

PORTABLE EX-LAMPS

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INFORMATION ON EX-PROTECTED PORTABLE LAMPS

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Field of Application

Explosion-protected portable lamps are predominantly used for industrial applications such as security patrols, inspections and repair work. The police and fire brigade use explosion-protected lamps to ensure safety at the scene of an accident, in case explosive substances are present. Besides reliability and safety, explosion-protected portable lamps must meet the standard requirements of handling, weight, lighting properties and operating time. Explosion-protected portable lamps must not be opened in explosive atmospheres. Similarly, batteries may only be charged outside the hazardous area.

Minimum Safety Standard: minimum requirement is Zone 1

Since there are no physical barriers between the hazardous areas which are subdivided into zones, special attention has to be paid to portable electrical apparatus. For this reason all portable lamps of our brand "CEAG" are approved for Zone 1 hazardous areas. Zone 2 is automatically included. The Cooper Crouse-Hinds GmbH also offers solutions for Zone 0 (which exists for example, in closed tanks), Zone 21 and Zone 22.

Hazard Warning Lamps according to the ADR-Directive

A special version of the SEB 8 Ex-Searchlight has been developed for use in the field of transportation of hazardous goods. This version conforms to 94/55/EG and can therefore be used throughout Europe as a Hazard Warning Lamp.

Material choice

The lights described in this catalogue are mainly made of high-quality impact resistant plastic (eg. polyamide or polycarbonate). By adding conductive substances, a surface resistance for



the housing is achieved which prevents an electrostatic charge. All plastics used can be recycled.

Housings of explosion-protected electrical apparatus must conform to IP54 protection as a minimum. Especially for usage in rough environments the brand "CEAG" offers hand lamps that conform to the high standard up to IP67.

Scratch resistant mineral glass is used for the light aperture.

This ensures that, in spite of rough use, the light aperture remains clear for the duration of its use.

Ergonomics: Single-Handed Operation

All portable lamps are designed for "singlehanded operation". This means they can be switched on and off with one hand (even when wearing safety gloves), while the other hand is free for other tasks.



Focussing Stabex HF

Lighting technology

Depending on their use, explosion-protected portable lamps are required to have different luminous intensity distributions, such as a broad beam (working light) or a spotlight. This is achieved by the use of powerful lamps and different systems of focussing the light. In the new types of CEAG lights the need to be able to focus the light has been realized by the use of an adjustable reflector. This kind of reflector enables focussing a broad beam into a spotlight. Different slip-on filters enable a change of light colour. A novel dispersive filter composed of many small prisms enables the beam of light to be broadened without a major loss of working light.

Halogen lamps with a double bulb: bright and cool

Halogen lamps have a very bright, white light, but due to their high surface temperature their light output must be limited. By means of a special method, whereby the halogen lamp is provided with a "double bulb", Cooper Crouse-Hinds GmbH has considerably increased the useful light output. Thus, explosion-protected lights can make optimum use of the advantages of the halogen lamp (high light output, pleasant light colour and long service life).

LEDs: robust and long-lasting

With substantial progress of LED technique in the last years today exists new product-specific designed light sources for handlamps. Cooper Crouse Hinds



Focussing HE 8

as a pioneer for innovative light systems starts with the introduction of the new Stabex mini II this LED technique combined with optimized reflector technique. The robust lamp enclosure combined with the long-lasting and vibration-insensitive LED source will increase additional safety for the operator.

Guidance of light

In order to achieve optimum lighting properties, all components are analyzed, calculated and measured. The development and manufacture of the series are based on the results of our in-house light laboratory. The range diagrams essential for a portable lamp, have been derived from the polar curves established by the light laboratory. These diagrams tell the user at what distance a round surface is irradiated with an illumination of min. 1 lux.

Battery Technology

The CEAG explosion-protected lamps can be fitted with rechargeable (secondary cells) or non-rechargeable batteries (primary cells). Which battery is best from an economical point of view depends on the respective application. If lamps are used on an irregular basis, high-quality primary cells (alkaline manganese batteries) to IEC 60086 should be used. If the lamps are used frequently, it is preferable to use gas-tight, rechargeable nickel cadmium batteries (NiCd). In addition to the fact that they are extremely economical, the outstanding characteristics of these batteries are

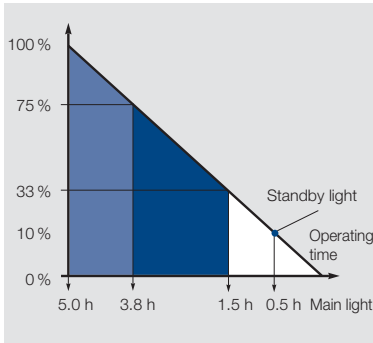
the constant voltage, the high energy density and the suitability for use in hazardous areas. Discharged NiCd batteries can easily be stored for several years. NiCd batteries have to be recycled and are almost 100 % reusable.

Furthermore new battery concepts are implemented to increase the light duration of the lamp. The hand-lamp series SEB 9 for example is equipped with new nickel-metal hydride (NiMH) batteries. The operating time of the main lamp will be increased to 7 h. (5.5 with NiCd)

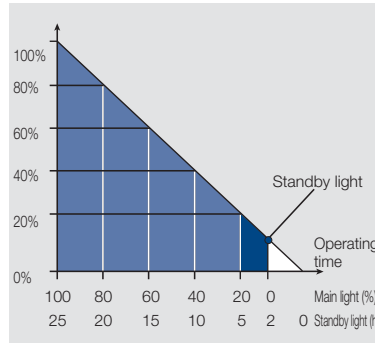
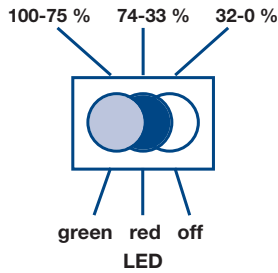
Hand lamps type „CEAG“ may be used only with certified battery packs.



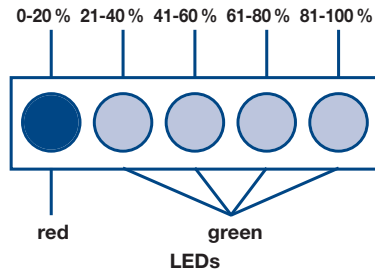
Rechargeable battery for SEB 8



Function „indication of residual operating time“ HE 8 N



Function „indication of residual operating time“ SEB 8/SEB 9



Charge state indication

Unlike with lead batteries, the charge state of NC batteries cannot be determined by means of the residual charge voltage, but must be calculated using an involved micro-processor technology. Cooper Crouse-Hinds GmbH offers various systems for this in their portable lamps.

HE 8

With lamps of the series HE 8 N/EURO PLUS the remaining duration and the charge state is indicated in three stages via a twocoloured LED display. This means that the operator is always informed about the state of the battery and can, therefore, reach a safe place before the batteries are completely run down. If the main filament breaks or when the operating life expires, the HE 8 N EN automatically switches over to the less powerful standby filament. Thus, a sudden loss of light is avoided. If the standby filament continues to be discharged, a protective circuit arrangement switches off the lamp after approx. 0.5 hours.

SEB 8... / SEB 9...

The lighting electronics in the explosion-protected searchlight SEB 8 features 5 LEDs that indicate the residual capacity in 20 % stages. If the residual capacity falls below the 20 % limit, a red LED warns the operator. Before the overdischarge protection stage is reached, the powerful main light

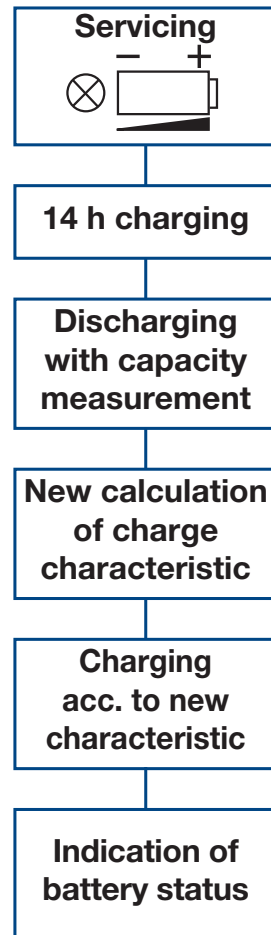
switches over to the weaker standby light to give the operator an optical signal and to conserve energy. If, to ward off any hazards, it is necessary to continue to operate the standby lamp, the standby lamp can be switched over to manual operation, whereby the monitoring electronics is bridged.

Safety functions

Each time the light is switched on, the lighting electronics check the function of the standby lamp. If the main lamp fails, the light is switched over automatically to the standby lamp. The fault is signaled by the flashing red LED.

Service circuit

Lights of the series SEB 8 feature a unique service circuit that calculates the remaining capacity according to the ageing of the battery and adapts the charge data accordingly. This ensures a gentle, service-life prolonging battery charge at all times. In addition, the operator is also given information on the state of the battery with regard to ageing and can, therefore, replace the batteries at an appropriate point in time. This means that hazards resulting from changing the batteries too early or too late are avoided. The service test is fully automatic.





The right light for every type of operation

Each type of operation calls for a specially selected light. The requirements for lights for inspection work, where a searchlight is rarely needed or is only needed for a short time, are different to those for lights for repair work, where a powerful, robust light with a long operating life is needed all the time. The CEAG-brand range provides a suitable light for almost every application possible. Due to their size and the use of primary cells, the mini, mini II, mini LED and the HF Stabex torches and the HE5 pocket torches are suited for inspections on a regular basis and as a constant companion for security personnel. The Stabex HF-L version with rechargeable

NC cells is suitable for frequent operations. Here, the extra costs for the rechargeable cells and the charger unit often pay for themselves within a relatively short time considering the maintenance costs for replacing empty batteries.

The powerful HE 8 hand lamps are either fitted with rechargeable cells or with primary batteries and can be used as work lights or searchlights.

The robust SEB 8/SEB 9 light series is used by the mobile task forces of fire brigades and rescue services, as well as for maintenance and repair work in all hazardous areas. It meets the requirements of the fire brigade standard DIN 14642. A luminous

intensity of 15,000 cd allows light to be projected up to 150 m. A consistent working light can be achieved with a diffusing lens, that is supplied with the lamp. Due to the battery capacity, long operation times of up to approx. 5.5 h resp. 7 h, do not pose a problem. The special SEB 8-ADR can be used for hazard warning in the transportation of hazardous goods.

Overview: Features of the explosion-protected hand lamps

Type of light fitting	Primary cells	Secondary cells	Built-in mains charger	External mains charger	12/24 V charger	Special features
Stabex mini	2 x R6/LR6	–	–	–	–	Single-handed operation
Stabex mini II	2 x R6/LR6	–	–	–	–	Can be focused
Stabex mini LED	3 x R6/LR6	–	–	–	–	Can be focused, Power LED
Stabex HF	2 x R20/LR20	–	–	–	–	Can be focused
Stabex HF-L	–	2 x 4 Ah	–	LG 493	–	Can be focused
Stabex MO	2 x R20/LR20	–	–	–	–	Use in Zone 0
HE 5 EN	1 x 3R12	–	–	–	–	Extremely flat design
HE 8 N EN	–	3 x 4 Ah	–	LG 483	–	Indication for residual operating time, red signal light
HE 8 EURO	3 x R20/LR20	–	–	–	–	Can be focused
HE 8 EURO PLUS	–	3 x 4 Ah	–	Plug-in charger	–	Indication of residual operating, can be focused
SEB 8	–	4 x 7 Ah	–	LG 443	Vehicle charger 90	Capacity indication, can be
SEB 8 ADR	–	4 x 5 Ah	–	LG 443	Vehicle charger 90	focused, standby light,
SEB 8 DIN	–	4 x 5 Ah	–	LG 443	Vehicle charger 90	servicing circuit
SEB 8 L	–	4 x 7 Ah	yes	LG 443	Vehicle charger 90	Capacity indication, can be focused, standby light, servicing circuit, mains charger cable with plug
SEB 9	–	4 x 9.5 Ah	–	LG 443	Vehicle charger 90	see SEB 8/SEB 8 L
SEB 9 L	–	4 x 9.5 Ah	yes	LG 443	Vehicle charger 90	
HLE 7 LEN	–	3 x 7 Ah	yes	–	–	Flexible cable from battery to headpiece

