



# Ex products

Ex lighting . . . . .	94
Ex installation material . . . . .	102

# Ex products

As a traditional supplier of equipment for ships, KARL DOSE has always carried a range of products for potentially explosive atmospheres. Our lights and floodlights have at least IP protection class IP 56 and are approved in accordance with the current ATEX directives. Here you will also find our PORT SAID 504, which is one of the few luminaires of this construction type on the market that has already been converted to LED.





PORT SAID 504

Particularly robust and equipped with a protective grid, our PORT SAID is designed for the toughest conditions on high seas.

- + Applicable in Zone 1 and 2
- + Lowest surface temperature T6
- + Available in two different explosion protection classes

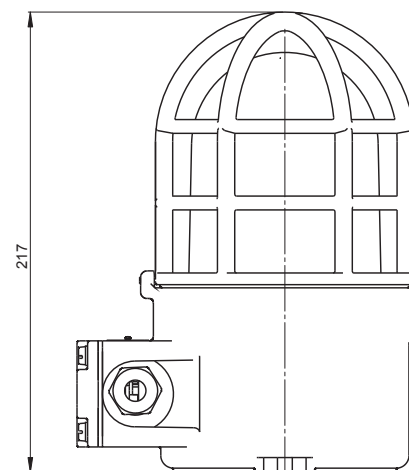
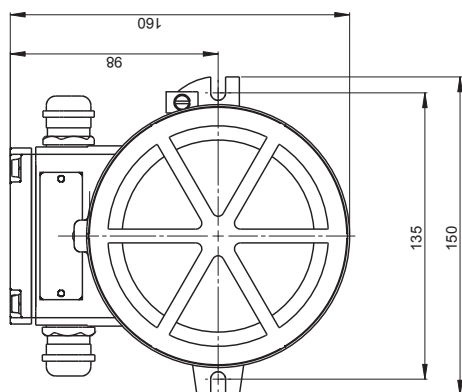
## Technical Data

Ex protection class	II 2G Ex db eb IIC T6 Gb or II 2G Ex db eb IIB+H2 T6 Gb
Material and color	Housing and grid made of powder-coated brass in RAL 9016 (special ATEX coating) or blank with diffuse glass cover
IP protection class	IP 56
Weight	approx. 4.1 kg
Ambient temperature	-20°C to +45°C
Input voltage	230 V AC and 115 V AC at 50/60 Hz, 24 V DC
Wattage	max. 10 W
Luminous flux	approx. 900 lm
CCT (color)	5,700 K
Beam angle	180°
Lifetime Diode	>50,000 hrs.

## Options

Other LED colors

Other CCT (colors)



# Ex Ceiling and wall light

## ACAPULCO



ACAPULCO

The ACAPULCO, the smallest of our Ex Lights, is usually used as a warning light.

- + Compact design and very robust, thanks to brass housing and shockproof grid
- + Applicable in Zone 1 and 2
- + Lowest surface temperature T6

### Technical Data

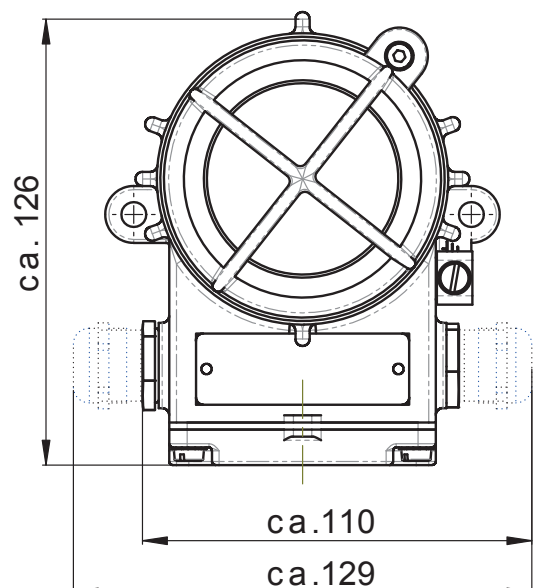
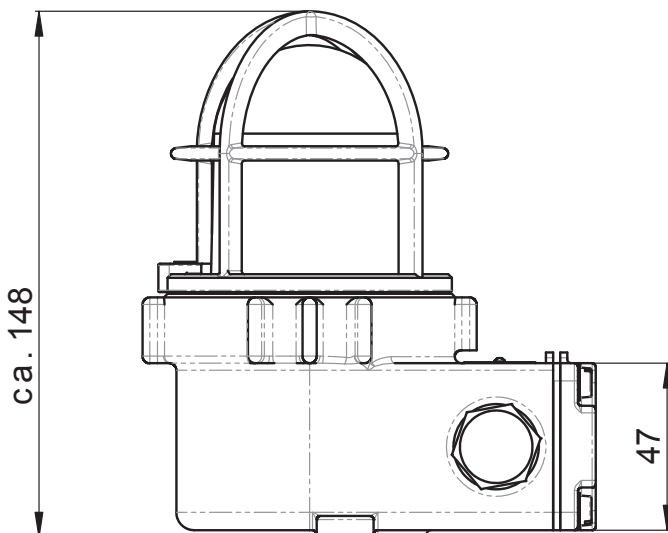
Ex protection class	II 2 G Ex d e IIB Gb T6
Material and color	Brass housing and cover with clear glass cover
IP protection class	IP 56
Weight	approx. 1.9 kg
Ambient temperature	-40°C to +60°C
Input voltage	24 V DC, 12 V DC
Wattage	max. 2 W
Luminous flux	120 lm
CCT (color)	5,600 K
Lifetime Diode	>50,000 hrs.

