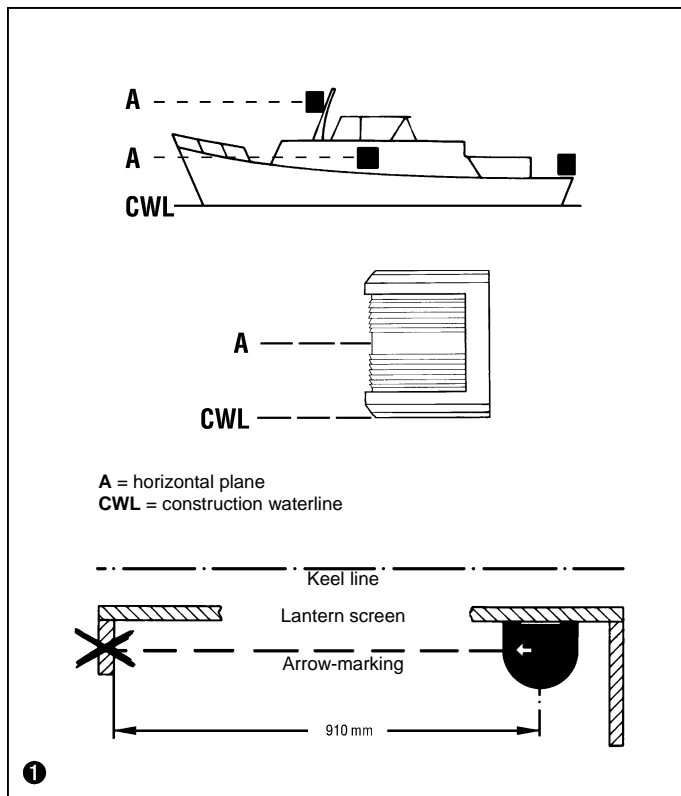


## Mounting Instructions for Navigation Lights



**aqua signal 40 / 41 / 42 / 50**



## Mounting Instructions

for Navigation Lights

of type AQUA SIGNAL 40 / 41 / 42 / 50

These navigation lights comply with the national and international regulations regarding minimum range of visibility, luminous intensity of horizontal and vertical sectors, and colour specifications for vessels of 20 metres and more in length (Regulations for Preventing Collisions at Sea). Lights marked  $\forall$  D in addition to the DHI resp. BSH marking may be utilized on European inland waterways.

However, their correct function will only be guaranteed and in conformance with the regulations if some important points are considered regarding mounting and maintenance. It is therefore essential to study the following pages attentively.

### Important:

The upper lens compartment of double lens lights is always to be used within the main lighting system whilst the lower one belongs to the stand-by system.

### Regulations

For all ships the rules set forth in Annex 1 to the International Regulations for Preventing Collisions at Sea - Positioning and Technical Details of Lights and Signalling Shapes - must be adhered to. The technical data regarding horizontal and vertical positioning and spacing of the navigation and signalling lights laid down in these mounting instructions do apply to all ships irrespective of their flag.

### Mounting of navigation lights in general\* 1

The lights must be positioned in and above keel line resp. parallel with it. Their horizontal plane (A) must be parallel with the construction water line (CWL).

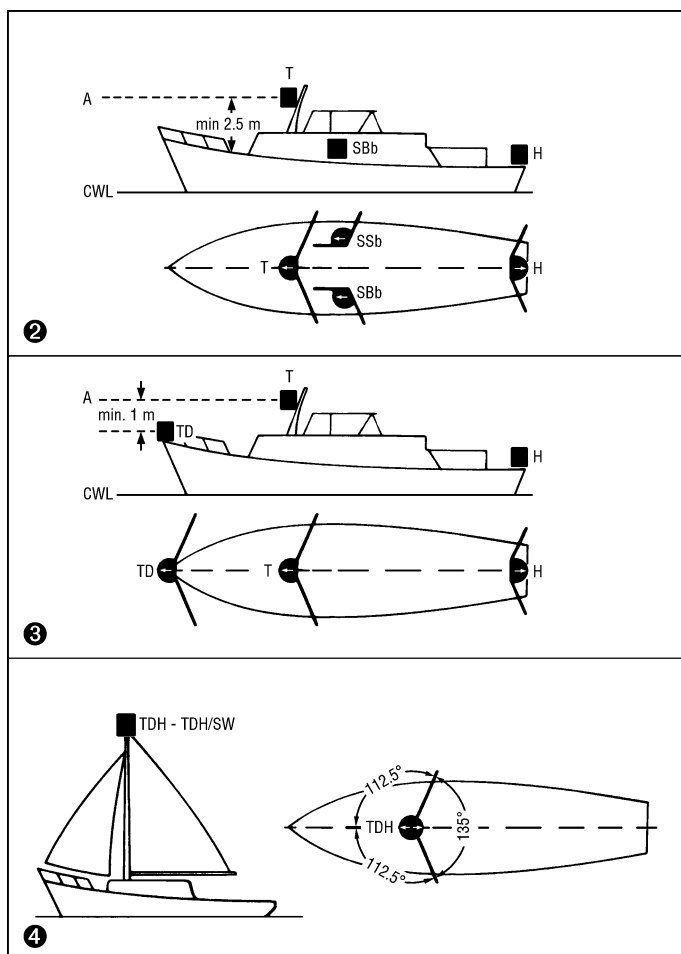
Their light must not be obstructed by parts of the vessel or objects or persons aboard within a vertical sector of  $\pm 10^\circ$  and a horizontal sector corresponding to the one of the lights. Their relative positions to the vessel are not to be changed while in operation.