EX - T O R C H L I G H T

Stabex mini / Stabex mini II / Stabex mini LED / Stabex HF / Stabex MO

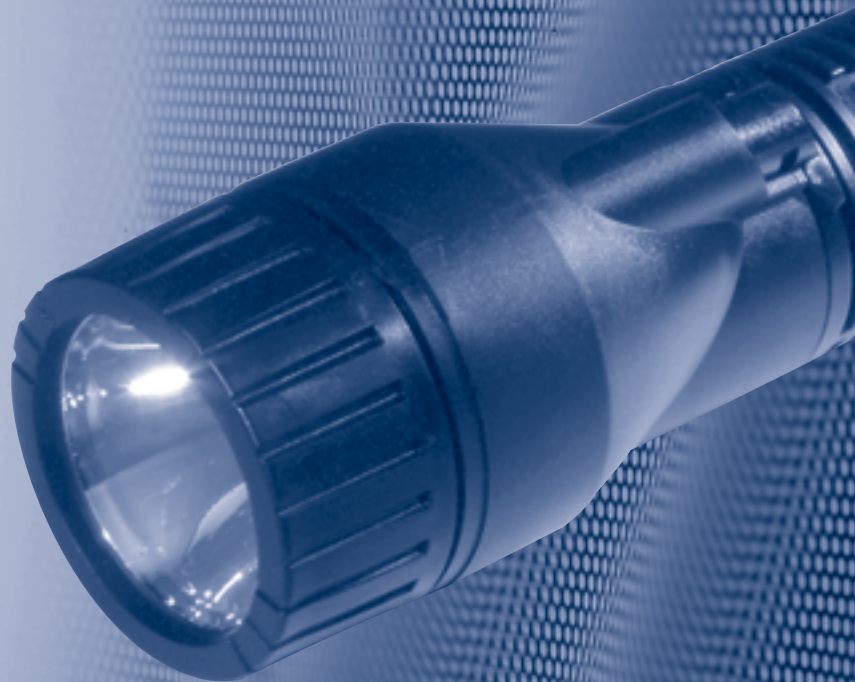
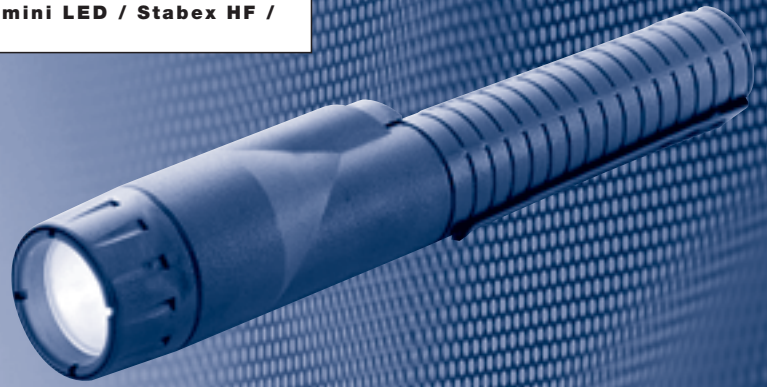
The Stabex mini, Stabex mini II, Stabex LED, Stabex HF and the Stabex HF-L range of explosion-protected torchlights meets the requirements of the ATEX-Directive 94/9/EG. The torchlights have been conceived for use in Zone 1 and Zone 2.

The Stabex mini II and mini LED are also suitable for the Zones 21 and 22. Complementary the Stabex HF and HF-L are also for use in the Zone 20. Due to the temperature classification T5/ T4 these torchlights can be used in nearly any hazardous area. Because of their compact design, the torches are used for security patrols and inspection duties. The Stabex mini II with micro-xenon filled lamp and the Stabex LED with high-power LED will reach highest light intensity with smallest battery power.

The Stabex HF and HF-L models equipped with a halogen lamp can be uniformly focused for short and long ranges.

The ergonomically designed light switch is easily operated by means of a sliding switch – even with safety gloves. The Stabex mini and mini II fitted with 2 dry cells size AA, the Stabex mini LED with 3 dry cells size AA and the Stabex HF with 2 dry cells size D.

The Stabex HF-L model is equipped with an Ex e certified handle containing 2 NiCd accumulators, that can be recharged in the LG 493 charger. By replacing the complete handle with NiCd batteries, any new Stabex HF can be converted into a rechargeable version. Due to the special design of the battery housing, a special locking device is not required. Thus, the batteries can easily be replaced outside of the hazardous area, no special tool being required.



Single-handed operation
even with work gloves

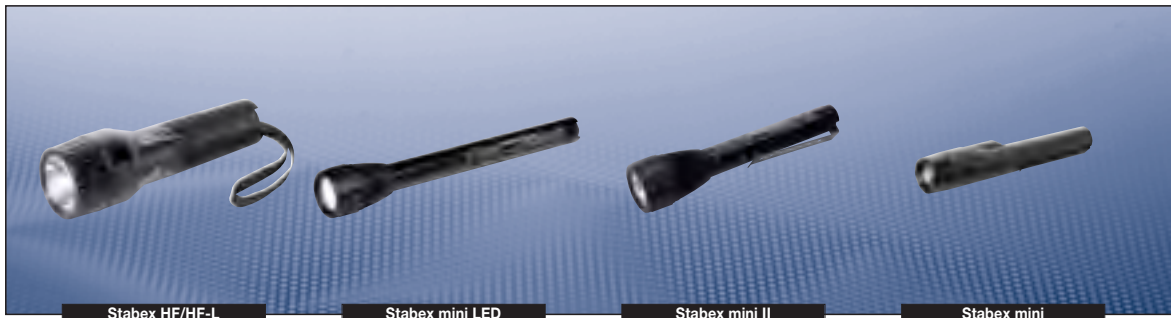
Degree of protection IP65

Light cone can be focused –
Stabex mini II/LED/ HF/HF-L

Halogen bulb – HF Stabex HF/HF-L

Scratch resistant mineral glass

International Approvals



Technical data

	Stabex mini II	Stabex mini LED
Marking to 94/9/EC	Ⓢ II 2 G Ex e ib IIC T4 Ⓢ II 2 D Ex tD A21 IP66 T56 °C	Ⓢ II 2 G Ex e ib IIC T4 Ⓢ II 2 D Ex tD A21 IP66 T85 °C
EC-Type Examination Certificate	PTB 04 ATEX 2119	BVS 08 ATEX E 158
IECEX Certificate of Conformity	IECEX BKI 08.0002	-
Marking accd. to IECEx	Ex eib IIC T4 Ex tD A21 IP66 T56 °C	-
Permissible ambient temperature	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)	-20 °C to +40 °C / +50 °C ¹⁾ specified data: 0 °C to +30 °C (battery)
Lamp/illuminant	2.3 V/0.36 A (XENON)	1 W Power LED
Max. luminous intensity	> 4000 cd	
Luminous flux	approx. 10 lm	approx. 20 lm
Battery	2 dry cell AA-size IEC 60086 R 6/LR 6	3 dry cell AA-size IEC 60086 R 6/LR 6
Rated operating duration	approx. 8 h	approx. 8 h
Rotary switch	ON - OFF (focusable)	ON - OFF (focusable)
Degree of protection accd. EN 60529	IP66	IP66
Dimension (L x W x H)	154 x Ø 34 mm	208 x Ø 34 mm
Weight	approx. 0.09 kg (without battery)	approx. 0.12 kg (without battery)
Enclosure material	Aluminium	Aluminium
Enclosure colour	black	black
Protective cover/protective bowl	Ø 24 mm, mineral glass	Ø 24 mm, mineral glass

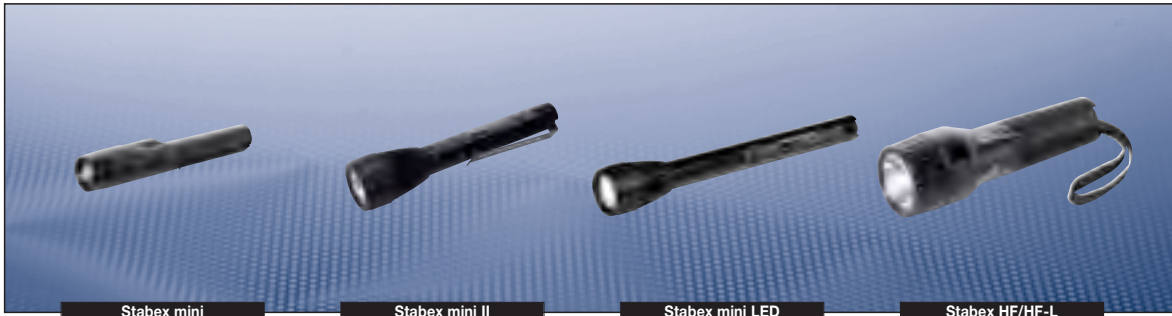
	Stabex mini	Stabex HF	Stabex HF-L
Marking to 94/9/EC	Ⓢ II 2 G Ex e ib IIC T4 Gb (applies for)	Ⓢ II 2 G Ex e ib IIC T4 Ⓢ II 1 D Ex tD A20 IP65 T90 °C	Ⓢ II 2 G Ex e ib IIC T4 Ⓢ II 2 D Ex tD A21 IP65 T57 °C
EC-Type Examination Certificate	PTB 98 ATEX 2061	PTB 98 ATEX 2062	PTB 98 ATEX 2062
IECEX Certificate of Conformity	-	IECEX BKI 08.0002	IECEX BKI 08.0002
Marking accd. to IECEx	-	Ex e ib IIC T4 Ex tD A21 IP65 T57 °C	Ex e ib IIC T4 Ex tD A21 IP65 T57 °C
Permissible ambient temperature	-20 °C to +40 °C specified data: 0 °C to +30 °C	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)
Incandescent lamp	2.2 V/0.4 A	2.8 V/0.5 A (Halogen)	2.8 V/0.5 A (Halogen)
Lamp cap	E10	PX 13.5s	PX 13.5s
Luminous flux	7 lm	17 lm	17 lm
Battery	2 dry cells IEC 60086 R 6/LR 6	2 dry cells IEC 60086 R 20/LR 20	2 rechargeable NiCd battery 1,2 V/4 Ah
Rated operating duration	approx. 8 h	approx. 12 h	7 h
Switch	ON - OFF	ON - OFF	ON - OFF
Degree of protection accd. EN 60529	IP65	IP65	IP65
Dimension (L x W x H)	166 x Ø 32 mm	220 x Ø 60 mm	220 x Ø 60 mm
Weight	approx. 0.07 kg (without battery)	approx. 0.25 kg (without battery)	0.55 kg (incl. accu)
Enclosure material	Polycarbonate	Polyamide	Polyamide
Enclosure colour	black	black	black
Protective cover/protective bowl	Ø 23 mm, mineral glass	Ø 48 mm, mineral glass	Ø 48 mm, mineral glass

Charger LG 493

Rated voltage	220 - 250 V AC
Dimensions (L x W x H)	163.5 x 151.5 x 129 mm
Weight	approx. 1.3 kg
Charging duration	max. 14 h (dep. on the state of charge)

¹⁾ Depends on battery, see operation manual

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Ordering details | Accessories

Type	Scope of delivery	OU	Order No.
Stabex mini (Phase out type)	with incandescent lamp, without battery (set order qty's 10 units)	10	1 1358 000 001

Accessories for Ex-torchlight Stabex mini

Type	OU	Order No.
1 incandescent lamps 2.2 V/0.4 A	10	1 1358 000 070

Type	Scope of delivery	OU	Order No.
Stabex mini II	with xenon lamp, without battery (set order qty's 10 units)	10	1 1360 000 001
Stabex mini LED	mit LED, without battery (set order qty's 10 units)	10	1 1360 000 006

Accessories for Ex-torchlight Stabex mini II / LED

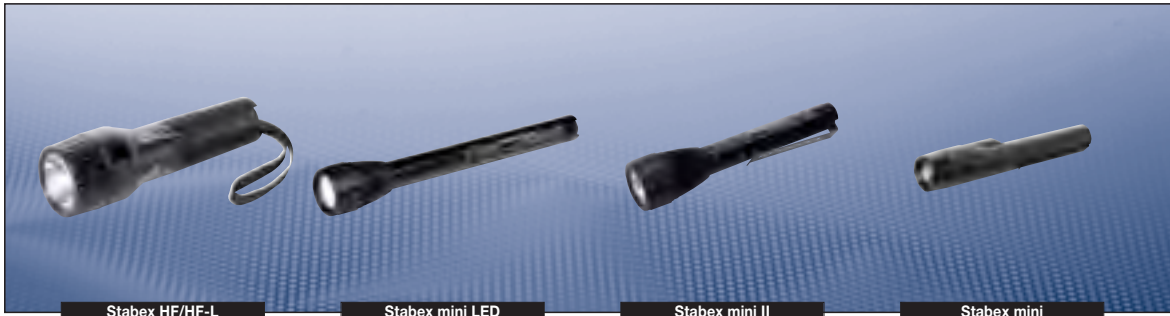
Type	OU	Order No.
Xenon lamp 2.3 V/0.36 A for Stabex mini II	10	1 1360 002 001
Bumbag Stabex mini II	1	3 1360 001 900
Bumbag Stabex mini LED	1	3 1360 006 900