### Options

Other LED colors

Other CCT (colors)

Also available as conventional version





NEPTUN II

The NEPTUN II luminaire is suitable for use in Zones 1 and 2. It meets the lowest surface temperature T6. This compact luminaire offers a homogeneous light pattern and optimum thermal management. Ideal for demanding applications that require the highest standards of safety and efficiency.

- + Compact flat design, ideal for narrow spaces
- + Certified according to ATEX and IECEx
- + LED produced without rare earths

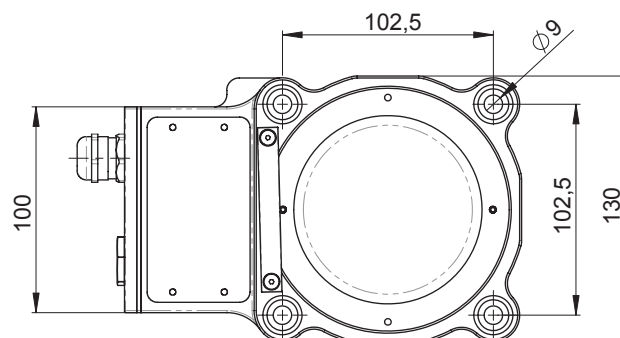
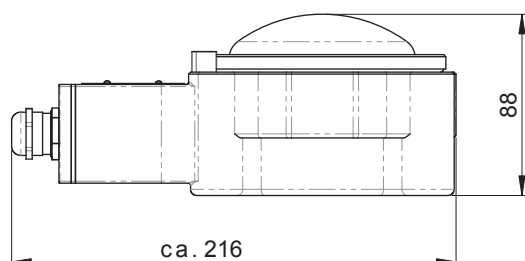
### Technical Data

Ex protection class	II 2G Ex db eb IIC T6
Material and color	Housing made of seawater-resistant aluminium, powder-coated (different RAL colors on request)
IP protection class	IP 56
Weight	2.3 kg
Ambient temperature	-20°C to 50°C
Input voltage	230 V AC and 115 V AC at 50/60 Hz, 24 V DC
Wattage	max. 15 W
Luminous flux	approx. 1,878 lm
CCT (color)	5,300 K
CRI	>80
Beam angle	140°
Lifetime Diode	>70,000 hrs.

### Options

Other Ex cable entries

Also available with two cable entries



# Ex Floodlight

## SYDNEY



SYDNEY 4

The compact SYDNEY floodlight complements our range for hazardous areas. Its special feature is its modular design.

- + Ambient temperature from -50°C to +50°C
- + Wide range of light outputs from 5,400 lm to 32,400 lm
- + Easy installation and maintenance