The vertical distance (C) must be minimum 4,5 metres respectively sufficient to allow recognizing the after masthead light over and separate from the forward light under all conditions of trim at a distance of 1000 metres.

These lights are to be operated exclusively with special approved bulbs. These special bulbs from AQUA SIGNAL are labeled as follows:

10W ZP D 1301/1303 resp. 25W ZP D1302/1304

**\* Deviating from the anti collision regulations the forward masthead light needs be fitted only 5 metres above the hull and the after masthead light just 3 metres higher if the vessel is designed and registered for operation on European inland waterways until the border of high seas navigation.**



## Mounting Instructions

### MOUNTING INSTRUCTIONS IN GENERAL ❶

The lights must be positioned in or parallel to the keel line. Their horizontal plane (A) must be parallel with the construction water line (CWL). Their light must not be obstructed by any parts of the vessel or objects or persons. Their relative positions to the vessel are not to be changed while in operation. An upside down mounting is not permissible.

### Important note for port and starboard lights ❷

In case screens are used for the sidelights the front screen has to be removed since it is not necessary and is obstructing the light output in right ahead direction.

### DESCRIPTIONS

#### SIDELIGHTS SSb + SBb 40/41/42/50 ❷

¥ Sidelights -STRONG- red/green SSb + SBb 50

angle 112,5°

visibility 2 nm

#### BICOLOR SIDELIGHTS TD 40/41/50 ❸

¥ Bicolor sidelights -STRONG- red/green TD 50

angle 112,5° red and 112,5° green

visibility 2 nm

#### TRICOLOR LIGHTS FOR SAILING BOATS

TDH 40, TDH 40 "quicfits" ❹

angle 112,5° red, 112,5° green, 135° white

visibility 2 nm min. for all sectors

#### COMB. TRICOLOR/ANCHOR LIGHT

TDH / SW 40, TDH / SW "quicfits" FOR SAILING VESSELS ❹

angles:

tricolor 112,5° red, 112,5° green, 135° white

anchor 360° white

visibility 2 nm min.

### Regulations for navigation lights Types TDH and TDH/SW40 with and without "quicfits"

The regulations are permitting to use these lights only on sailing boats <20m.

While under engine these lights are not permitted.

#### MASTHEAD LIGHT T40/41/50 ❷ + ❸

angle 225°

visibility 3 nm

#### COMB. MASTHEAD/ANCHOR LIGHT T/SW 40

angles:

masthead 225°, visibility 3 nm

signalling 360°, visibility 2 nm

#### STERN LIGHT H40/41/42/50 ❷ + ❸

HGe 40 (stern yellow, towing)