Type	Scope of delivery	OU	Order No.
Stabex HF	with halogen lamp, without battery	1	1 1359 000 001
Stabex HF-L (rechargeable)	Lamp with halogen lamp and battery	1	1 1359 000 010
Charger LG 493	for Stabex HF-L	1	1 1540 000 493

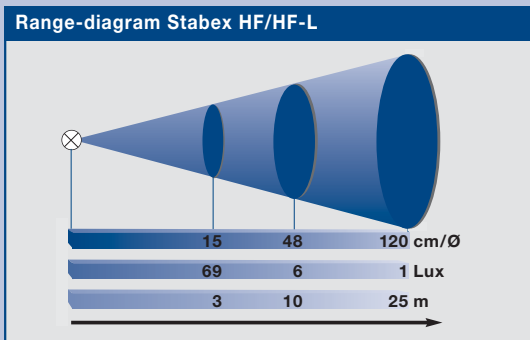
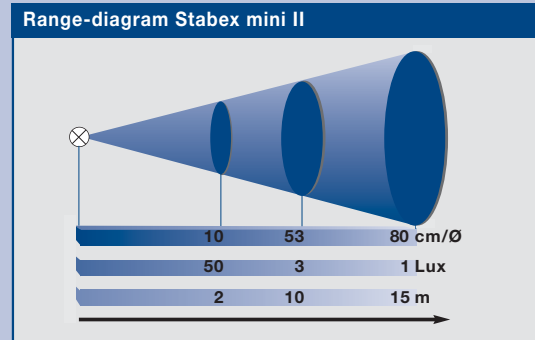
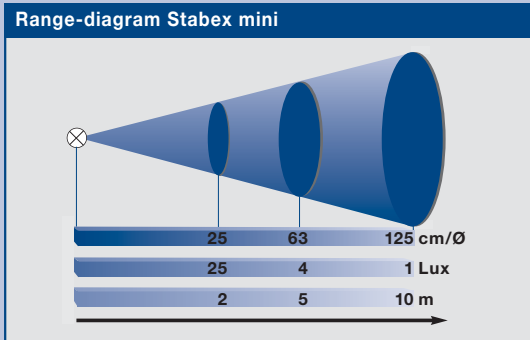
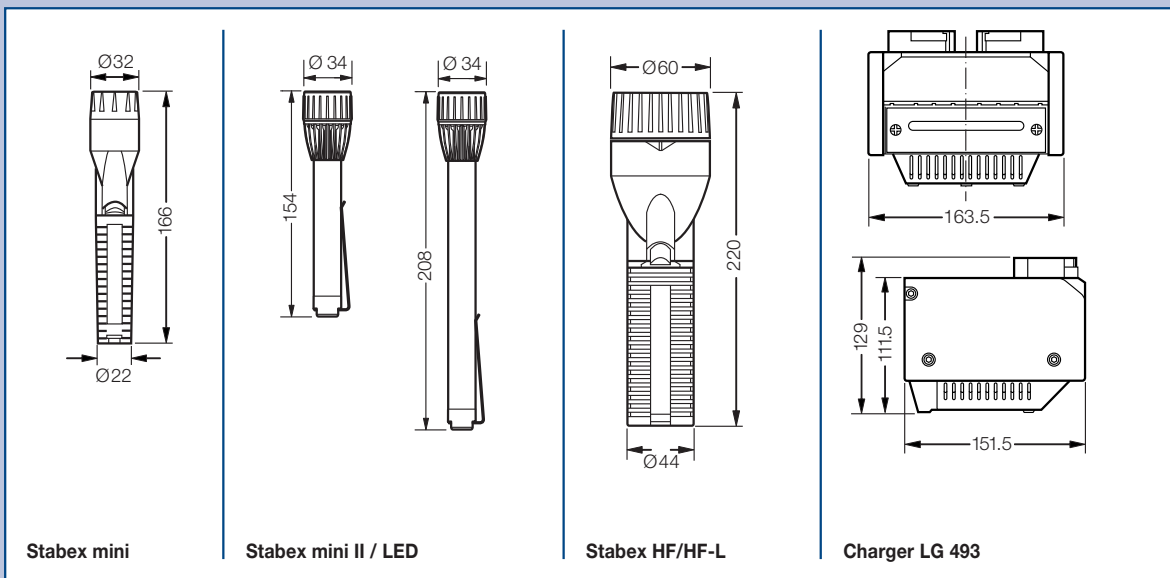
Accessories for Ex-torchlight Stabex HF/HF-L

Type	OU	Order No.
1 halogen lamp 2.8 V/0.5 A	10	1 1359 000 070
Handle with 2 NC battery	1	2 1359 200 000

Please note that only Order Unit (OU) can be ordered.



Dimension drawing | Range-diagram



Dimensions in mm

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EX - TORCHLIGHT

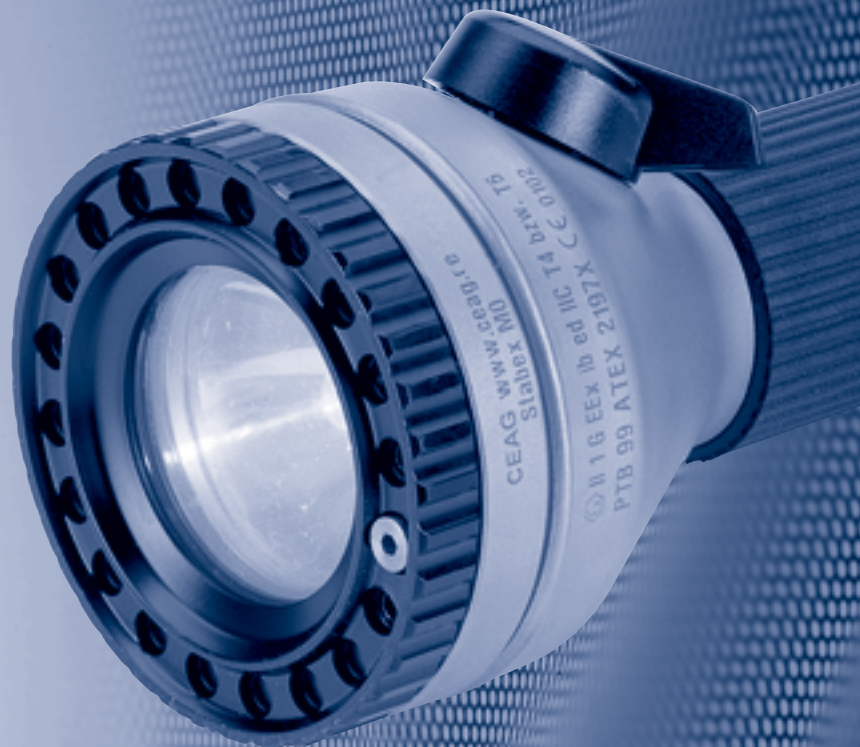
Stabex M0

The Stabex M0 was specially developed as an inspection lamp for gas or empty mineral oil tanks where the permanent hazard of an explosive gas atmosphere exists.

The Stabex M0 explosion-protected torch has specifically been approved for use in Zone 0 hazardous areas up to the temperature class T6, and also fulfills the ATEX-Directive 94/9/EG.

The Zone 0 safety requirements are met, since a permanent overlapping of 2 to 3 explosion categories is provided for. The torchlight may be operated in the Zone 0 without additional safety measures up to a height of 5 metres above ground level. After use, the lamp must not be left in the Zone 0 hazardous areas.

The rotary switch is designed for singlehanded operation. Even when safety gloves are worn, it can be operated without difficulty. The housing of the extremely robust torch is made of stainless steel and bronze which prevents the generation of ignitable sparks due to impact. The multipart front pane is made of mineral safety glass. The torch is equipped with 2 dry cells size D according 8 IEC 86 LR20 which are impact-protected by a metal sheath.

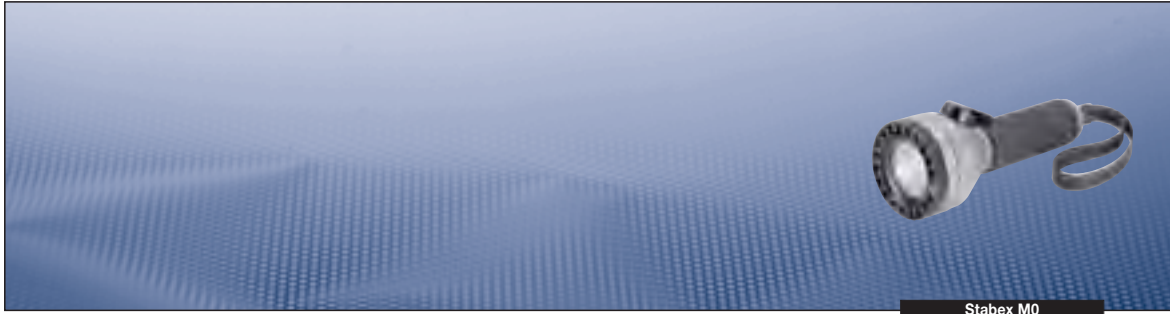


Zone 0

Extremely robust housing made of stainless steel and bronze

Ergonomic switch design makes it suitable for operation with safety gloves

International Approvals



Stabex M0

Technical data

Stabex M0	
Marking to 94/9/EC	Ⓔ II 1 G EEx ib ed IIC T6/T4
EC-Type Examination Certificate	PTB 99 ATEX 2197 X
Permissible ambient temperature	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)
Incandescent lamp	2.5 V/0.3 A
Light aperture	Ø 44 mm, mineral glass
Battery	2 dry cells IEC 60086 R 20/LR 20 (T6/T4)
Operating time	approx. 12 h (alkaline battery)
Luminous flux	approx. 12 lm
Degree of protection accd. EN 60529	IP65
Weight	approx. 2.2 kg (without battery)
Enclosure material	Stainless steel/bronze
Max. permitted height of fall	5 m

Phase out type

Ordering details | Accessories

Type	Scope of delivery	Order No.
Stabex M0	with incandescent lamp and battery	1 1350 000 001

Accessories for Ex-torchlight Stabex mini		
Type	OU	Order No.
1 incandescent lamp 2.5 V/0.3 A	5	1 2041 820 000
Protective sheath for battery	1	3 1350 001 024

Dimension drawing | Range-diagram

Stabex M0

Range-diagram Stabex M0

14	70	120 cm/Ø
63	2,5	1 Lux
2	10	16 m

Dimensions in mm

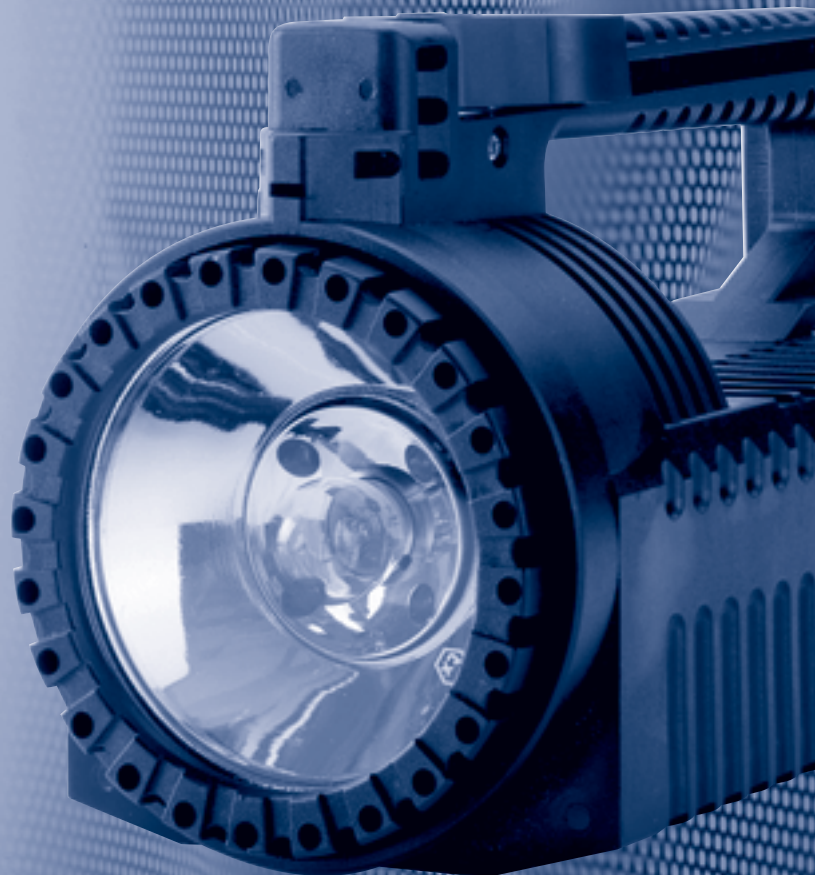
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E X - H A N D L A M P

HE 5 EN / HE 8

The powerful handlamps meets the requirements of ATEX-Directive 94/9/EG and has been approved for use in Zones 1 and 2 hazardous areas. These lamps are particularly suitable for inspection and repair work, security patrols, and in railway workshops and shunting yards and inspection duties. The lamps have been designed for single-handed operation. Due to its flat, handy shape the lamp HE 5 with temperature class T6 can be put in any pocket. There is also a strap for fastening the lamp to clothing or to a belt. By the use of both a parabolic reflector and a fresnel lens, a light distribution is obtained which equally serves short and long distances. The battery is a (flat) 4.5 V dry battery to IEC 60086 3 R 12. The handlamps HE 8 EN fulfils additional requirements. By means of the light switch it can be switched over to a red signal light, which is produced by 4 powerful light emitting diodes visible at a long range. The working light can be uniformly focused for a short and long range. In conjunction with the LG 483 charger, the light is automatically switched on in the event of a mains failure (non-maintained system mode). While the working light is switched on, an electronic indication of the residual operating time is provided. During the charging process the charging state is also indicated. In case of a broken filament or at the end of the duty cycle, the hand lamp automatically switches over to the stand by light. The built-in safety circuit prevents the deep discharge of the battery. The battery insert is fitted with a rechargeable NiCd battery (3.6 V/4 Ah). The lamp is charged in the LG 483 charger. When the battery is charged, only the amount of energy that has been used will be replaced. The HE 8 EURO is fitted with 3 dry batteries while the HE 8 EURO PLUS is fitted with a rechargeable, gas-tight NiCd battery. By using the rechargeable battery insert, the HE 8 EURO can be converted into a type HE 8 EURO PLUS.