### Technical Data

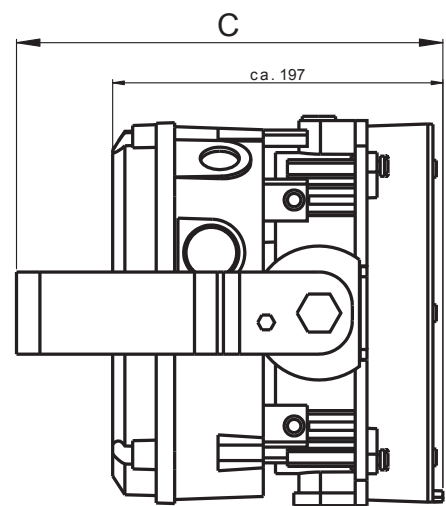
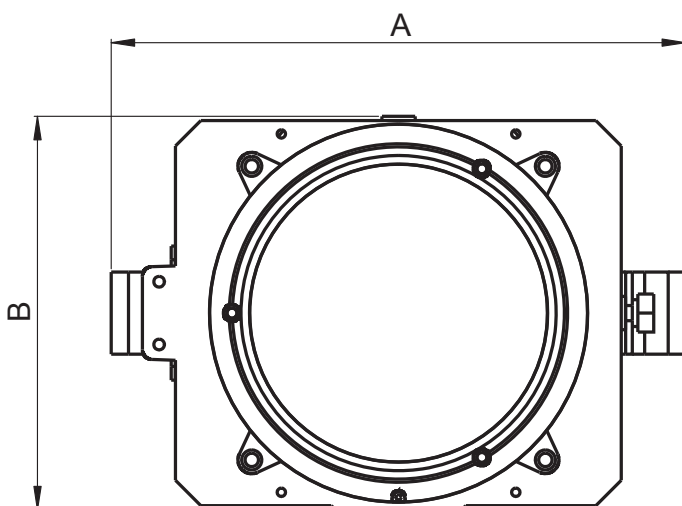
Ex protection class	II 2 G Ex db eb op is q IIC T4 Gb
Material and color	Housing: corrosion-resistant aluminum (grey), brackets: stainless steel (bright), glass: hardened clear glass
IP protection class	IP 66; IP 67
Ambient temperature	-50°C to +55°C
Input voltage	230 V AC and 115 V DC at 50/ 60 Hz, 110 V DC; 220 V DC
Luminous flux	approx. 5,400 lm / module, max. 32,400 lm
CRI	>80
CCT (color)	5,700 K
CRI	>70
Beam angle	30°; 120°
Lifetime Diode	>60,000 hrs.

### Options

Other CCT (colors)

Diffused glass

Asymmetrical beam angle





### SYDNEY 1

Wattage	max. 49 W
Luminous flux	approx. 5,400 lm
Weight	approx. 9.9 kg
Dimensions	A265xB343xC255 (mm)



### SYDNEY 2

Wattage	max. 98 W
Luminous flux	approx. 10,800 lm
Weight	approx. 14.4 kg
Dimensions	A303xB502xC259 (mm)



### SYDNEY 3

Wattage	max. 147 W
Luminous flux	approx. 16,200 lm
Weight	approx. 24.3 kg
Dimensions	A465xB607xC325 (mm)



### SYDNEY 4

Wattage	max. 196 W
Luminous flux	approx. 21,600 lm
Weight	approx. 28.7 kg
Dimensions	A465xB607xC325 (mm)



### SYDNEY 5

Wattage	max. 245 W
Luminous flux	approx. 27,000 lm
Weight	approx. 38.5 kg
Dimensions	A465xB866xC328 (mm)



### SYDNEY 6

Wattage	max. 294 W
Luminous flux	approx. 32,400 lm
Weight	approx. 41.1 kg
Dimensions	A465xB866xC328 (mm)

# Ex Linear Luminaire

## ROTTERDAM



ROTTERDAM

As an Ex linear luminaire, the ROTTERDAM has proven itself to our customers over the years as a reliable light fixture.

- + Certified according to ATEX and IECEx
- + LED upgrade kit available for Rotterdam with conventional lamps
- + Applicable in Zones 1 and 2

### Technical Data

Ex protection class	II 2G Ex db eb IIC T4 Gb II 2G Ex db eb ib mb IIC T4 Gb II 2G Ex db eb ib mb op is IIC T4 Gb II 2G Ex db eb mb op is IIC T4 GB II 2D Ex tb IIIC T80°C Db
Material and color	Glass fiber reinforced polyester in RAL 7035 with clear polycarbonate cover
IK Class	IK 10
IP protection class	IP 66; IP 67
Ambient temperature	-25°C to +55°C
Input voltage	230 V AC and 115 V AC at 50/60 Hz, 220 V DC
CCT (color)	4,000 K, 5,700 K
Beam angle	120°
CRI	>80
Lifetime Diode	>110,000 hrs.