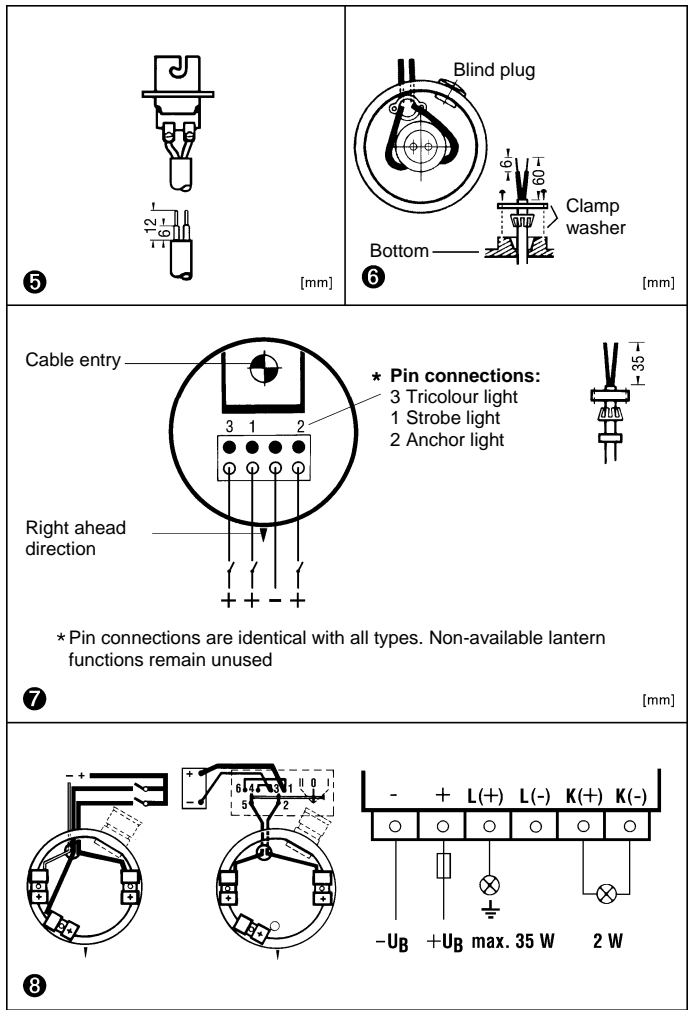
angle 135°

visibility 2 nm

#### SIGNALLING LIGHTS SW, SR, SG, SGE 40/50

angle 360°, visibility min. 2 nm

These lights are available for pedestal mount and for hoisting



The following lights are exclusively for navigation on European inland waterways  $\neq$  D

**Masthead Light -white/STRONG- TW 50**

**Signalling light blue-ORDINARY SB 40**

**Signalling light FLASHING -white-STRONG- SW40**

The signalling flashing light has to be equipped with an approved electronic flasher. The light and the electronic flasher have to be mounted separately. (Please refer to instructions of electronic flasher.)

**“YELLOW HORN SIGNAL” with Signalling signal light YELLOW-STRONG SGe40**

**Combined WHITE/YELLOW (flash/horn) SIGNAL LIGHT Yellow-STRONG / flash-white-STRONG SGe/SW40**

The signalling flashing light has to be equipped with an approved electronic flasher. The light and the electronic flasher have to be mounted separately. (Please refer to instructions of electronic flasher.)

**Electronic flasher BG 50 G**

The flasher is designed to operate with a supply voltage of 8-30V DC. Only the control lamp has to be selected according to the main supply voltage on board.