- Up to temperature class T6
- Handy shape
- Scratch resistant mineral glass
- Gentle charge dependent on the drawn capacity (HE 8 N EN)
- Reversible to red signal light by light switch (HE 8 N EN)
- Indication of residual operating time and charging state (except HE 8 EURO)
- Degree of protection up to IP65
- International Approvals





Technical data

HE 5 EN	
Marking to 94/9/EC	⊕ II 2 G EEx e ib T6/T4 / ⊕ II 2 G Ex e ib T4/T6 Gb (applies for)
EC-Type Examination Certificate	PTB 99 ATEX 2196
Permissible ambient temperature	-20 °C to +40 °C / specified data: 0 °C to +30 °C (battery)
Incandescent lamp	3.7 V/0.3 A
Battery	Flat battery 4.5 V IEC 60086 3 R 12 (T6) resp. IEC 60086 3 LR12 (T4)
Operating time	approx. 6 h
Switch	Slide switch „ON - OFF“
Degree of protection accd. EN 60529	IP54
Enclosure material	Polyamid / black
Weight	approx. 0.14 kg (without battery)
Light aperture	Ø 40 mm, mineral glass

	HE 8 N EN	HE 8 EURO/HE 8 EURO PLUS
Marking to 94/9/EC (new standard)	⊕ II 2 G EEx e ib IIC T4 ⊕ II 2 G Ex e ib IIC T4 Gb (applies for)	⊕ II 2 G EEx e ib IIC T4 ⊕ II 2 G Ex e ib IIC T4 Gb (applies for)
EC-Type Examination Certificate	PTB 98 ATEX 2063	PTB 98 ATEX 2063
Permissible ambient temperature	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)	-20 °C to +40 °C specified data: 0 °C to +30 °C (battery)
Incandescent lamp	3.75 V / 0.8 / 0.4 A	4 V / 0.82 A
Battery	rechargeable NC battery (3.6 V/4 Ah)	EURO: battery insert for 3 x 1.5 V/IEC 60086, R 20/LR 20 EURO PLUS: batter insert with rechargeable NC battery 3.6 V/4 Ah
Operating time	approx. 5 h	approx. 10 h (HE 8 EURO) approx. 4 h (HE 8 EURO PLUS)
Rotary switch	3 positions „Main beam - OFF - signal light (red)“	3 positions „Main beam - OFF - main beam“
Degree of protection accd. EN 60529	IP65	IP65
Enclosure material	Polyamide/black	Polyamide/black
Function	- Indication of residual operating time - Emergency light in event of mains failure - Charge depending on the drawn capacity - Red signal light, switchable - Switching for standby light or in case of broken filament	- Easily replaceable battery insert - Halogen lamp with double bulb - Indication of residual operating time (HE 8 EURO PLUS) - Protection against overcharge (HE 8 EURO PLUS)
Weight	approx. 1.0 kg (with battery)	approx. 0.64 kg (HE 8 EURO, without battery) approx. 1.0 kg (HE 8 EURO PLUS, with battery insert, rechargeable)
Light aperture	Ø 71 mm, mineral glass	Ø 71 mm, mineral glass

	Charger LG 483	Plug-in charger HE 8 EURO PLUS
Rated voltage	220 - 250 V AC 50/60 Hz	220 V ± 10 %, 50/60 Hz
Input power	12 VA	6.5 VA
Insulation class	II	II
Charging duration	max. 8 h (dep. on the state of charge)	16 h (for approx. 4 h operating time) > 24 h (for approx. 5 h operating time)
Degree of protection accd. EN 60529	IP 31	IP 20
Weight	approx. 1.3 kg	approx. 0.42 kg

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**HE 5 EN | HE 8 N EN | HE 8 EURO/HE 8 EURO PLUS | Charger LG 483 |
 Plug-in charger HE 8 EURO PLUS |**



Ordering details

Type	Scope of delivery	Order No.
HE 5 EN	with incandescent lamp, without battery	1 1125 000 111

Accessories for Ex-pocket torch HE 5 EN

Type	OU	Order No.
1 incandescent lamps 3.7 V/0.3 A	10	1 2041 810 000

Type	Scope of delivery	Order No.
HE 8 N EN	with incandescent lamp and battery	1 1118 000 050
Charger LG 483		1 1540 000 483

Accessories for Ex-hand lamp HE 8 N EN

Type	OU	Order No.
Battery pack with NC-battery 3.6 V/4 Ah	1	2 1118 020 000
1 incandescent lamps 3.75 V/0.8/0.4 A	5	1 2035 300 000

Type	Scope of delivery	Order No.
HE 8 EURO	with lamp, without battery	1 1118 000 001
HE 8 EURO PLUS	with lamp and battery pack, rechargeable	1 1118 000 010
Plug-in charger		1 1518 000 111

Accessories for Ex-hand lamp HE 8 EURO/EURO PLUS

Type	OU	Order No.
Battery pack with NC-battery 3.6 V/4 Ah, rechargeable	1	2 1118 024 000
Halogen lamp with double bulb 4 V/0.82 A	1	2 2061 080 000



Plug-in charger

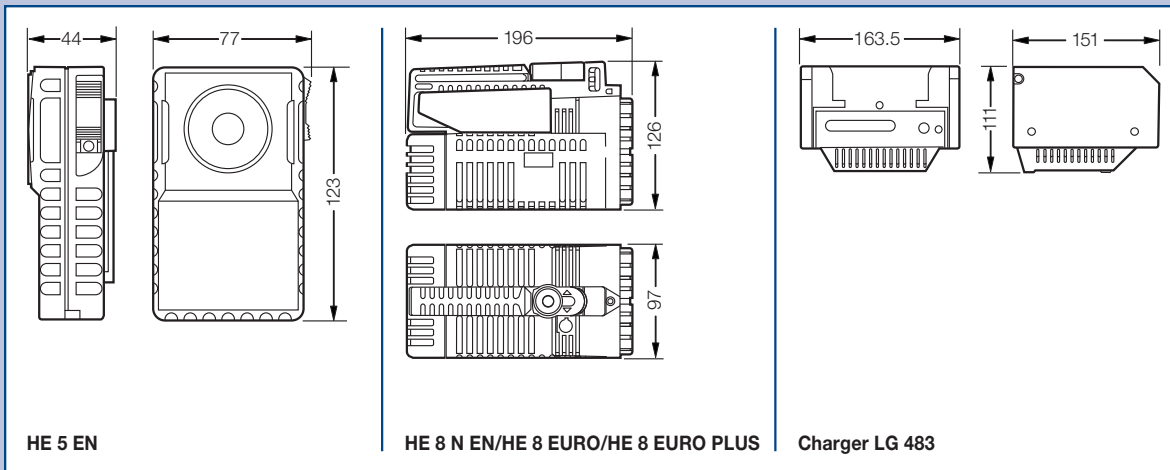
Charger LG 483

HE 8 Euro Plus

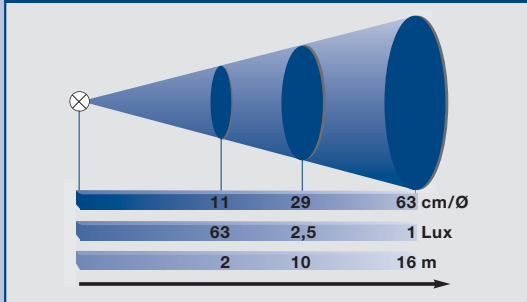
HE 8 N EN

HE 5 EN

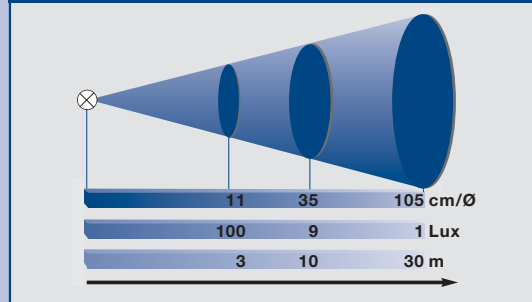
Dimension drawing | Range-diagram | Indication of residual operating time



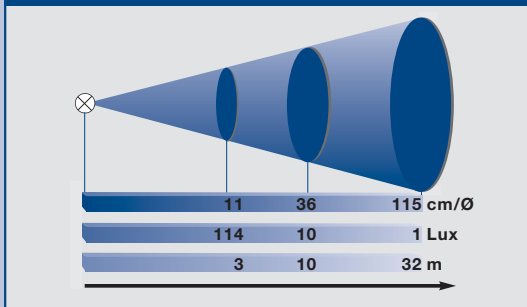
Range-diagram HE 5 EN



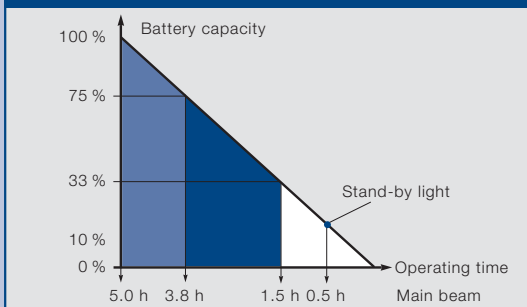
Range-diagram HE 8 N EN



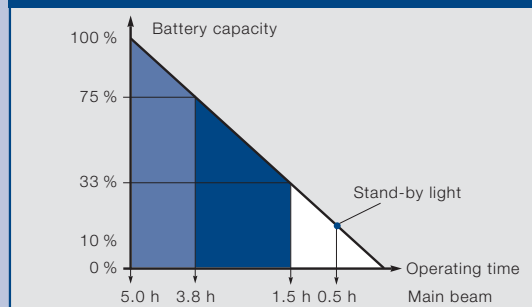
Range-diagram HE 8 EURO/EURO PLUS



Indication of residual operating time HE 8 N EN



Indication of residual operating time HE 8 EURO PLUS



Dimensions in mm

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SEB 8 ADR as a warning light according to StVZO and ADR-Directives

For special operations such as a warning and inspection light for the transport of hazardous goods by road the Cooper Crouse-Hinds GmbH has developed the SEB 8 ADR. This version has been certified by the Federal Motor Vehicle Department as a warning and inspection light according to the Road Traffic Regulations and has been issued with an EC-Type Examination Certificate. According to the ATEX-Directive 94/55/EG, this lamp can be used across Europe as a hazard warning and inspection light for the transportation of hazardous good on the road. This is possible due to optimized orange filter and the special switching technology.

Charging possibilities SEB 8.. / SEB 9..

The SEB 8.../SEB 9... model can be charged from a motor vehicle battery using the vibrationproof motor vehicle holder (10-33 V) or from the mains supply of the LG 443 charger. The SEB 8 L/SEB 9 L model features an integrated mains connecting lead by means of which it can be recharged from the 230 V mains supply.



SEB 8/SEB 8 L as search and work light

SEB 8 / SEB 9

A search and working light

This explosion-protected portable searchlight has been developed in order to comply with the requirements for control and rescue operations of the police and the fire brigade. The electronics of the lamp are reliably protected against electromagnetic fields (EMC). They are in accordance with the ATEX-Directive 94/9/EG. Special for operations where a constant luminosity is required the prism filter will give you a quadratic working light with a uniform, widespread luminous intensity distribution and that with no major loss. Slip-on coloured filters extend the range of functions for the SEB 8 such as safeguarding and giving signals.



