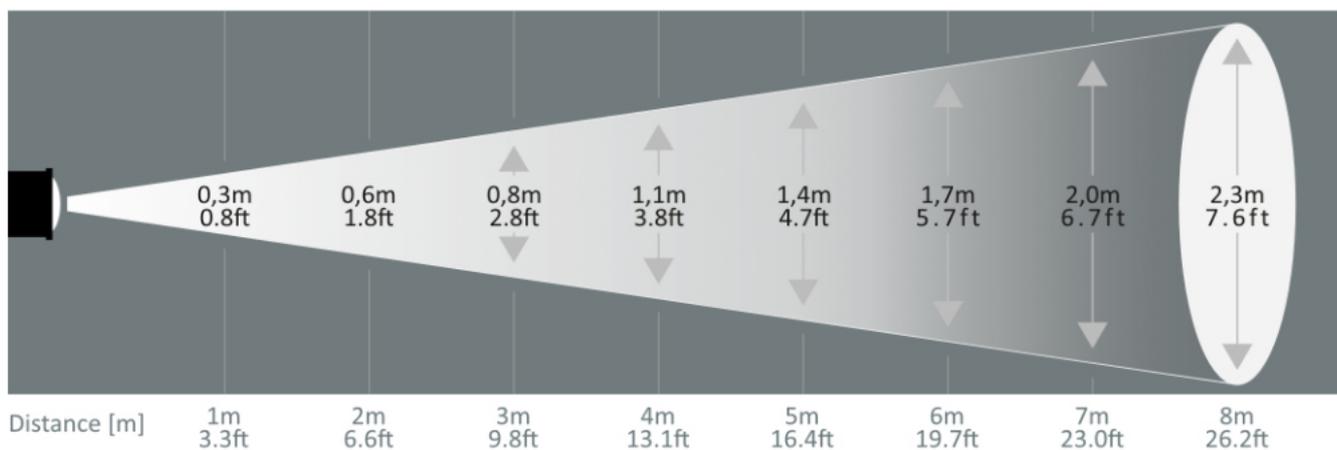
PHOS 25	7180	1800	800	450	290	200	150	110
PHOS 45	10900	2720	1210	680	440	300	220	170
PHOS 65	17860	4460	1980	1120	710	500	360	280
PHOS 85	21610	5400	2400	1350	860	600	440	340



Telephoto lens, f=135 mm, 17°

Illuminance [lux]

PHOS 25	19210	4800	2130	1200	770	530	390	300
PHOS 45	29830	7460	3310	1860	1190	830	610	470
PHOS 65	38030	9510	4230	2380	1520	1060	780	590
PHOS 85	44830	11210	4980	2800	1790	1250	910	700



9. Declaration of conformity



We: Derksen Lichttechnik

Manufacturer: **Derksen Lichttechnik GmbH**
45889 Gelsenkirchen
Johannes-Rau-Allee 4

This declaration of conformity is issued under our sole responsibility

Product: **PHOS LED-Projektor**

Type:

- PHOS 15 indoor
- PHOS 25 indoor
- PHOS 45 indoor
- PHOS 65 indoor
- PHOS 85 indoor
- PHOS 25 outdoor
- PHOS 45 outdoor
- PHOS 65 outdoor
- PHOS 85 outdoor
- PHOS 25 downlight
- PHOS 45 downlight
- PHOS 65 downlight
- PHOS 85 downlight
- PHOS 25 pole mount
- PHOS 45 pole mount
- PHOS 65 pole mount
- PHOS 85 pole mount
- PHOS 25 s pole mount
- PHOS 45 s pole mount
- PHOS 65 s pole mount
- PHOS 85 s pole mount
- PHOS 15 LT
- PHOS 25 LT
- PHOS 45 LT
- PHOS 65 LT
- PHOS 85 LT
- PHOS 45 rotator
- PHOS 85 rotator
- PHOS 45 rotator outdoor
- PHOS 85 rotator outdoor
- PHOS 45 move
- PHOS 85 move

We hereby declare that the products listed above apply with the following applicable regulations:

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment: 2011/65/EU
EMV Directive: 2014/30/EU
Low Voltage Directive: 2014/35/EU

The following standards have been applied:

1. EN 55015:2013+A1 2015
2. EN 61547:2009
3. EN 61000-3-2:2014
4. EN 61000-3-3:2013
5. EN 62493:2015
6. EN 60598-1:2015
7. EN 60598-2-2:2012
8. EN 62471-5:2015
9. EN 50581:2013-02

Furthermore we confirm to comply with the rules of the RoHS!

Place: Gelsenkirchen
Date: 13. November 2019

Signature

10. Accessories

The following pages provide an overview of the spare parts and optional accessories for the PHOS downlight. For any technical enquiries, please contact our customer service:

Phone: +49 (0) 2 09 / 9 80 70-0

Mail: info@derksen.de

Silica gel pad (drypack)

The drypack removes the moisture from the ambient air and thereby prevents it from condensing on the inside of the front glass of the projector.

Art.-No.: 95595



Colour correction filter

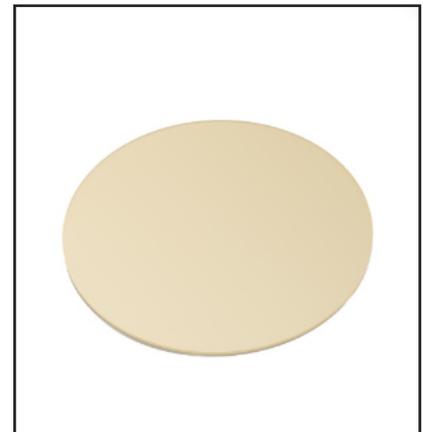
The colour correction filter is made of durable glass with a dichroitic coating and is inserted into the gobo case in front of the gobo. The standard light colour for the PHOS projectors is 6000 K (cold) and is converted by the filter into 4000 K (medium) or 3000 K (hot).

4000 K (mid warm)

Art.-No.: 09960200

3000 K (warm)

Art.-No.: 09960100



Gobo case

The gobo case is inserted into the mount on the projector with the glass gobo inserted. To align the motif, the case can be rotated freely in the mount and fixed in place with a knurled screw. Material: aluminium rotating part.

Art.-No.: 09958500



63 mm wide angle projection lens set

The 85 mm standard lens can be replaced with the 63 mm projection lens set if a larger image is required at a short distance. Delivery includes: 63 mm wide angle lens, 2 mm spacer ring for insertion into the projector optics.

Art.-No.:.....02010320



85 mm standard lens

This projection lens is supplied with every PHOS projector.

Art.-No.:.....09955120



45 mm wide angle projection lens set

The Standard Lens 85 mm can be replaced by the 45 mm Lens Kit if a larger image is desired at a short distance. The wide-angle lens 45 mm has a longer design, which makes it necessary to replace the standard sleeve with a watertight, elongated sleeve.

white

Art.-No.:.....02010810

black

Art.-No.:.....02010820

silver

Art.-No.:.....02010830



135 mm telephoto projection lens set

The Standard Lens 85 mm can be replaced by the 135 mm Lens Kit if a smaller, brighter image is desired at a long distance. The 135 mm Lens Kit is compatible with all outdoor versions of PHOS 25, PHOS 45, PHOS 65 and PHOS 85.

Included parts: telephoto lens 135 mm, lens holder, outdoor shell.

white

Art.-No.:.....02011210

black

Art.-No.:.....02011220

silver

Art.-No.:.....02011230



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lichttechnik

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