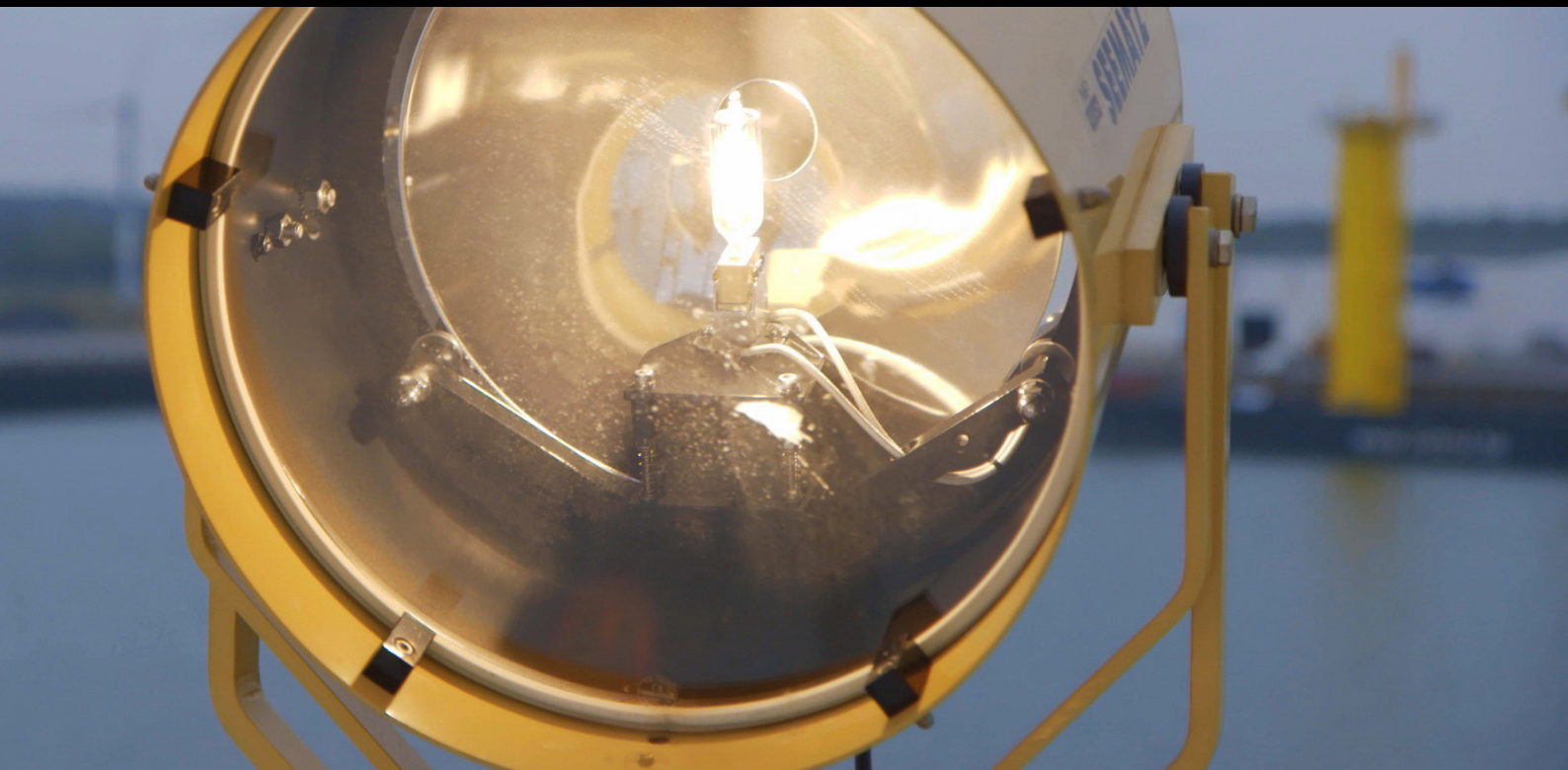


SEEMATZ SEARCHLIGHTS



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SEEMATZ

The brand Seematz is part of the Pesch GmbH corporation, an innovative production company that exists since 1970. The company started to specialize in the production of sturdy searchlights already in the '70s. Particularly, maintaining in service in the highly demanding environment of open sea was a precondition to the development of the Seematz searchlights, since the roughest conditions are to be found onboard seagoing vessels.

The many years of experience with the Seematz searchlights were taken into account while developing the current product assortment. Today, with more than 45 years of experience gained in the maritime sector, Seematz offers searchlights and straight line window wipers of unparalleled quality and reliability. Since 1984, Theunissen is representing the Seematz searchlights and window wipers for the Benelux area.