SEB 8 ADR as a warning light in the transportation of hazardous goods on the road

SEB 8 DIN

The compliance with relevant standards and the various options makes this explosion-protected search light to an exceeding handlamp for controlling- and rescue applications of fire brigades and other public forces. Hence, it is listed with almost all public and local fire brigades in Germany and for many years exceedingly successfully in use of application.

The robust and proven technology ensures with a high **protective grade IP65** a save function, even on high mechanical stress and wet locations. The ergonomic single-handed operation, the belt hook and the limited weight according the new standard guarantees the user-friendly application.

A NiCd accumulator 4.8 V/5 Ah and an **operation period of 5.5 hours** the SEB 8 DIN provides a safety reserve on site and exceed at all the standard requirements.

All required lighting tasks are fulfilled by the use of the excellent light technology of the xenon main-light lamp 4.8 V/4 W. In addition focusing the light from searchlight to scattered light and a max. luminous intensity of more than **12,000 cd** will meet all requirements of lighting.

Approvals and test certificates

These search lamp fulfil as the only one of its kind the following construction- and test standards and passed following Approvals and test certificates:

- DIN14642 (German Institute for Standardization) for explosions protected hand lamps with motor vehicle charger edition 9/2003, for installation within vehicles of the fire brigade.
- EC Type Examination Certificate for explosion protection for gas-ex and dust-ex-areas (ATEX Certificate)
- ECC type approval of the Federal Office for Motor Vehicles for the

EMC guideline 95/54/EC using within motor vehicles (e1 certificate)

- Shock test report according to DIN EN 60068-2-27 for the use of the lights in fire brigade vehicles (DIN 1846-2:2001)
- General design approval of the Federal Office for Motor Vehicles for the use of the SEB 8 as a warning light (type SEB 8 ADR).





Technical data

	SEB 8...	SEB 9...
Marking to 94/9/EC	Ⓜ II 2 G Ex e ib IIC T4 Ⓜ II 2 D Ex tD A21 IP66 T85 °C	Ⓜ II 2 G Ex e ib IIC T4 Ⓜ II 2 D Ex tD A21 IP66 T85 °C
EC-Type Examination Certificate	BVS 08 ATEX E 116	BVS 09 ATEX E 005
Permissible ambient temperature	-20 °C to +40 °C, specified data: 0 °C to +30 °C (battery)	-20 °C to +40 °C, specified data: 0 °C to +30 °C (battery)

	SEB 8 SEB 8 L SEB 9 SEB 9 L	SEB 8 ADR	SEB 8 DIN SEB 8 L DIN
EC-Type approval acc. guideline 95/54/EC	[e1]	[e1]	[e1]
EMV in vehicles	23025	23025	23025
Approved design of Federal Office for motor vehicles	-	~ K 265	-
Incandescent lamp	5.5 V/5.5 W (halogen lamp with double lamp)	5.5 V/5.5 W (halogen lamp with double lamp)	4.8 V/4 W (Xenonlight)
Lamp cap	BA 15d	BA 15d	BA 15d
Pilot lamp	4.8 V/0.3 A	4.8 V/0.3 A	4.8 V/0.3 A
Lamp cap 2	BA 9s	BA 9s	BA 9s
Max. luminous intensity	15000 cd	15000 cd	12000 cd
Luminous flux	approx. 100 lm	approx. 100 lm	approx. 65 lm
Battery	SEB 8: NC-Battery rechargeable 4.8 V/7 Ah SEB 9: NiMH-Battery rechargeable 4.8 V/9.5 Ah	NC-Battery, rechargeable 4.8 V/7 Ah	NC-Battery, rechargeable 4.8 V/5 Ah
Rated operating duration (main light)	SEB 8: approx. 5.5 h SEB 9: approx. 7 h	approx. 5.5 h	approx. 5.5 h
Charging duration	SEB 8: max. 14 h (capacity-dependent) SEB 9: max. 20 h (capacity-dependent)		
Rotary switch	Service – pilot light – Off – main light – signal		
Degree of protection accd. EN 60529	IP65	IP65	IP65
Dimensions (L x W x H)	325 x 119 x 146.5 mm	325 x 119 x 146.5 mm	343 x 119 x 146.5 mm
Weight	SEB 8: 2.2 kg/SEB 8L: 2.5 kg SEB 9: 1.9 kg/SEB 9L: 2.2 kg	2.2 kg	SEB 8 DIN: 1.6 kg SEB 8 L DIN: 2.2 kg
Enclosure material	Polyamide	Polyamide	Polyamide
Enclosure colour	black	black	black
Protective cover/protective bowl	Ø 98 mm mineral glass	Ø 98 mm mineral glass	Ø 98 mm mineral glass
Function	microprocessor-controlled operating period indication, capacity-dependent charge flashing light, emergency light, switching for standby light or in case of broken filament, internal charger		

Integrated Charger SEB 8 L | SEB 9 L

Rated voltage	230 V
Frequency	50 - 60 Hz

Charger LG 443 for SEB 8/9 ...

Rated voltage	220 - 250 V
Frequency	50 - 60 Hz
Dimension (L x W x H)	163.5 x 151 x 111 mm

Motor vehicle charger 90 for SEB 8/9 | SEB 8/9 L | SEB 8 ADR

Rated voltage	10 - 33 V DC
Dimension (L x W x H)	152.5 x 145 x 128 mm

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Ordering details

Type	Scope of delivery	Order No.
SEB 8 L	With halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable directly about mains lead, LG 443 or motor vehicle charger 90)	1 1147 000 001
SEB 8	With halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable with LG 443 or motor vehicle charger 90)	1 1147 000 002
SEB 8 ADR	With halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable with LG 443 or motor vehicle charger 90)	1 1147 000 200
SEB 9 L	With halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable directly about mains lead, LG 443 or motor vehicle charger 90)	1 1147 009 001
SEB 9	With halogen lamp with double bulb, pilot lamp, diffusing lens and battery (rechargeable with LG 443 or motor vehicle charger)	1 1147 009 002

Accessories for Ex-hand lamps SEB 8/9 / SEB 8/9 L / SEB 8 ADR

Type	OU	Order No.
Battery set 7 Ah, 4.8 V NC	1	2 1147 701 000
Battery set 9.5 Ah, 4.8 V NiMh	1	2 1147 791 000
Conversion kit for motor vehicle charger 90	1	2 1147 400 000
Halogen lamp with double bulb 5.5 V/5.5 W	1	1 2061 000 040
1 Incandescent lamp 4.8 V/0.3 A (pilot lamp)	10	1 2041 450 000
Radial diffuser cap, orange	1	2 1145 017 000
Slip on filters red, orange, green	1	2 1147 300 000
Slip-on filter orange with adapter and magnet for SEB 8 ADR	1	1 1147 080 000

Type	Scope of delivery	Order No.
SEB 8 DIN	with belt hook, xenon-main light, pilot lamp, Prismenlinse und Batterie (rechargeable with LG 443 or motor vehicle charger 90)	1 1147 000 004
SEB 8 L DIN	with belt hook, xenon-main light, pilot lamp, diffusing lens and battery (rechargeable directly about mains lead, with LG 443 or motor vehicle charger 90)	1 1147 000 003

Accessories for Ex-searchlight SEB 8 DIN

Type	Scope of delivery	OU	Order No.
Battery set	5 Ah, 4.8 V NC	1	2 1147 512 000
Main beam	4.8 V/4 W	1	1 2061 001 400
Incandescent lamp	4.8 V/0.3 A (pilot lamp)	10	1 2041 450 000
Belt hook	stainless steel hook	1	2 1147 500 000

Type	Scope of delivery	Order No.
Charger LG 443	220 V - 250 V AC	1 1540 000 443
Motor vehicle charger 90	10 V - 33 V DC	1 1145 000 792
Wall bracket SW	console without charging module	1 1145 000 795



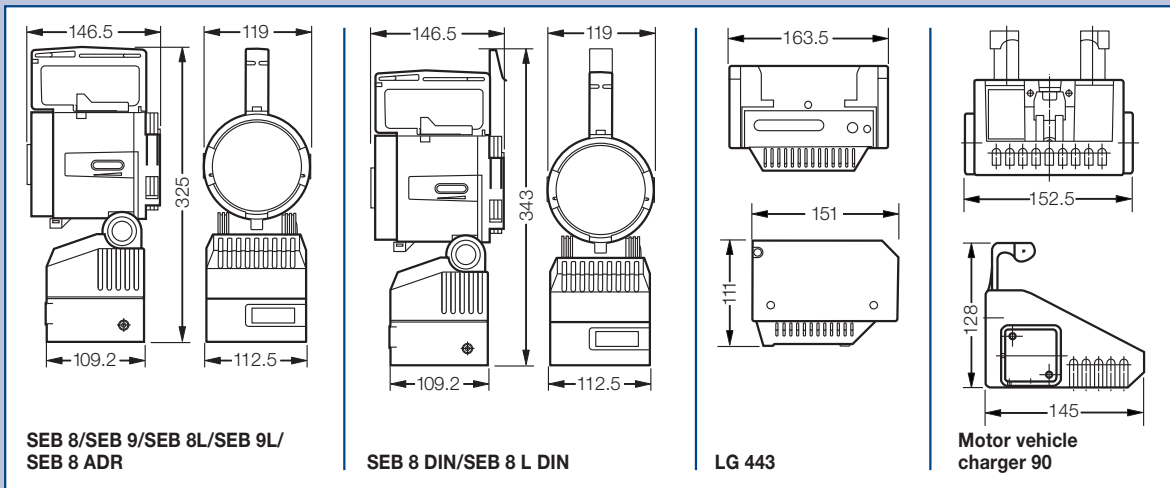
Motor vehicle charger 90

Charger LG 443

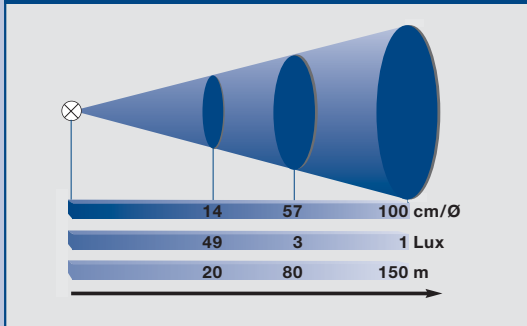
SEB 8 ADR as warning light

SEB 8 DIN

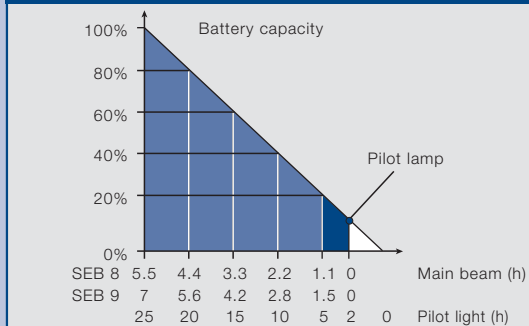
Dimension drawing | Range-diagram | Indication of residual operating time



Range-diagram



Indication of residual operating time



Dimensions in mm

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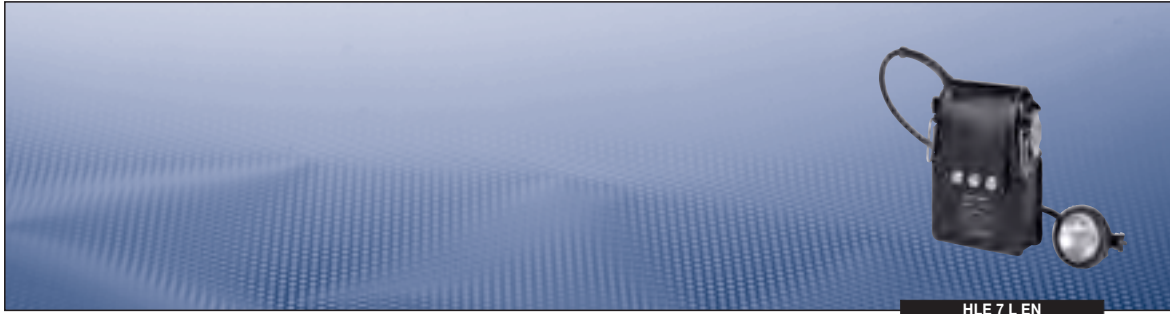
EX - C A P L I G H T

HLE 7 L EN

The explosion-protected HLE 7 L EN has been developed as a working and inspection lamp for tunnelling and for duties in sewage systems. It is in accordance with the ATEX-Directive 94/9/EG and has been approved for use in the Zones 1 and 2 hazardous areas up to the temperature class of T4. The lamp can easily be fixed onto the headpiece holder of the protective helmet. The main or secondary filament of the two-filament lamp is operated by the switch on the headpiece. The lamp has a highly flexible neoprene-sheathed connecting cable. The battery container is additionally protected by a leather case. The powerful energy source consists of a three-cell maintenance free and gas-tight 7 Ah NiCd battery which can be charged from the 230 V mains supply by means of the provided connecting lead. The battery has an integrated charging circuit. The battery container does not have to be opened for charging. A red and green LED indicate the charging state.