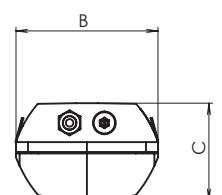
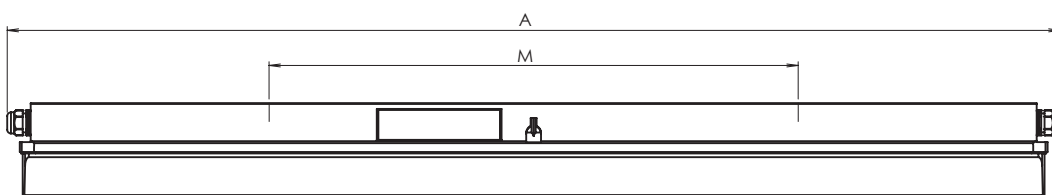
### Options

- Emergency light
- With cable
- Opal diffuser
- Also available as conventional version

### ROTTERDAM 400

### ROTTERDAM 800

Wattage	max. 29 W	max. 57 W
Luminous flux	max. 2,700 lm	max. 5,380 lm
Dimensions	A130xB188xC760 (mm)	A130xB188xC1.36 (mm)
Mounting points M	400 mm	700 mm





## **Established Standards**

We apply continuous quality control in all processing steps and our products fulfil standards such as DIN, HNA, ISO 9001, DNV.



## **International footprint**

Our international network helps to serve customers all over the world and to understand each of their individual challenges.



## **Market orientation**

The majority of our portfolio is based on former individual customer inquiries, which ultimately became the standard in many areas of the shipping industry.



## **Personal approach**

Our sales force follows a customer oriented approach and thanks to their distinctive knowledge they find solutions for almost every likely requirement.



## **Profound experience**

We benefit from 100 years experience and build on the knowledge and qualifications of our colleagues, some of whom have sailed the seas themselves.



## **One-stop**

With all central functions at our head office, we control the whole value chain from capturing a customer requirement to providing the best possible solution.



# Ex Installation material

For hazardous areas on ships, KARL DOSE offers a broad range of electrical installation material in accordance to the current ATEX guidelines. Our junction boxes, switches, sockets and plugs are cast from high-quality brass. The products provide protection class IP 56 and are suitable for both indoor and outdoor use. The variety of cable entries makes it easy to always find the right product for your requirements.



# Ex Rotary switch

SINGAPUR



SINGAPUR

Our Ex rotary switch has been identical in design and reliability for decades. SINGAPUR is available with different switch inserts.

- + Applicable in Zones 1 and 2
- + Lowest surface temperature T6
- + Robust design

## Technical Data

Ex protection class	EEx de IIC T6
Certificate	PTB-Nr. PTB 03 ATEX 1044x
Material and color	Brass housing and cover (blank)
IP protection class	IP 56
Cable gland	M24 x 1.5
Insert	Ex switch insert 2-pole cut out, internal and external earthing
Nominal voltage	max. 660 V AC/DC
Nominal current	max. 16 A
Weight	0.9 kg to 1 kg

## Options

Switch insert 1-pole change over

Powder coated on customer request

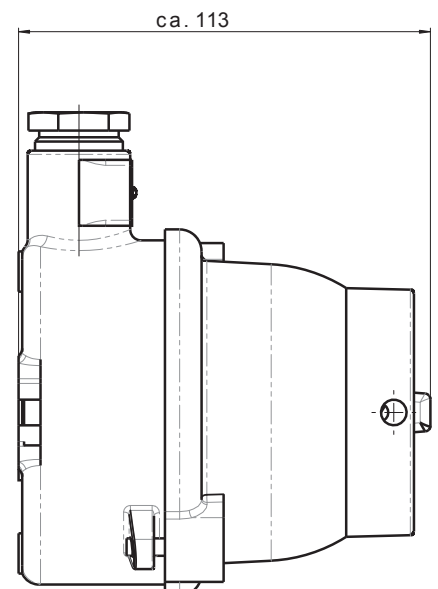
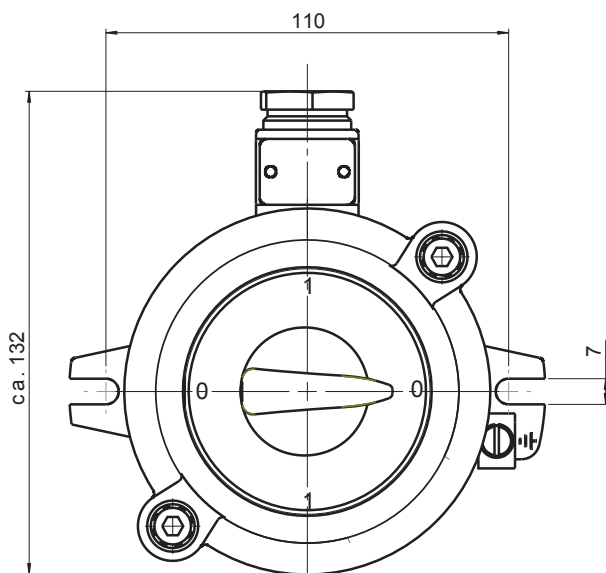
Polished finish