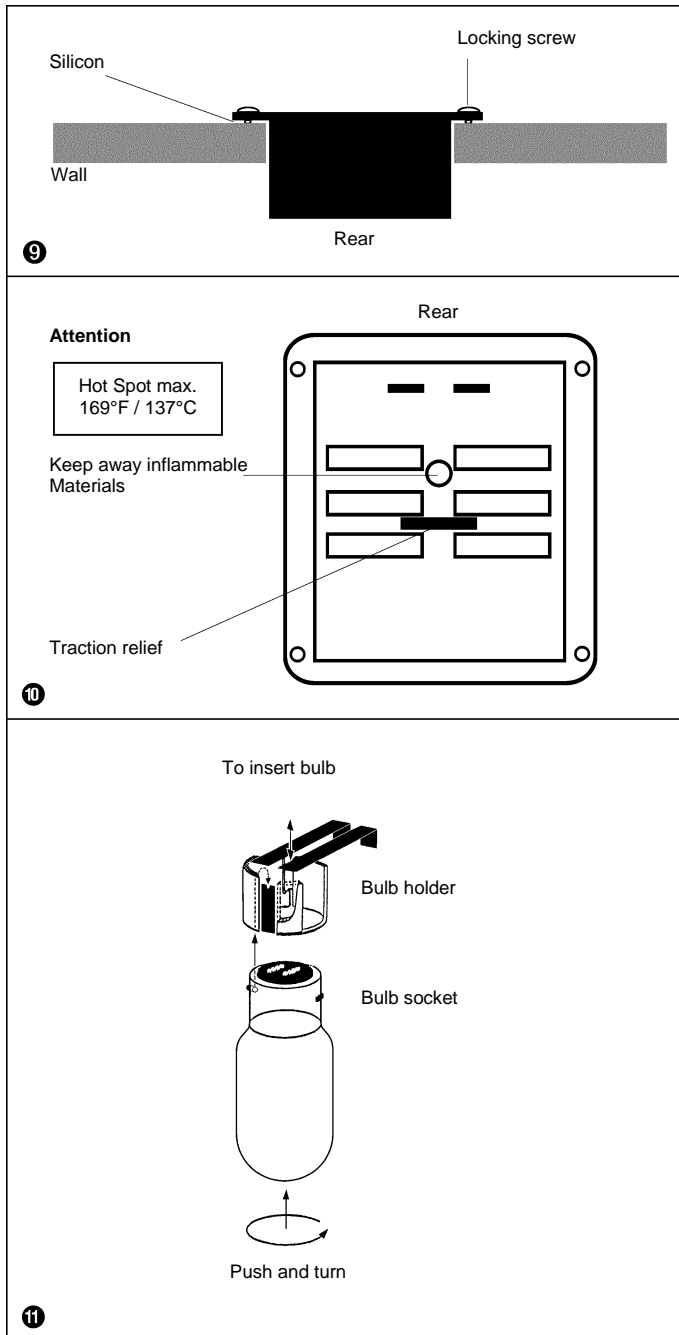
**Technical details:**

Charge: max. 35W

Voltage: 8-30V, Frequency: 60 fl./min.

Fuse: 2A delay action fuse, Bright-phase: 50%

Electrical connection by use of terminal ⑧



## MOUNTING

### Sidelights Series 40 + 50

The enclosed bracket has to be fitted with 2 screws. Please pay attention to the right ahead direction. The light is hooked on the bracket. To obtain a vibration safe holding turn the locking device at the rear of the light to one side.

### Sidelights Series 41

Use backplate to mark hole alignment for drilling. Fix backplate with 2 screws dia. max. 4 mm horizontally or vertically. Place housing on the backplate and fasten it by tightening the screw at the bottom.

### Sidelights Series 42

Use the attached template to mark mounting hole. A specialist should cut the mounting hole. After having fitted the supply cable to the backwall insert the unit in the mounting hole. Use some silicon or equivalent to make it tight (remove redundant silicon in order to attach the housing properly) **9**.

When mounting the unit, pay attention that the air-circulation openings at the backwall are not covered. Under extreme operation conditions the center spot of the backwall could reach 137°C. **10**. Fix the backwall with four screws dia. 4 mm. Fit the bulb **11**. Insert the lens into the backwall. Pull the long screw of the housing back. Hook the housing in the hooks on the top side of the backwall, close the lantern and then push the long screw back in and fix it. The long screw has always to be pulled back when the housing should be removed or put back into position.

### Signalling lights, tricolor lights for sailing boats, comb. tricolor/anchor lights, comb. masthead/anchor lights and special navigation lights for inland waterways Series 40

Loosen locking ring. (Only valid for comb. lights) Turn the optic anti-clockwise. Arrange electrical connection as described in the chapter 'electrical installation'. To simplify mounting use base to mark positions of drilling holes. Pay attention to right ahead direction when mounting.

### Tricolor "quicfits", comb. tricolor/anchor "quicfits" Series 40

Remove light from "quicfits" base: New model after loosening the lower locking ring. Old model by compressing the two snap pins. Arrange electrical connection as described in the chapter 'electrical installation'. To simplify mounting use base to mark positions of drilling holes. Pay attention to right ahead direction when mounting. Fix the "quicfits" base with 3 screws dia. 5mm. The "quicfits" system allows quick removal of the light i.e. to prevent theft or damage when mast is down. The base remaining on the mast can be covered with the supplied cap.

### Signalling lights for hoisting Series 40/50

Unscrew cap nut and remove electrical insert with bulb. A correct installation of the socket and a watertight closure of the cable gland are only given when the cable is isolated and connected as per illustration **6**. For installation remove the socket from the insert by unscrewing the two screws and when fastening the socket again pay attention to the leading at the socket, which ensures the correct position of the bulb.

### Signalling lights for pedestal mount Series 50

To simplify mounting use base to mark position of drilling holes. Fix the base with 3 screws dia. 5mm. Insert the cable through the hole in the base and arrange electrical connection according to the instruction. Place light housing on the base and fasten the cap nut.

## ELECTRICAL INSTALLATION

### Series 40 + 50 sidelights and Signalling light for hoisting

Loosen cap nut and take electrical insert out.

**Important:** A correct installation of the socket and a watertight closure of the cable gland is only given when the cable is isolated and connected as per illustration ⑤. Use round cable of about 7-9mm dia. with adequate cross-section. For installation remove the socket from the insert by unscrewing the two screws and when fastening the socket again pay attention to the leading at the socket, which ensure the correct position of the bulb.

### Series 41 sidelights

Open the light by loosening the locking screw at the bottom.