- Abrasion resistant flexible connection between battery and headpiece
- Powerful maintenance free, gastight 7 Ah battery
- Battery container with integrated charging circuit
- Red and green LED's indicating the charging state
- Two-filament lamp provides safety in case of a broken filament
- International Approvals



HLE 7 L EN

Technical data

HLE 7 L EN	
Marking to 94/9/EC	Ⓔ II 2 G EEx e ib IIC T4 / Ⓔ II 2 G Ex e ib IIC T4 (applies for)
EC-Type Examination Certificate	PTB 99 ATEX 2194
Permissible ambient temperature	-20 °C to +40 °C, specified data: 0 °C to +30 °C (battery)
Permissible ambient temperature during charging	0 °C to +35 °C
Rated voltage	230 V ± 10 %, 50/60 Hz
Input power	4 VA
Insulation class	II
Incandescent lamp	3.75 V / 0.8 / 0.4 A
Battery	rechargeable NC battery 3.6 V/7 Ah
Operating time	approx. 8 h
Charging duration	max. 18 h
Light aperture	Ø 65 mm, mineral glass
Rotary switch	4 positions: „OFF - pilot light - OFF - main light“
Degree of protection accd. EN 60529	IP54
Weight	approx. 2.0 kg (with battery)
Enclosure material	Polyamide/black
Function	- Integrated charger - Charge state indication - Two-flament lamp

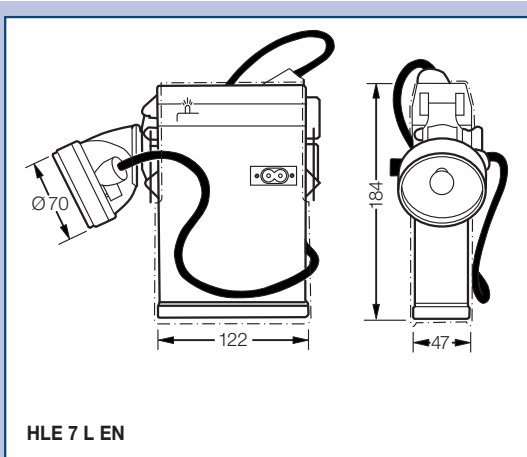
Ordering details

Type	Scope of delivery	Order No.
HLE 7 L EN	with incandescent lamp, battery and mains connection lead	1 1229 000 416

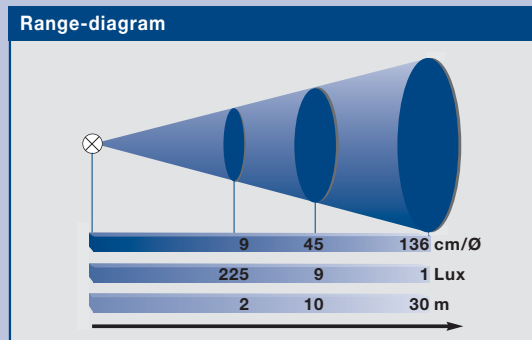
Accessories for Ex-cap light HLE 7 L EN

Type	OU	Order No.
Power supply complete	1	2 1229 456 000
1 Incandescent lamp 3.75 V/0.8 A/0.4 A	5	1 2035 520 000
Belt	1	3 0231 001 011
Head ribbon for helmets	1	2 1261 191 000

Dimension drawing | Range-diagram



HLE 7 L EN



Dimensions in mm

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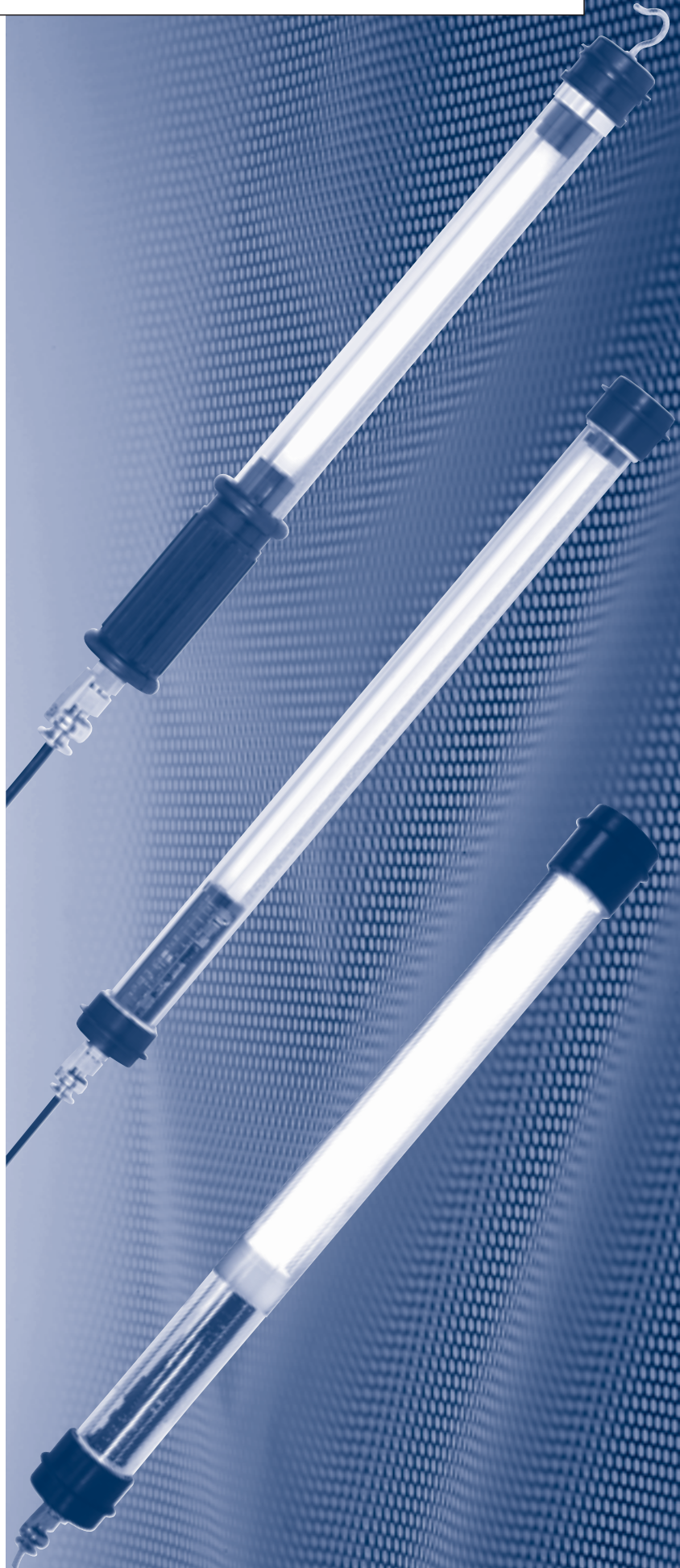
EX - HAND AND MACHINE LAMPS

HL/ML 43 / HL/ML 50 / HL/ML 60 / HL/ML 70
with fluorescent lamps and LEDs

These explosion-protected hand- and machine lamps with fluorescent or LED illuminants were designed especially for inspection and maintenance work in potentially explosive atmospheres, such as are found in the chemical industry, in offshore installations, in the automobile sector, in the aircraft industry and in shipyards.

Due to the small dimensions combined with a high light output, these robust lamps are particularly well suited for use in confined spaces, inside machines and in silos, etc., as well as anywhere where a reliable, portable light source is needed. Together with the appropriate accessories (optional), these lamps can also, for example, be used at sampling openings or as level gauges, or they can be fitted to railings.

When working in confined spaces, containers and silos with metallic materials, special attention shall be paid to the protection of persons in accordance with the installation requirements. Lamps for low-voltage operation (24 V - 50 V) or with an isolating transformer (TR version) are available for such applications. Alternatively, earth-leakage circuit breakers with a rated tripping current of 10 mA can also be used. The explosion-protected versions of these protection devices can be positioned in the immediate vicinity of the lamps. Due to the low surface temperatures, they may also be mounted in the immediate vicinity of combustible materials.



Single and twin-lamp versions
from 6 W to 58 W

Rated voltage ranges 24/230 V AC/DC

With electronic ballast

Robust protective tube made of
polycarbonate

Suited for use in gas and dust
Ex-atmospheres

Safety standard IP68

Application range

The powerful, explosion-protected hand and machine lamps with bi-pin fluorescent lamps fulfil the requirements of ATEX directive 94/9/EC. They are generally suited for use in potentially explosive gas atmospheres in Zones 1 and 2, as well as in potentially explosive dust atmospheres in Zones 21 and 22, and are approved for temperature class T5 or surface temperatures up to 80°C.

Constructional features

The explosion-protected hand and machine lamps feature an integrated electronic ballast (EVG) and are available with one or two built-in fluorescent lamps. Depending upon the type, they are approved for various supply voltages. The light-transmitting, protective tube is made of impact-resistant polycarbonate and features a built-in reflector. The lamp caps are made of robust neoprene rubber.

Versions

Hand lamps (marking E) feature a grooved grip made of neoprene rubber with a metal, trumpet-shaped gland

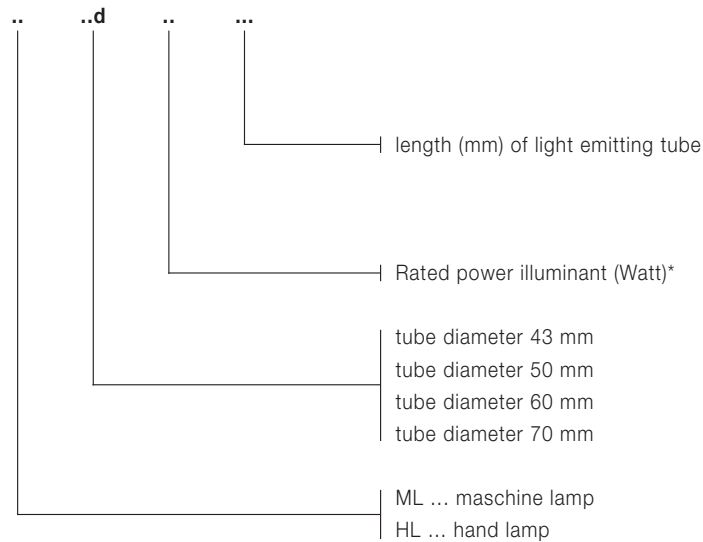


and a neoprene rubber end cap with hook for hanging up the lamp at the workplace.

Machine lamps (marking EM) are used for the local illumination of machines and parts thereof. They are also ideally suited for use as level gauges. They feature a metal trumpet-shaped gland and two neoprene rubber caps. They can be mounted directly onto the machines with suitable clamps.

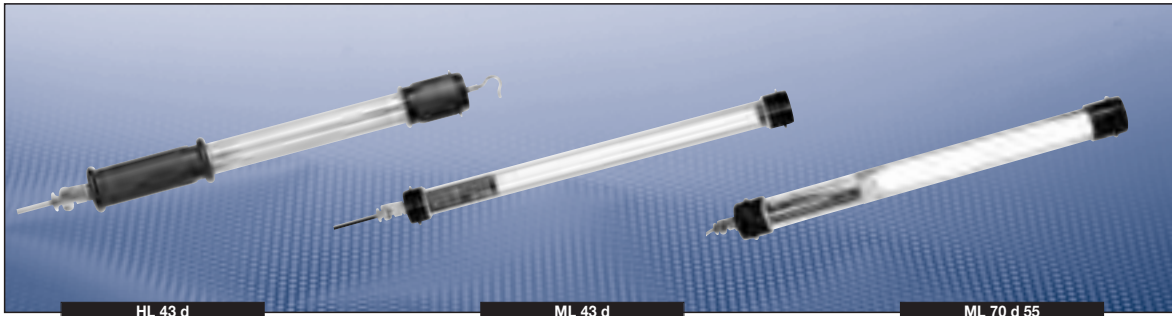
Lamps with isolating transformer (marking TR) are particularly suited for the safe protection of persons. For this purpose there is a completely potted isolating transformer for the galvanic isolation of the lamp from the supply voltage in the power supply cable.