CHARACTERISTICS SEEMATZ SEARCHLIGHTS

- Very low maintenance
- Robust technique
- Proven durability
- Simple electrical connection
- Quick replacement lamp (insertion unit)
- Available in Xenon, Halogen and LED
- Housing seawater resistant
- 45 years of experience
- Customized versions possible
- Quick and easy replacement
- Available in any RAL color
- Range up to 30.000m
- Auto Swiveling (optional)



SEEMATZ SEARCHLIGHTS

Seematz searchlights are available in three types of light, LED, Halogen and Xenon. Halogen lamps offer competitive price levels combined with ample of light and a rather wide beam, suitable for close operations including man overboard situations. Xenon is recommended when a high amount of light, a narrow angle or a long distance range is necessary. Xenon also delivers a bright colour including a large part of the blue spectrum, making it the most suitable for arctic environments.

LED is often chosen for its long lifespan and low cost of ownership (minimum maintenance). The latest versions of LED searchlights also offer various new advantages: a wide beam LED searchlight is even more suitable for close operations than halogen, while a 463 LED narrow beam is capable of meeting the high demands for use onboard Fi-Fi ships.

Lamp types

HGS = Halogen lamp
 XBO = Xenon short-arc lamp
 LED = Light-emitting diode

Standard Sizes

Sizes are indicative for the reflector diameter (in mm)

- 273
- 351
- 463
- 525
- 750 (Suez size)

Steerings / operation

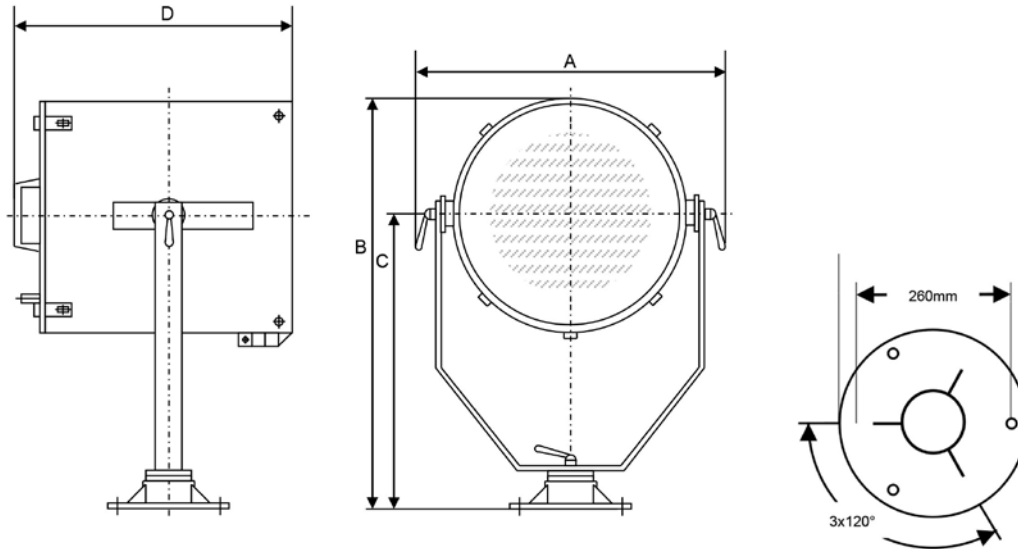
DS Direct operation at searchlight
DH Direct operation at searchlight incl. pedestal
WS Searchlight with column into the wheelhouse
WH Searchlight with column into the wheelhouse, on a 1m pedestal above deck
EF Electrical remote controlled searchlight

Power

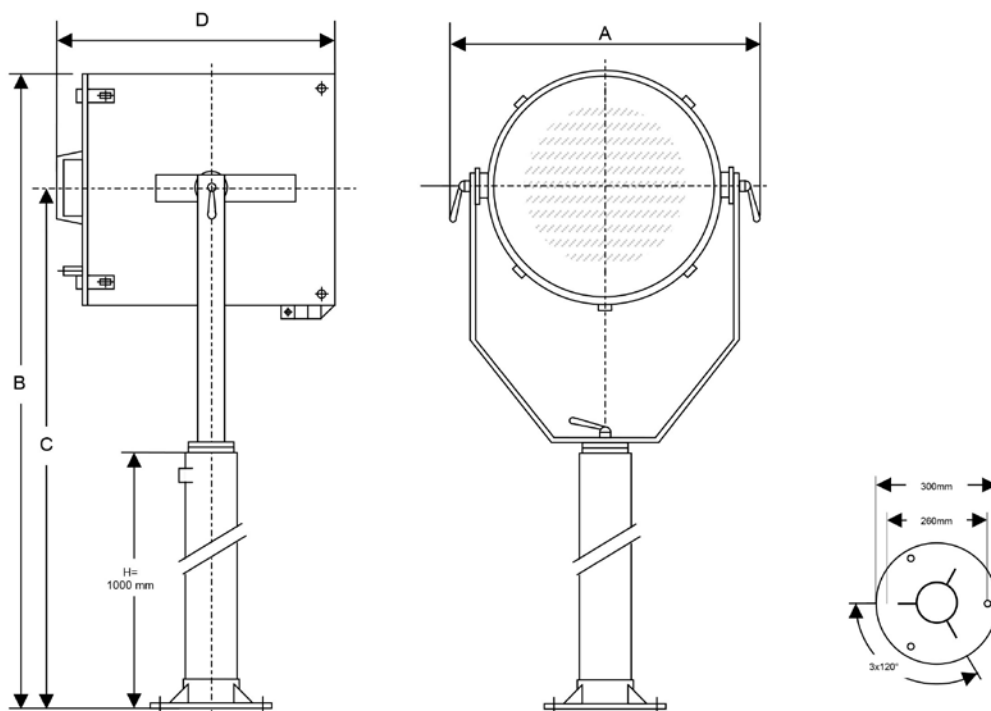
HGS 250W up to 2000W
 LED 75W up to 220W
 XBO 450W up to 6000W
 Suez 2000/3000W