Dismantle cable and insert it through the backplate. Attach 6,3mm spade connectors to the two wires, push them on the contacts and fasten the cable clamp.

### Series 42 sidelights

For installation use 2-core cable with adequate cross-section. Protect dismantled wires with supplied silicon tubes. Attach 6,3mm spade connectors and push them on the contacts in the rear of the light. Secure cable by use of the cable clamp.

### Series 40 Signalling lights, tricolor lights, comb. tricolor/anchor

For installation only use cables of 7-9mm with adequate cross-section. Pull the cable through the bottom of the base. Dismantle about 60mm of the cable according to ill. ⑥ Feed cable through cable entrée and cable clamp parts. Arrange electrical connection and fasten cable clamp with two screws. The installation should be done according to this instruction in order to ensure a watertight closure of the cable gland. Pay attention to ill. ⑦ for installation of TDH/SW40. Electrical connection from the side: If cable cannot be pulled in from underneath remove blind-plug at the side and insert cable gland PG-set (order no.: 83514002). With type SGe/SW40 you need 2 PG-sets. Plug the unused hole in the bottom.

### Series 40 tricolor "quicfits", comb. tricolor/anchor "quicfits"

The electrical connection of these lights is only made in the "quicfits" base. Use round cable of about 8-10mm dia. with adequate cross-section. Loosen the cable clamp. Dismantle about 35mm of the cable according to ill. ⑦ Feed cable through cable entry and cable clamp parts. Arrange electrical connection according to ill. ⑦ and fasten cable clamp with two screws. The installation should be done according to this instruction in order to ensure a watertight closure of the cable gland. Electrical connection of light and "quicfits" base is obtained by pushing the light onto the base.

## MAINTENANCE

Navigation lights are not watertight (IP55 and IP56) due to the fact that air pressure variation caused by the operation temperature changes of the bulb have to be compensated. For this compensation the lights are equipped with a ventilation system through which humidity can escape as well. The ventilation system must not be plugged by grease, dirt or other materials.

The light should be cleaned if necessary with clear water or eventually with a cleanser suitable for acrylic glass not containing any abrasives or solvents.

The bulb should be taken out of the socket on a yearly basis.

Socket and bulb contacts should be cleaned and a drop of contact oil should be applied prior to inserting the bulb again.

### ATTENTION:

Solvents can destroy the optic of a navigation light. We recommend to remove the light prior to executing paint jobs. The housing of the light should never be painted for photometric reasons. The lenses in particular but also other plastic components may not be touched with paint.

**aqua signal 40**

Housing white/Corps blanc/Gehäuse weiß  
Allround/Feu tout horizon/Signal  
white/blanc/weiß **83506030**

Housing black/Corps noir/Gehäuse schwarz  
Allround/Feu tout horizon/Signal  
white/blanc/weiß **83506022**  
red/rouge/rot **83506023**  
green/vert/grün **83506024**

12V/25W **90400002**  
24V/25W **90400003**  
12V/10W **90400005**  
24V/10W **90400006**

**23514012**

cpl. w. socket and gasket/  
avec douille et joint complet/  
kompl. mit Fassung und Dichtung  
white/blanc/weiß **83506029**  
black/noir/schwarz **83506021**

**3/4" pipe adapter/  
3/4" tube adaptuer/  
3/4" Rohradapter**  
**\* 85506035**

**aqua signal quickfits system**

**23545029**

**83545020**  
cpl. with cap/  
complet avec cache de protection/  
kompl. mit Schutzkappe

Allround/Feu tout horizon/Signal  
white/blanc/weiß **83506005**  
red/rouge/rot **83506007**  
green/vert/grün **83506009**

bicolour/bicolore/  
doppelfarbig  
**83503001**  
Starboard/Tribord/  
Steuerbord  
**83505002**  
Port/Bâbord/Backbord  
**83504002**  
Masthead/Tête de mât/  
Topp **83501008**  
Stern white/Poupe blanc/  
Heck weiß **83502003**  
Stern yellow/Poupe jaune/  
Heck gelb **83502004**

**83501006**

**95800155**

Mast bracket/  
Support au mât/Masthalter  
**\*83501004**

"Easy to fit" pulpit bracket/  
Support de bastingage/Relingshalter/  
**\*3901001**

Multi-purpose bracket/  
Support multiple/Mehrfachhalter  
195 mm  
**\*83030011**