Type code



* Twin-lamp version is marked with ./2

Ex-lamps with electronic ballasts (EVG) |



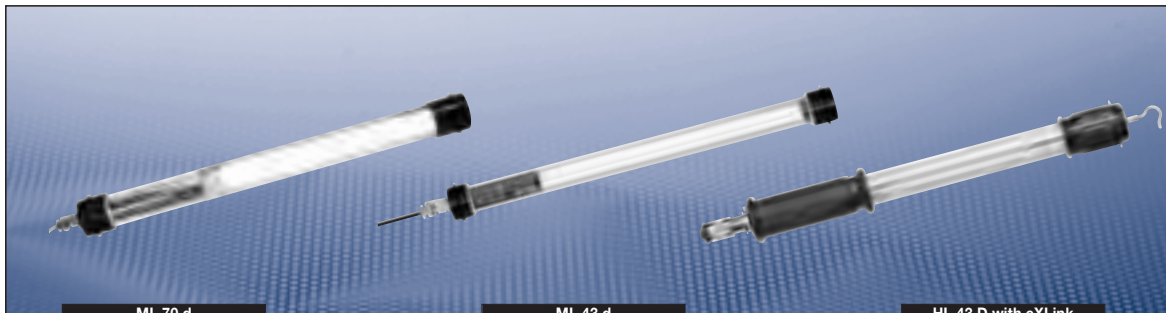
Technical data

	HL 43 d/ML 43 d	ML 50/60/70 d
Marking to 94/9/EC	Ⓔ II 2 G Ex d IIC T5 Ⓔ II 2 D Ex tD A21 IP68 T95 °C	Ⓔ II 2 G Ex d IIC T5 Ⓔ II 2 D Ex tD A21 IP68 T95 °C
EC-Type Examination Certificate	BVS 07 ATEX E 164 X	BVS 07 ATEX E 164 X
IECEX-Certificate of Conformity	IECEX BVS-08.0014X	IECEX BVS-08.0014X
Marking to IECEx	Ex d IIC T5 Gb Ex t IIIC T95 °C Db (IP68)	Ex d IIC T5 Gb Ex t IIIC T95 °C Db (IP68)
Permissible ambient temperature	-20 °C to +40 °C -20 °C to +60 °C (option)	-20 °C to +40 °C -20 °C to +60 °C (option)
Rated voltage 1	230 V AC/DC	110 - 240 V AC/DC
Rated voltage 2	24 V AC/DC	24 - 50 V AC/DC
Frequency	50 - 400 Hz	50 - 400 Hz
Power	max. 13 W ¹⁾	max. 58 W ¹⁾
Power factor cos V	> 0.95	> 0.95
Ballast	EVG integrated	EVG integrated
Standard cable length	5 m cable 3 x 1 mm ² without plug ²⁾	5 m cable 3 x 1 mm ² without plug ²⁾
Insulation class	I resp. II	I resp. II
Lamp/illuminant	¹⁾	T8/TC-L ¹⁾
Lamp cap	G5	2G11 (PL-lamps) / G13 (18 - 58 W)
Luminous flux	¹⁾	¹⁾
Degree of protection accd. EN 60529	IP68	IP68
Dimension (L x W x H)	¹⁾	¹⁾
Weight	¹⁾	¹⁾
Enclosure colour	black	black
Protective cover/protective bowl	Polycarbonate	Polycarbonate

¹⁾ see Ordering details

²⁾ Plug on request, optional with eXLink® coupler

| Ex-lamps with electronic ballasts (EVG) |



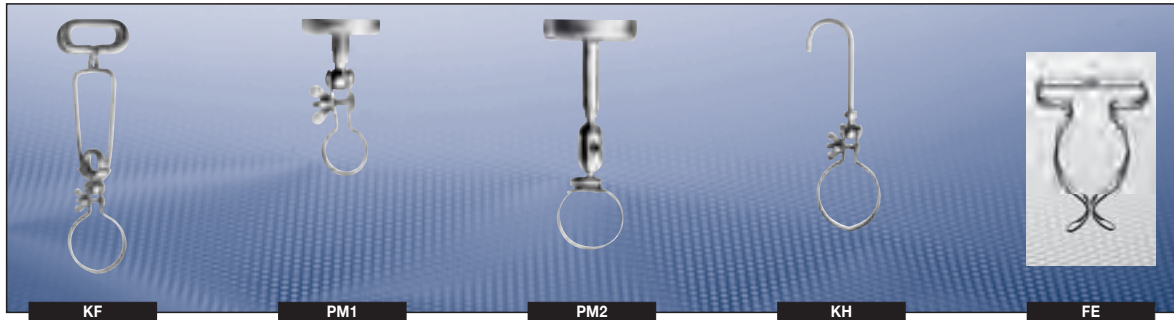
Ordering details

Type	with fluorescent lamps	Lamp cap	Luminous flux ¹⁾ lm	Dimensions			Weight approx. kg	Order No.
				A mm	Ø B mm	Ø C mm		
24 V AC/DC hand lamps								
HL43d 6 383	1 x 6 W	G 5	215	563	66	43	1.4	1 1700 000 000
HL43d6/2 383	2 x 6 W	G 5	430	563	66	43	1.5	1 1700 000 005
HL43d8460	1 x 8 W	G 5	448	640	66	43	1.5	1 1700 000 001
HL43d8/2 460	2 x 8 W	G 5	896	640	66	43	1.6	1 1700 000 006
HL43dLED6 460 (DC)	6 W LED	-	315	640	66	43	1,5	1 1700 000 003
24 V AC/DC machine lamps								
ML43d6383	1 x 6 W	G 5	215	504	66	43	1.4	1 1700 000 010
ML43d6/2383	2 x 6 W	G 5	430	504	66	43	1.5	1 1700 000 015
ML43d8460	1 x 8 W	G 5	448	581	66	43	1.5	1 1700 000 011
ML43d8/2460	2 x 8 W	G 5	896	581	66	43	1.6	1 1700 000 016
230 V AC/DC hand lamps								
HL43d6383	1 x 6 W	G 5	215	563	66	43	1.4	1 1700 000 200
HL43d6/2383	2 x 6 W	G 5	430	563	66	43	1.5	1 1700 000 205
HL43d8460	1 x 8 W	G 5	448	640	66	43	1.5	1 1700 000 201
HL43d8/2460	2 x 8 W	G 5	896	640	66	43	1.6	1 1700 000 206
HL43d13690	1 x 13 W	G 5	949	870	66	43	1.7	1 1700 000 202
HL43dLED6 460	6 W LED	-	315	640	66	43	1,5	1 1700 000 107
230 V AC/DC machine lamps								
ML43d6383	1 x 6 W	G 5	215	504	66	43	1.4	1 1700 000 210
ML43d6/2383	2 x 6 W	G 5	430	504	66	43	1.5	1 1700 000 215
ML43d8460	1 x 8 W	G 5	448	581	66	43	1.5	1 1700 000 211
ML43d8/2460	2 x 8 W	G 5	896	581	66	43	1.6	1 1700 000 216
ML43d13690	1 x 13 W	G 5	949	811	66	43	1.7	1 1700 000 212
24-50 V AC/DC machine lamps								
ML50d18920	1 x 18 W	G 13	1296	1041	72	50	2.4	1 1700 000 310
ML50d301225	1 x 30 W	G 13	2460	1346	72	50	2.4	1 1700 000 311
ML60d361530	1 x 36 W	G 13	3348	1651	82	60	2.8	1 1700 000 312
ML60d581830	1 x 58 W	G 13	5220	1951	82	60	3.2	1 1700 000 313
ML70d18570(PL)	1 x 18 W	G 13	1200	691	92	70	2.2	1 1700 000 317
ML70d24665(PL)	1 x 24 W TC-L	2G11	1800	786	92	70	2.8	1 1700 000 316
ML70d36761(PL)	1 x 36 W TC-L	2G11	2900	882	92	70	3.4	1 1700 000 315
ML70d55881(PL)	1 x 55 W TC-L	2G11	4780	1002	92	70	3.8	1 1700 000 314
110-240 V AC/DC machine lamps								
ML50d18870	1 x 18 W	G 13	1296	991	72	50	2.4	1 1700 000 510
ML50d301175	1 x 30 W	G 13	2460	1296	72	50	2.4	1 1700 000 511
ML50d361480	1 x 36 W	G 13	3348	1601	72	50	2.8	1 1700 000 512
ML60d581780	1 x 58 W	G 13	5220	1901	82	60	3.2	1 1700 000 513
ML70d18522(PL)	1 x 18 W	G 13	1200	643	92	70	2.2	1 1700 000 517
ML70d24617(PL)	1 x 24 W TC-L	2G11	1800	738	92	70	2.8	1 1700 000 516
ML70d36713(PL)	1 x 36 W TC-L	2G11	2900	834	92	70	3.4	1 1700 000 515
ML70d55833(PL)	1 x 55 W TC-L	2G11	4780	954	92	70	3.8	1 1700 000 514

¹⁾ Depends on lamps

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Ex-lamps with electronic ballasts (EVG)



Accessories

Clamp with ball joint KF

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
KFV 3	40	265	0.260	1 1700 000 900
KFV 4	50	280	0.260	1 1700 000 901

Fixing clip - INOX 1.4301

Type	for diameter in mm	Dimensions height in mm	Weight kg	Order No.
BS 70	70	-	0.012	1 1700 000 951

Spring clip FE

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
FE 3	40	62	0.020	1 1700 000 930
FE 4	50	78	0.023	1 1700 000 931

Permanent magnet PM 1 (adhesion 10 kg)

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
PM 1	50	130	0.210	1 1700 000 911

Permanent magnet PM 2 (adhesion 50 kg)

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
PM 2	40	190	0.680	1 1700 000 915
PM 2	50	205	0.680	1 1700 000 916
PM 2	53	207	0.680	1 1700 000 917
PM 2	60	215	0.680	1 1700 000 918
PM 2	70	225	0.680	1 1700 000 919
PM 2	80	235	0.680	1 1700 000 920

Suspension hook with ball joint KH

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
KH 4	50	183	0.115	1 1700 000 921
KH 5	53	185	0.118	1 1700 000 922
KH 6	60	195	0.120	1 1700 000 923
KH 7	70	205	0.123	1 1700 000 924
KH 8	80	215	0.127	1 1700 000 925

Eye bolt with ball joint M5 - INOX 1.4301

Type	for diameter in mm	Height A in mm	Weight kg	Order No.
RS 4	15	58	0.034	1 1700 000 950

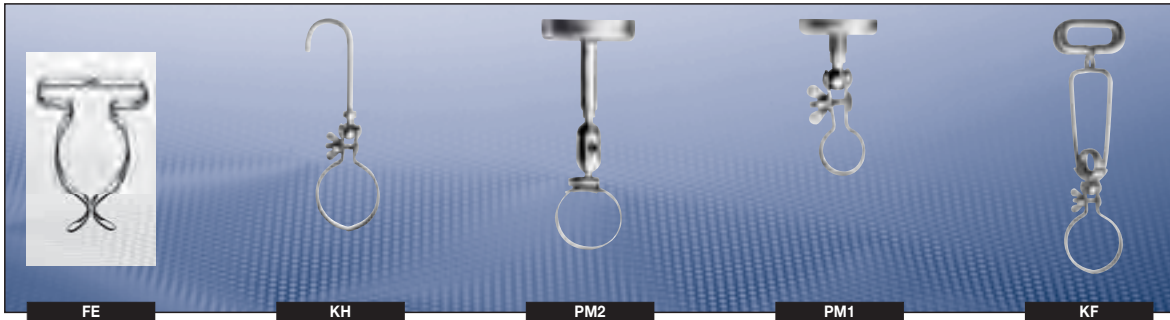
Plastic pipe clamp

Type	for diameter in mm	Height C in mm	Width A in mm	Order No.
CILC 63	63 - 71	115	78	1 1700 000 960
CILC 71	71 - 80	124	87	1 1700 000 961
CILC 80	80 - 90	136	98	1 1700 000 962