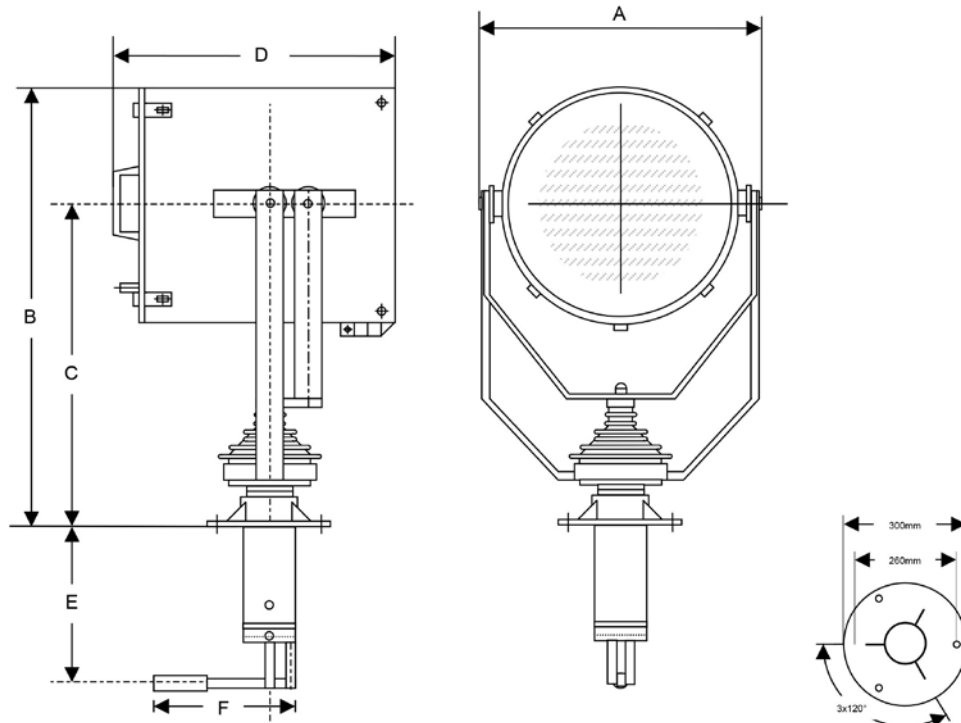
DS TYPE



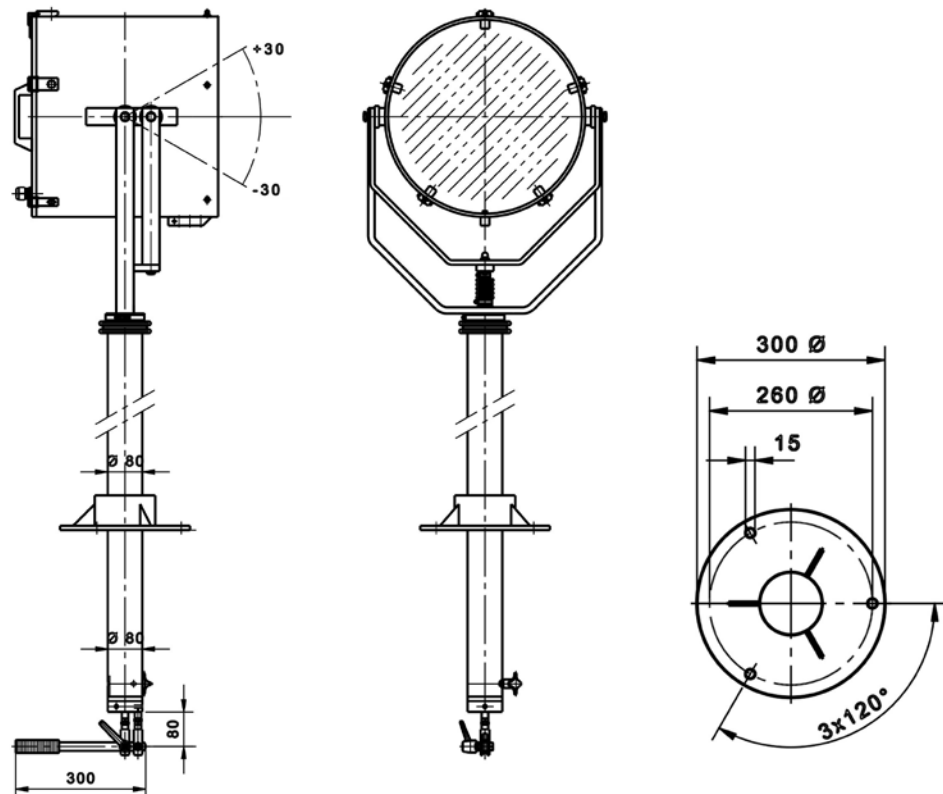
DH TYPE



WS TYPE



WH TYPE

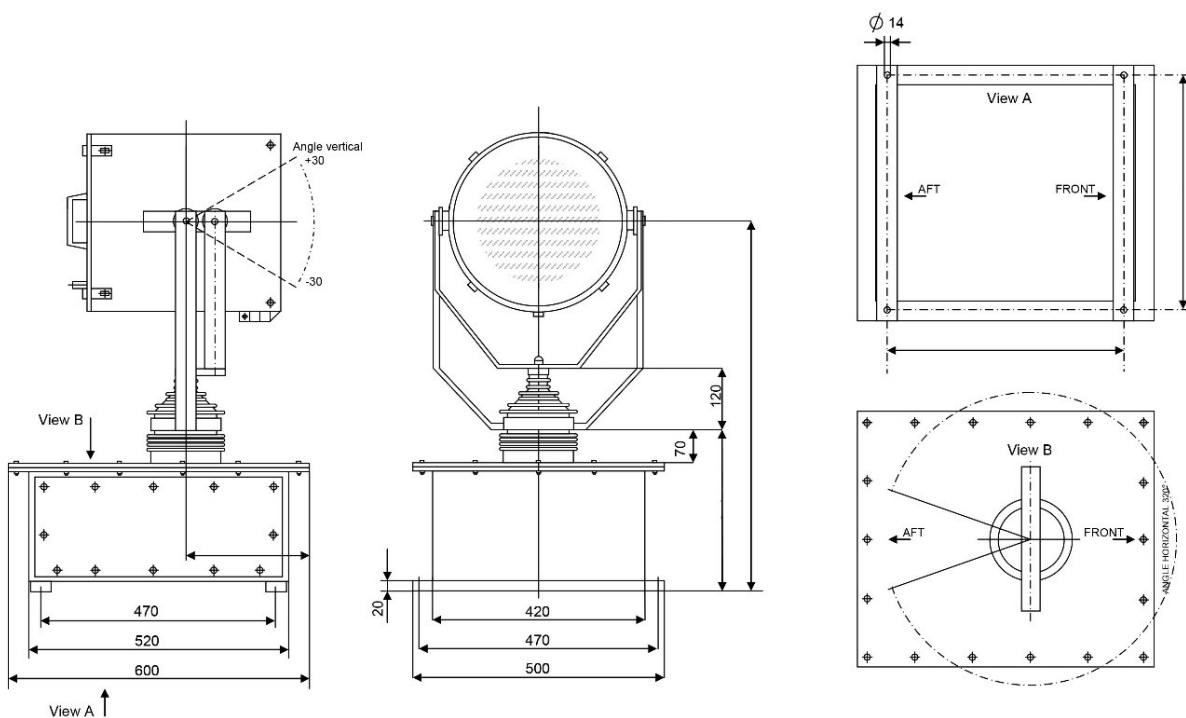


EF TYPE

The EF-type searchlights are operated from a control panel connected to a power supply (for Xenon). EF searchlights can optionally be equipped with focus adjustment, zero position switch or digital position indication. EF searchlights can also be implemented as a tower type, which is especially practical if there is a Xenon-type search light. (XBO) is installed. In that case, the ballast unit is included in the tower. (from 500mm)

The EF searchlight has become the industry standard, due to its simple operation, and is particularly suitable for operation from larger or closed bridges. The position of the EF type searchlight is independent of the position of the operator, who can perform the operation from the control panel. This allows the searchlight to be placed almost anywhere, such as high in the mast or at the front or rear of the ship.

There are several EF types where the easiest is the EFA. It is equipped with single relay and thus has a simple operation. The EFA is operated with a maximum of one control panel.





If several control panels are desired (maximum 4) one can opt for the EFD version. From this type we work with a motorprintcard as a technical basis. The remote control of the EFA and EFD requires 24V. The EFA and EFD are suitable for searchlights of the 273-463 series. If you prefer a searchlight with heating, we can recommend the EFS. The EFS is the same in size as the EFA and EFD. From the EFS the remote control is powered by a 230V voltage.