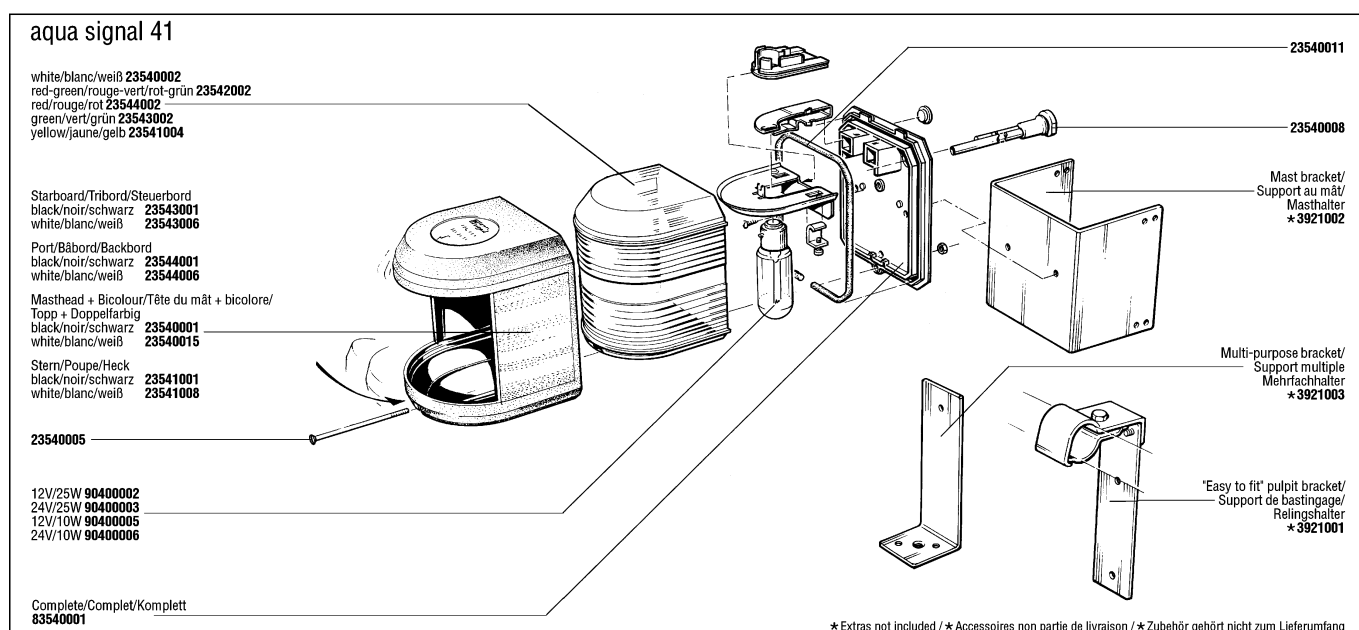
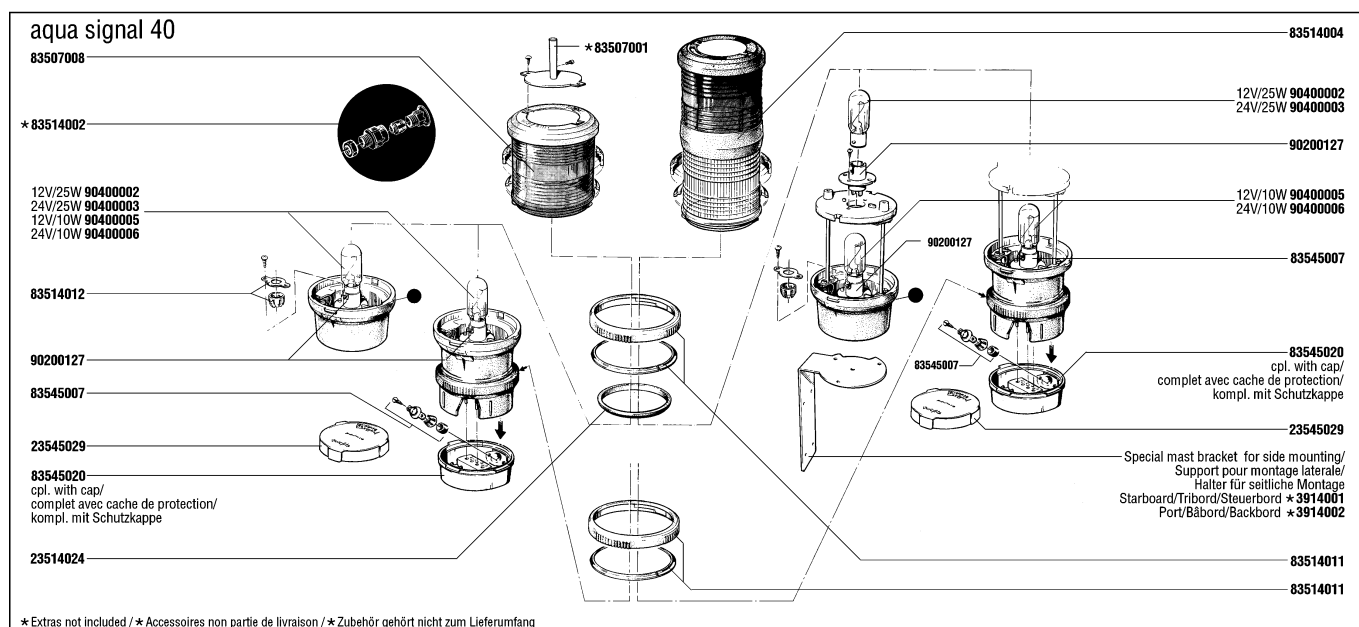
Bracket/Halteblech/Support  
**\*83502002**