## Variants

514

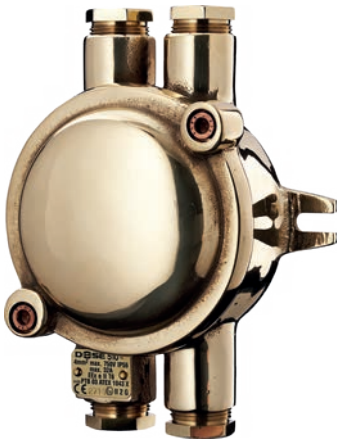
514/2

514/D



# Ex Junction box

SHANGHAI



SHANGHAI

The SHANGHAI Ex junction box provides extensive protection against heavy sea and dust and is available with up to 4 cable entries.

- + Applicable in Zones 1 and 2
- + Lowest surface temperature T6
- + Robust design

## Technical Data

Ex protection class	EEx e II T6
Material and color	Brass housing and cover (blank)
IP protection class	IP 56
Cable gland	M24 x 1.5
Insert	2 steatite Ex terminal blocks, 2-pole, with brass clamps and anti-reverse lock, suitable for max. 4 mm <sup>2</sup> , internal and external earth connection
Nominal voltage	max. 750 V AC/DC
Nominal current	max. 32 A
Weight	1 kg to 1.4 kg

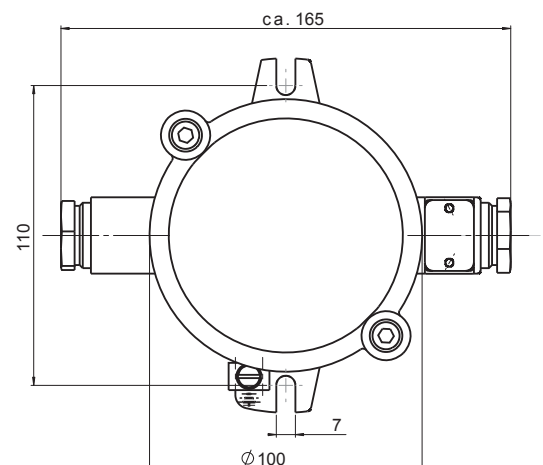
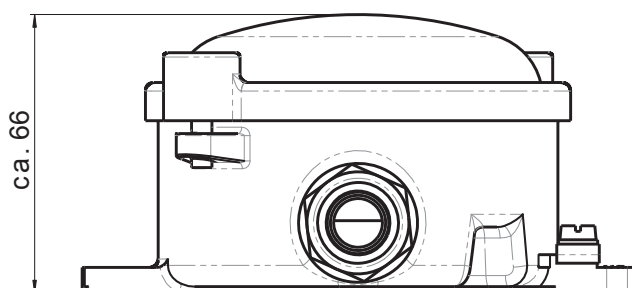
## Options

Polished finish

Powdercoated on customer request

## Variants

510 510/2 510/3 510/4



# Ex CEE socket and plug

BUSAN



BUSAN

The BUSAN Ex socket is suitable for use in Zones 1 and 2. It is particularly durable thanks to its robust construction. In addition to the socket, a BUSAN plug is also optionally available.

- + Lowest surface temperature T6
- + Applicable in Zones 1 and 2
- + Robust design

## Technical Data

	Socket	Plug
Ex protection class	EEx ed IIC T6/T5	EEx ed IIC T6/T5
Certificate	PTB 03 ATEX 1050x	PTB 03 ATEX 1050x
Material and color	Brass	Brass
IP protection class	IP 56	IP 56
Cable gland	M24 x 1.5	/
Insert	Encapsulated socket insert, forced switching with locking, internal and external earth connection	
Nominal voltage	max. 240 V AC/DC	max. 240 V AC/DC
Nominal current	max. 16 A	max. 16 A
Weight	2.45 kg to 2.6 kg	approx. 1.2 kg