The EFN is also equipped with heating as standard, but the remote control is slightly higher than the EFA / EFD and EFS. When the remote control is equipped with heating, it is automatically located in the head of the searchlight. The EFS and EFN are suitable for searchlights of the 273-525 series.

Remote controls can be combined with all types of searchlights. For Xenon the EFN remote control is the basis.

Other remote controls on request.

X-LIGHT LED

The X-light is the new LED searchlight from Seematz with a 360 degree rotating head. This compact searchlight from Seematz has been developed for smaller vessels and for fast-moving vessels.

X-light has all the functions that you expect from a full LED searchlight including an automatic return to the 0 position after switching off. The X-light has a focus control function, with which the beam of the searchlight can be focused on any object desired. Unlike a conventional searchlight, the X-light does not have a vertically moving head, but a moving light source. The LED unit can be moved vertically, up to 30° upwards and 30° downwards. In addition, the X-light can rotate 360° horizontally, without limitations.

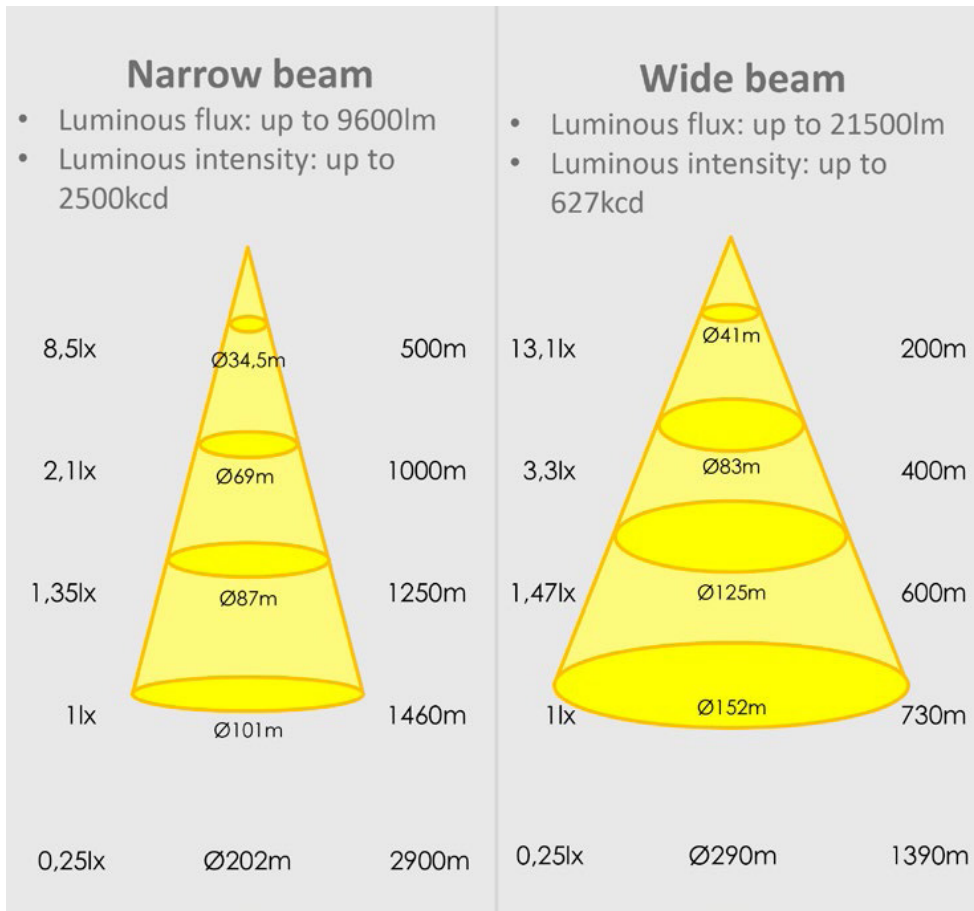
The special construction of this X-light results in a very high light output combined with a very compact design. Moreover, the X-light has a particularly strong construction, due to the housing which only moves around its own axis, making it very suitable for use on fast ships that have to cope with hitting the waves hard at higher speeds. The X-light is very suitable for fast ferries, tender boats, crew tenders and fast work vessels.