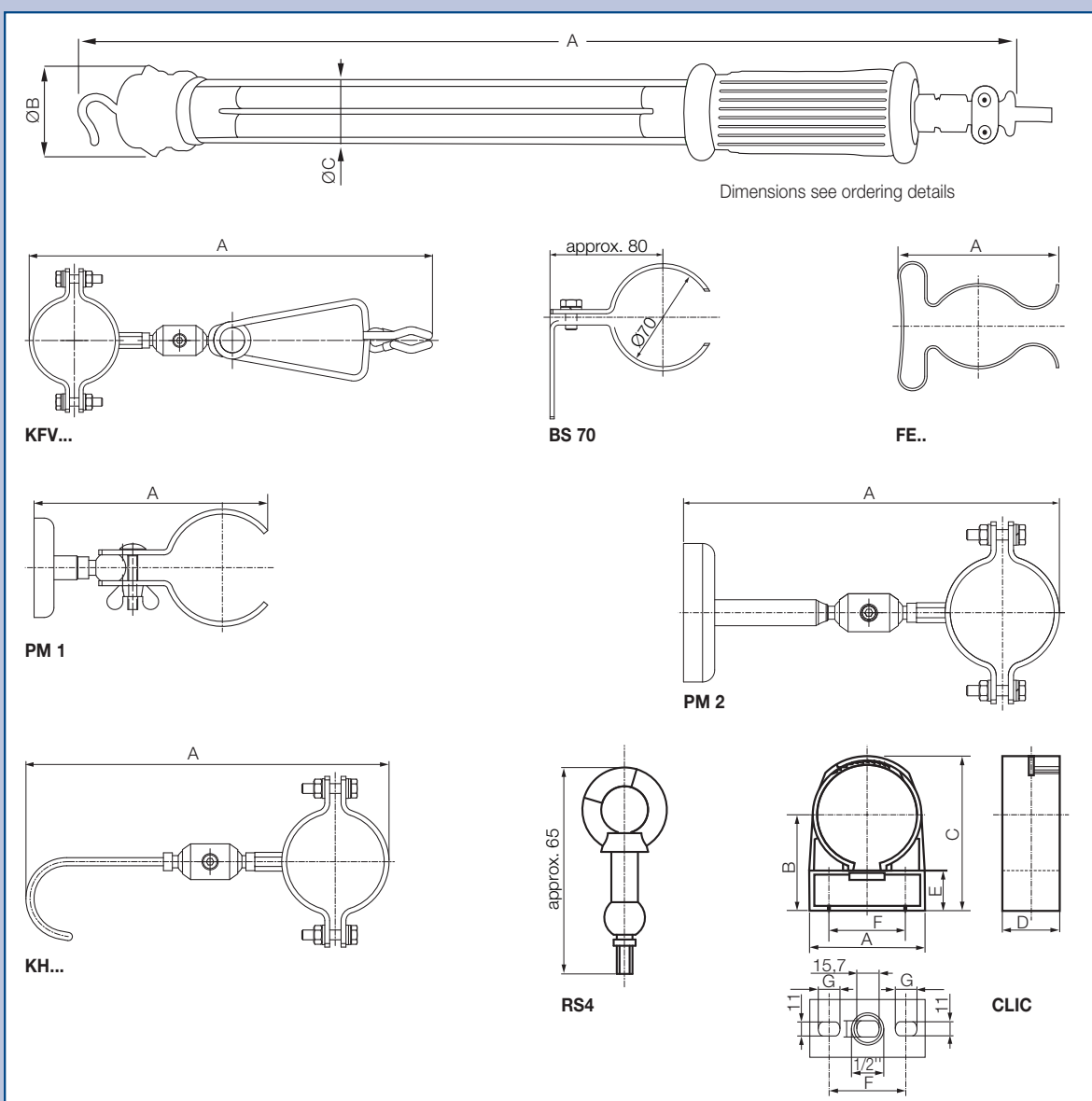
Luminaire key SCH

Type	Application	Weight kg	Order No.
SCH 2	Luminaire key	0.1	1 1700 000 940

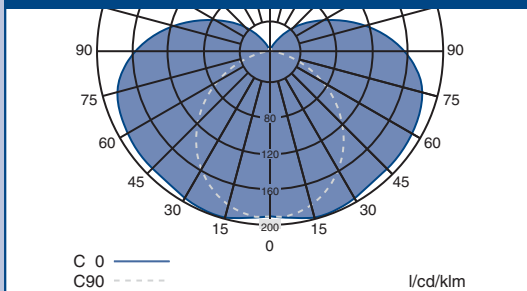
Ex-lamps with electronic ballasts (EVG)



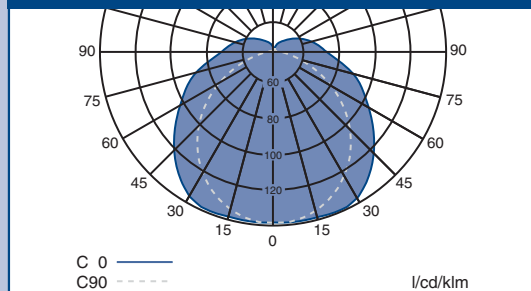
Dimension drawing | Polar curve



Polar curve HL../ML.. (single lamp)



Polar curve HL../ML..d (TC-Lamp) (twin lamp)



Dimensions in mm

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EX - TANK INSPECTION LAMP

FOC Fibre-Optic Light Guide Cable with 25 m long portable system for operating in Zone 0

In order to create adequate working lighting in the Zone 0 areas during maintenance work, only hand-held lamps, such as the Stabex MO with relatively low levels of light, have been available to date. But if large areas of illumination are needed, a system to light up the inside of the tank in Zone 0 is now available for the first time in the form of the new Tank Inspection Lamp FOC 25.

Mechanical Version

The system comprises 2 units:

1. A transport trolley with a fixed cable reel, an Ex-de lamp housing and a supply cable with a plug allow the transport and operation of the light cable system in Zone 1. The size of the cable reel is also designed to prevent intentional access through the tank opening.
1. The 25 m long fibre-optic cable may be introduced into Zone 0 after the equipotential bonding has been connected.



High light capacity in Zone 0 (approx. 300 lm)

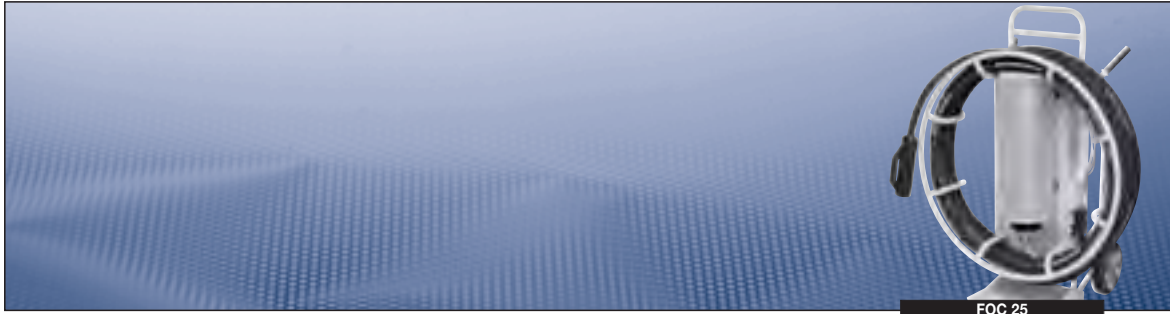
metal halide lamp 150 W with electronic ballast and specially sized reflector for use with light guide systems

Permanently installed transport carriage with large wheels (200 mm diameter) for easier and safer handling even on uneven ground

Light guide cable with highest degree of protection IP67

Only a screw terminal is needed for central equipotential bonding, since the protective hose that conducts electricity and the conductive wheel construction include the whole system

High-quality protective hose for the light guide cable pursuant to EN 12115 in a chemical and oil-resistant design



FOC 25

Technical data

Transport trolley with light source (Equipment 1)

Marking to 94/9/EC	⊕ II 2 G Ex de IIC T4 ¹⁾
EC-Type Examination Certificate	PTB 02 ATEX 2179
Permissible ambient temperature	-20 °C to +40 °C
Rated voltage	220 V - 230 V AC
Rated current	1.8 A
Frequency	50 Hz
Ballast	EVG
Cable length	approx. 2.5 m with CEE-plug 16 A Zone 1
Insulation class	I
Lamp/illuminant	150 W Halogen metal vapour lamp
Degree of protection accd. EN 60529	IP66
Dimension (L x W x H)	1305 x 1000 x 600 mm
Type of mounting	mobile trolley
Enclosure material	Metal
Enclosure colour	yellow

Fibre-optic base (Equipment 2)

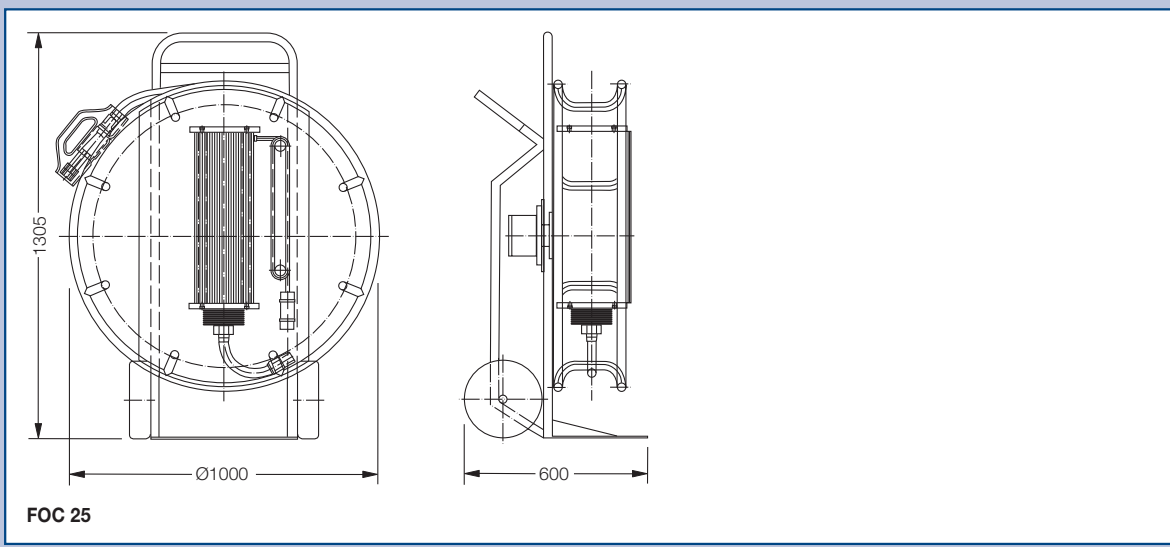
Marking to 94/9/EC	⊕ II 1 G Ex IIC T6
Degree of protection accd. EN 60529	IP67
Luminous flux	approx. 300 lm
Dimension (L x W x H)	25 m fibreoptic light guide cable
Total weight of the system	112 kg

¹⁾ Fulfils IEC 31WG8/TD3 protection against ignition by optic radiation

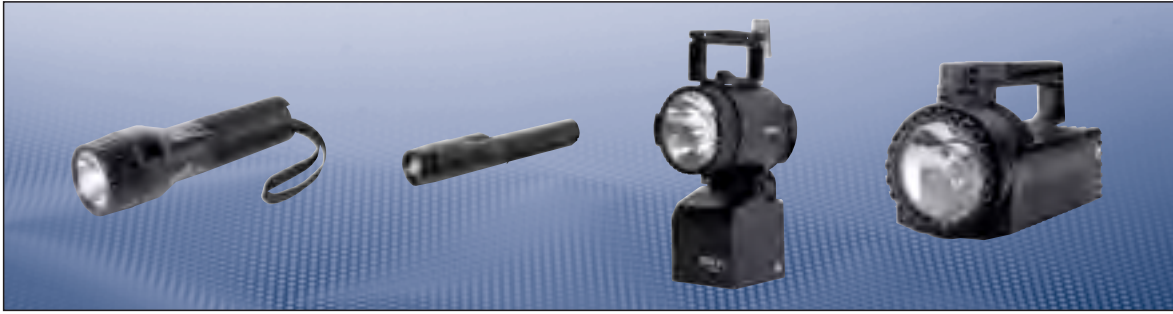
Ordering details

Type	Scope of delivery	Order No.
FOC 25	incl. 25 m light guide cable	1 3032 000 001

Dimension drawing



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Accessories

On the following page you will find Accessories and Spare Parts for the portable Ex-Lamps covered in chapter 1.

Spare Parts

As well as the above, there is also a large amount of spare parts available for maintenance and repair work. If required, please contact us, you will find that we will be more than pleased to help you. We must point your attention to the fact that repair work done on explosive-protected products must be carried out with original spare parts only! If this is not the case and third-party parts are used, the Certification and Approval for the product will be forfeited and a possible reduction of the explosion-protection may be achieved.

Repair Service

Of course the Cooper Crouse-Hinds GmbH upholds its own repair department where customer repairs are carried out. Our qualified and schooled personnel carry out repairs and overhauling using original spare parts, quickly and efficiently. This service also includes the end quality testing needed for explosion-protected products. With this service you have an "assured safety" as do all overhauled Ex-Lamps and products by Cooper Crouse-Hinds GmbH.

Repair Schooling/Training

Repairs on explosion-protected electrical products must be carried out by qualified Electricians only! For our customers to be able to repair explosion-protected goods themselves we offer Qualification Training Courses in our house several times a year. Each trainee will become extensive training documentation and will, after having completed the course, a course completion certification. Please get in contact with us if you require further informaton.