## Options

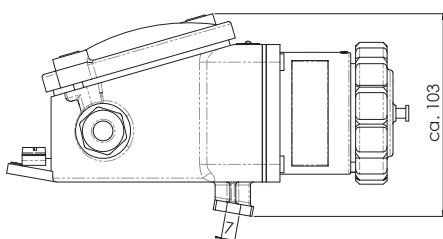
Polished finish

Powder coated on customer request

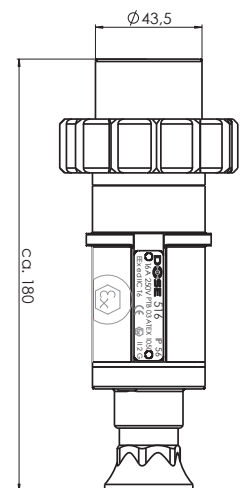
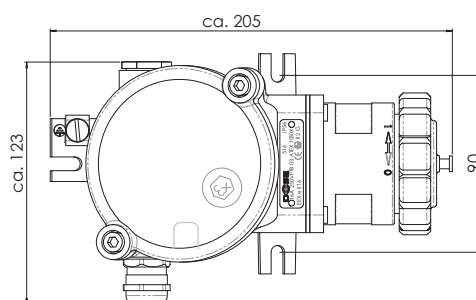
## Variants

516/L | 516/R

516/D



Socket



Plug

---

# Hazardous areas

---

Our Ex portfolio has a protection class of at least IP 56 and complies with the current **ATEX Directive 2014/34/EU**. In addition, some of our Ex products also comply with the IECEx standard.

The Ex products cover **zones 1 and 2** of potentially explosive atmospheres.

**Zone 1:** Area in which a hazardous explosive atmosphere may occasionally occur during normal operation.

**Zone 2:** A place in which an explosive atmosphere is not likely to occur in normal operation but, if it does occur, will last for a short period only.

Most of our products are in explosion group IIC and have the lowest surface temperature T6. T6 means that the surface of the product heats up to max. 80°C plus 5°C safety and in combination with explosion group IIC, in places where gases with high ignitability occur. These products may be used in environments where gases from group IIC, e.g. hydrogen and acetylene, are present. For the type of protection, we usually use flameproof enclosure or increased safety (also in combination).

## **DIN EN 60079-1 „d“ Equipment protection through flameproof enclosure**

“Flameproof enclosure” is a type of protection in which ignitable parts are protected in an enclosed housing which withstands the pressure in the event of an explosion and prevents the potential explosion from getting to the outside.

## **DIN EN 60079-7 “e” Equipment protection through increased safety**

The occurrence of sparks, electric arcs or impermissible temperatures, which could act as a source of ignition source is prevented by additional measures and an increased level of safety.

Our Ex portfolio can be used in almost all Zone 1 and 2 areas where gases or vapors can occur. We will be happy to find the right Ex product for your application. Get in touch with us.

## Customized product development & series production in the maritime sector

In the maritime world, every detail counts. In order to meet the highest demands, we offer comprehensive solutions in the field of lighting and electrical equipment. Our range of services extends from customer-specific product development to small and large-scale production. Our customers appreciate our range of small series production, which enables us to respond individually to the specific requirements of our customers, even in smaller projects.

### Tailor-made solutions for individual requirements

Every ship has its own challenges and needs. That's why we at KARL DOSE understand the importance of customized solutions. Our customized product development starts with a comprehensive analysis of the requirements and ends with the delivery of perfectly adapted product or system. Our engineers and designers work closely with you to ensure that each luminaire meets your exact requirements and technical specifications.

### Flexibility in practice

Flexibility is part of our identity. It enables us to respond to special requests at short notice and produce smaller quantities with high precision and quality. This flexibility is particularly valued in the maritime sector, as customer requirements can often only be met with new products or adaptations to existing products. Whether you are looking for unique designs or special functionalities, our vertical integration from one single source offers you the opportunity to receive tailor-made solutions.

### Development and production under one roof

An outstanding feature of our services is our complete independence in the development and production of all products. From the initial idea to design and production - everything takes place in our state-of-the-art facilities. This guarantees not only the highest quality, but also maximum control over the entire manufacturing process. Our in-house production facilities are equipped with the latest technology, enabling us to manufacture both small and large series efficiently and precisely.

### Highest quality and reliability

Quality and reliability are the cornerstones of our work. Every component that leaves our production line is subject to strict quality controls to ensure that it meets the high standards of the maritime sector. Our lighting systems are designed for the harsh conditions at sea and offer reliable performance and durability.