Attention: The X-light is only available in white



- Special High Power, high efficient LED Cluster Light up to 160 W
- Variable Field of View (Spot to Flood 4°-12° FWHM)
- Up to 1500m range and 170 m field of view
- Infinity Motion Drive on horizontal axis
- 60° of motion on vertical axis
- 230V AC or 24V DC Power input
- Variable Speed control
- Modern BUS Interface
- Strong, seawater resistant Aluminium housing
- 430mm x 400mm x 370mm (HxWxL)





Light beam can be focused from 4 ° to 12 °

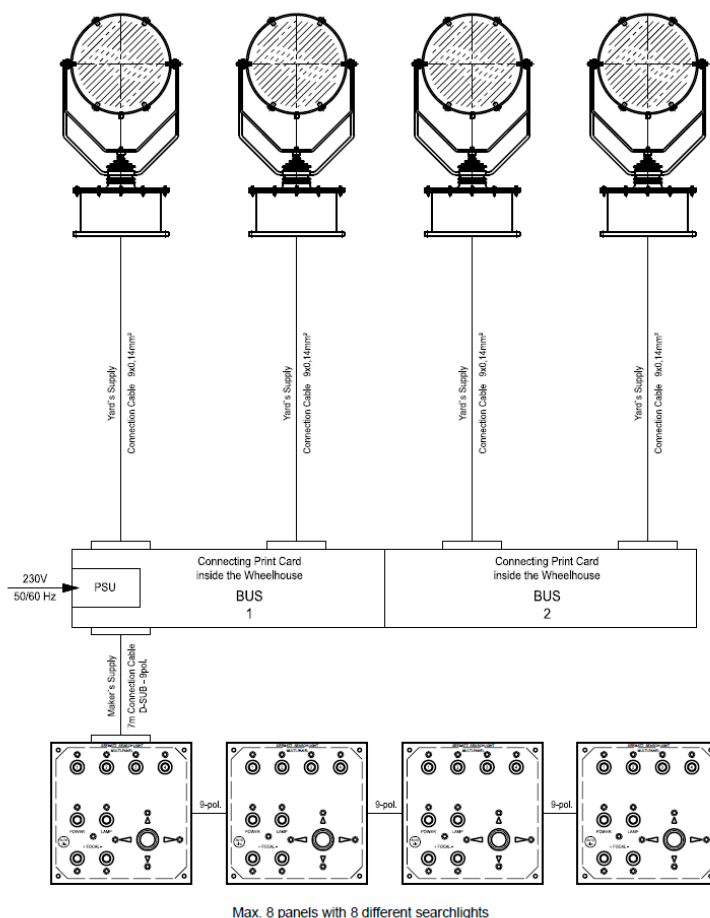


MULTIPANEL CONTROL

The Seematz multipanel allows up to 8 searchlights from up to 8 control panels. For the design and development, simple installation and safe operation are important key features, as for the rest of the Seematz products. Particularly on high-performance vessels with limited consoles, this solution offers an excellent possibility to save space without loss of comfort and safety.

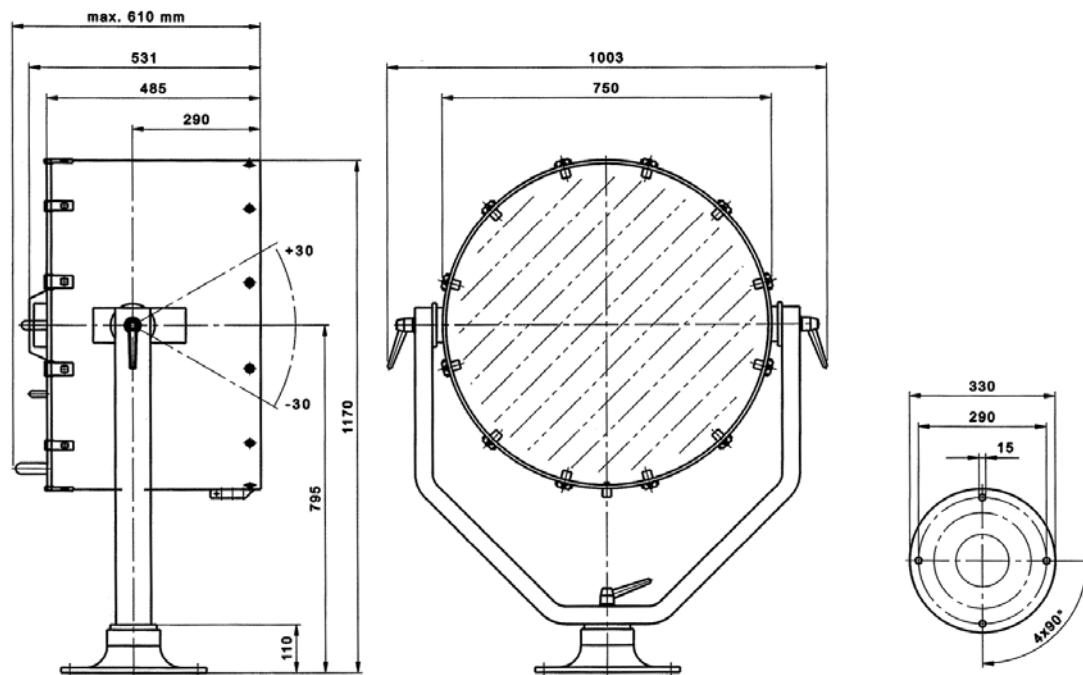
Characteristics

- Control up to 8 searchlights from one control panel
- Control multiple searchlights simultaneously
- Each switch is indicated by self-dimmable LEDs
- Connection of halogen, LED or Xenon search lights possible on the same panel
- Easy installation via standard cables



Max. 8 panels with 8 different searchlights

SUEZ TYPE



Before transiting the Canal, the vessel should be provided with a searchlight (projector) complying with the following conditions and specifications.