Bent bracket/  
Support avec dispositif d'arrêt/  
Halter mit Arretierungsblech  
160 mm  
**\*39080001**

Bent bracket/  
Support coude/  
Halter abgewinkelt  
160 mm  
**\*83030012**

**63030009**

**\* Extras not included / \* Accessoires non partie de livraison / \* Zubehör gehört nicht zum Lieferumfang**



## Spare Parts / \*Extras

### aqua signal 42

To open the navigation light series 42:

1. Turn screw loose and pull it until blocked
2. Remove housing by pulling the bottom part
3. Pull lense straight out to change bulb

To close the navigation light just reverse the sequence:

1. Put lense back into position
2. Put housing back to the hooks (top side) and move it over the lense until lantern is closed. Make sure that the screw is pulled back during this operation
3. Push screw back and tighten it

Ouvrir le feu série 42:

1. Dévisser le vis et l'enlever complètement jusqu'à l'arrêt
2. Tirer le corps du feu par le bas et ensuite décrocher par le haut
3. Tirer la lentille tout droit pour changer la lampe

Former le feu en sens inverse:

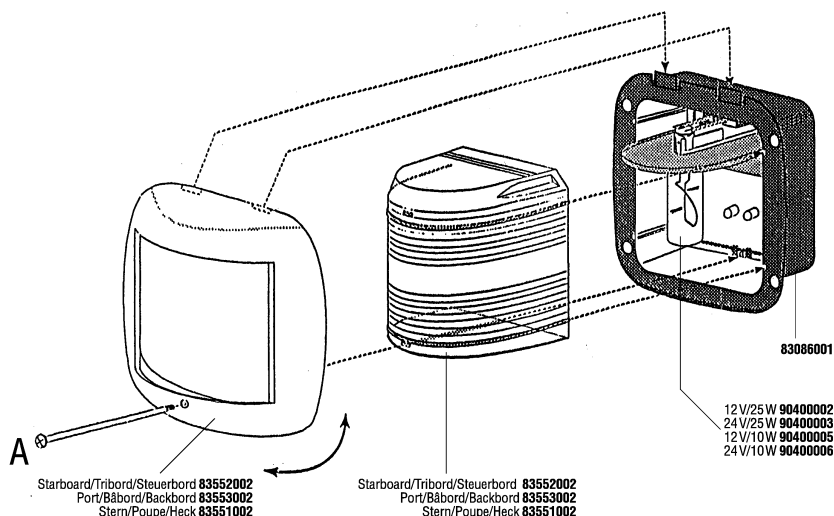
1. Placer la lentille
2. Accrocher le corps du feu par le haut et le faire basculer sur la lentille tenant compte du vis enlevé jusqu'à l'arrêt
3. Faire entrer le vis et le fixer

Öffnen der Laterne Serie 42:

1. Schraube lösen und bis zum Anschlag herausziehen
2. Laternengehäuse von unten her abziehen und oben aushaken
3. Linse zum Leuchtmittelwechsel gerade herausziehen

Schließen der Laterne in umgekehrter Reihenfolge:

1. Linse einsetzen
2. Gehäuse oben einhaken und mit bis zum Anschlag herausgezogener Schraube über die Linse kippen
3. Schraube einschieben und festdrehen



### aqua signal 50

Allround/Tout horizon/Signal  
white/blanc/weiß **83037010**  
red/rouge/rot **83038002**  
yellow/jaune/gelb **83058002**  
green/vert/grün **83039001**  
white bright/blanc clair/weiß hell **83083017**  
white ordinary/blanc normal/weiß gewöhnlich **83086002**