- a) Minimum range of radiation of single beam 1800m ahead (Brightness of approx. 1 LUX, at the atmospheric transmission factor $T=0,85$).
- b) The power of the lamp must give a luminous intensity of a single light beam not less than 3×10^6 (3 million) candles, which is equivalent to a high efficiency incandescent lamp of:
 - i - 2000 watts for vessels up to 30.000 SC.G.T.
 - ii - 3000 watts for vessels over 30.000 SC.G.T.
 - iii - Any kind of lamp which fulfils the specifications under item 2 and to be of the non-explosive type.

The Seematz Suez Canal searchlight fulfils the SCA rules with 2 x 2000 W halogen lamps for every kind of vessel.

SUEZ TYPE, continued

Certified by Lloyds Register of Shipping: HAM 601408

All aluminium parts (case mounting bow, etc) are made of ALMg3, non magnetic aluminium. All screws are made of refined stainless steel. Fastenings for plug-in-unit are made of stainless steel, F17, non corrosive. The mounting foot is made of ALMg3, non magnetic. The pressure connections and the pressure relief valve are made of brass. The reflector is made of purest aluminium 99,99%, anodized, highly polished.

Following equipment is standard:

2x halogen lamp 230 V - 2000 W, 3m cable with special plug, 3 pcs. earthing screw, (one at the bottom of the searchlight case, second at the plug-in unit) air pressure joint, drain cock, safety valve (0,25 bar).

Art. 29 – Bridge Wing Projectors:

Bridge wing projectors on either side of the bridge must be fitted. To show the Canal banks clearly during the transit and mooring operation, it must have following characteristics:

- Power approx. 4 LUX at an atmospheric transmission factor of $T=0,74$ and minimum range 200m

Seematz offers the following searchlight as a bridge wing projector:
DS 351 HGS 230 V - 650 W

TOWER VERSION

All Seematz electrically operated (EF) searchlights can be implemented in tower version if desired. The lower case of the searchlight is increased by 250mm - 1000mm, depending on the situation on board.

This makes the searchlight higher and can, for example, shine over obstacles (such as a railing) without additional adjustments on board.

Advantages of the Tower

- Significantly shorter installation time of the searchlight (XBO)
- The ballast is placed in the base cabinet (from the EFNT500) instead of a separate unit (XBO only)
- Easier cabling (only 2 cables, control and power cable)
- Obstacles such as railings are easier to bridge



DAYLIGHT SIGNALING

In addition to the halogen, LED and xenon searchlights, the German manufacturer Pesch also has daytime lights in its range. The Seematz daylight lamps are made of seawater resistant, glass reinforced plastic (GRP), have an aluminum hand bracket and are built according to SOLAS requirements. The viewfinder of the lamp is equipped with a protected eyecup.

Characteristics

- Range: 500m
- Visibility: 12km during the day, 30km during the night
- 50 or 100W lamp (12V and 24V possible, 7Ah or 15 Ah)
- Incl. battery, carrying case and standard 3m cable

Technical data

- 15 Ah battery (including charger, power supply 220VAC)
- Light weight: 1.8 kg. (complete set: 5.5 kg)
- Polycarbonate housing, anodised aluminum (99.99% pure) reflector, Bi-velvet
- IP56 classification

Options

- 15 Ah battery
- Filter glass red / green
- 3 pole socket for example for the bridge wing
- AC / DC converter for direct connection to the power supply on board





FOCUS CONTROL

All Seematz electrically operated (EF) searchlights (Halogen and Xenon types) can be equipped with so-called 'Focus control'. This means that the light emission angle can be influenced, resulting in a narrower or wider light cone. By making the searchlight sharper, a more intense amount of light can be created and the searchlight can be directed to a specific obstacle.

Focus control is particularly interesting for stronger lamp types, which in principle have a narrow beam, such as the XBO 1000 / 2000W. By applying the 'focus' option to the relatively narrow beam of a xenon search light, this type of search light can also be used for illuminating parts of the ship or the space directly around the ship (including man over board).

The choice of Focus control also depends on the use on board. We are happy to advise you on the functionality of this option.



HERKULES XVII/XVIII

Ship's name:	Herkules XVII / XVIII
Type of schip	Inland vessel/barge
Supplied:	2 XBO searchlights 2000W, 1 XBO light 1000W
Owner:	Imperial Shipping Group
Shipyard:	Werkina Werkendam B.V.
Installation:	Werkina Werkendam B.V.

The Herkules XVII / XVIII barges are 44m long and 18m wide and both sailing under the Dutch flag.

For each of these inland vessels, TTT supplied thee xenon searchlights, two of 2000W and one of 1000W. In inland shipping, searchlights are used for illuminating the dock when the ship moors, in man overboard situations and for illuminating objects at great distances.



HELIOS

Ship's name:	Helios
Type of schip:	Suction Cutter Dredger
Supplied:	2X XBO 450W Tagefa
Owner:	Koninklijke Boskalis Westminster N.V.
Shipyards:	IHC
Installation:	IHC Drives and Automation BV

The 152m long new megacutter Helios can operate up to a depth of 35 meters, at a minimum dredging depth of 6 meters. This makes the ship suitable for the making of landings for pipelines. Two cutters with different heights can be used, which are able to cut extremely hard ground. The cutter capacity lies between 4,200 and 7,000 kW, the pump capacity is 3 x 5200 kW.

For the Helios, TTT supplied two 450W Xenon searchlights, used for example in man overboard situations and for illuminating objects at long distances.



MINERVA

Ship's name:	Minerva
Type of schip:	Trailing Suction Hopper Dredger (TSHD)
Supplied:	7x type ocean
Owner:	DEME
Shipyard:	IHC Nederland
Installation:	IHC

Commissioning of the dredger 'Minerva' took place end of 2016, making it the first dredger to be equipped with dual fuel engines. Along with its sister ship, DEME's "Scheldt River"

Like the Scheldt River, also the Minerva is built as a "green" design, which among other things has led to the fact that both ships are registered with a Green Passport and Clean Design notation. The ships are equipped with dual fuel engines and LNG tanks, in order to meet both ecological (stricter emission standards) and economic (fluctuating oil prices) challenges.

Minerva and the Scheldt River are both equipped with linear wipers from Seematz. The straight wipers are not only strong and very durable, but also ensure a maximum wiping surface, so that the view from the wheelhouse remains optimal in bad weather.

**P303**

Ship's name:	P 303 (2016)
Type of schip:	Patrol Vessel
Supplied:	1x HGS 500W 700mm Grey
Owner:	Iraq Navi
Shipyard:	Damen Shipyards Gorinchem
Installation:	Damen Shipyards Gorinchem

The P303 patrol boat of Iraq Navi is a defense patroller which is deployed to patrol along the coastline.

Aboard the patrol vessel TTT delivered a 500W halogen searchlight, mainly used for the detection and scanning of suspicious activity in territorial waters.



BONA FIDE WR-289

Ship's name:	Bona Fide WR-289
Type of schip:	Garnalenkotter
Supplied:	1x EFA463LED230V 114W with CP
Owner:	Cees van eekelen
Shipyard:	Damen SRF Friesland
Installation:	Faber Elektro Service B.V.

The Bona Fide WR-289 is a 24m long shrimp trawler made for the Dutch shrimp fishery in the North Sea. It is the first shrimp trawler with an indoor processing deck. Aboard shrimps are already sorted according to size, packed / sealed and optionally frozen. This approach represents a major innovation for shrimp fishing.

TTT supplied a LED searchlight (230V/115W) which is front mounted in the mast. By means of a control panel it can be controlled from the wheelhouse. With the choice for a LED searchlight, the owner enjoys multiple advantages compared to a conventional halogen searchlight. LED searchlights are more resistant to vibration, are very energy efficient and have a much longer lifespan.



ROTRA VENDE

Ship's name:	Rotra Vente
Type of schip:	Cargo Vessel
Supplied:	1x XBO 450W, 2x HGS 1000W with CP
Owner:	Concordia
Shipyard:	Holland Shipyards
Installation:	Holland Ship Electric B.V.

The Rotra Vente is a 141 meters long and over 20 meters wide cargo vessel. The Rotra Vente is made for the wind turbine industry in the North Sea, with the main purpose of transporting turbine heads for wind turbines (and rotor blades). The bow of the Rotra Vente is specifically designed to utilize maximum space for transporting the wind turbine head. The specially developed bow is fitted with a retractable "ramp" (driveway) are put in motion by means of hydraulic systems. The ship will get the "roll-on / roll-off " feature: the load can be driven in and out of the ship.

For the Rotra Vente TTT supplied two 1000W halogen searchlights with control panel and one 450W Xenon light. The searchlights are used to illuminate the dock when the ship moors, in man overboard situations and illuminating objects at long distances.

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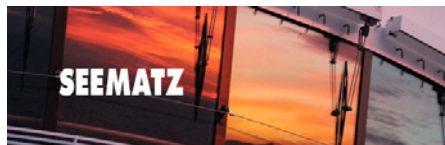
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