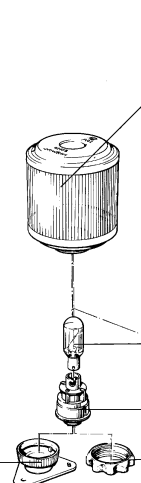
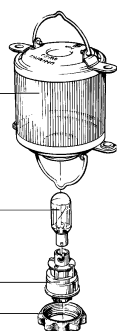
12V/25W **90400002**  
24V/25W **90400003**  
12V/10W **90400005**  
24V/10W **90400006**

**83037009**

**95800099**

**83037002**

**83507003** with cable clamp/avec serre-câble/mit Kabelklemme



- ① Mast bracket / Support auf mât / Masthalter **\* 83501004**
- ② Bent bracket / Support coude / Halter abgewinkelt, H 160 mm, **\* 83030012**
- ③ Bent bracket / Support avec dispositif d'arrêt / Halter mit Arretierungsblech, H 160 mm, **\* 3908001**
- ④ Multi-purpose bracket / Support multiple / Halter, H 195 mm, **\* 83030011**
- ⑤ "Easy to fit" pulpit bracket / Support de bastingage / Relingshalter, **\* 3902001**

Cable adapter / Presse etoupe pour le feu à hisser / Kabelverschraubung, PG 13.5, **\* 83080002**

Allround/Tout horizon/Signal  
white/blanc/weiß **83037011**  
red/rouge/rot **83038001**  
green/vert/grün **83039001**  
yellow/jaune/gelb **83058001**  
white bright/blanc clair/weiß hell **83083008**  
white ordinary/blanc normal/weiß gewöhnlich **83086001**

Starboard/Tribord/Steuerbord **83035002**  
Port/Båbord/Backbord **83036002**  
Masthead/Tête du mât/Top **83030003**  
bicolour/bicolore/doppelfarbig **83033002**  
Stern/Poupe/Heck **83034002**  
Masthead white STRONG/Tête du mât blanc PUissant/Toppe weiß STARK **83087001**  
Stern yellow/Poupe jaune/Heck gelb **83091001**

**63030009**

12V/25W **90400002**  
24V/25W **90400003**  
12V/10W **90400005**  
24V/10W **90400006**

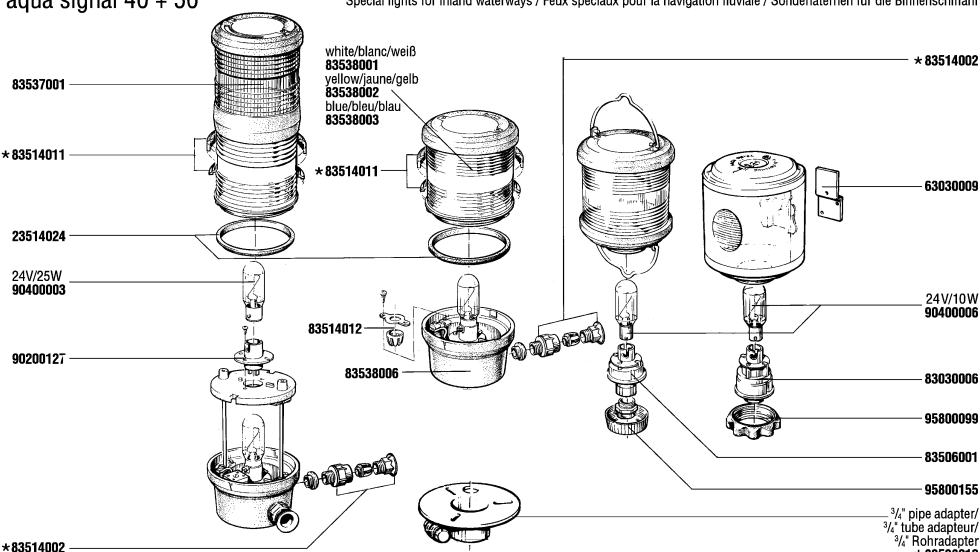
**83030006**

**95800099**

\* Extras not included / \* Accessoires non partie de livraison / \* Zubehör gehört nicht zum Lieferumfang

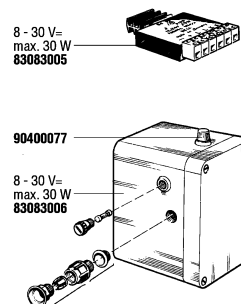
### aqua signal 40 + 50

Special lights for inland waterways / Feux spéciaux pour la navigation fluviale / Sonderlaternen für die Binnenschifffahrt



\* Extras not included / \* Accessoires non partie de livraison / \* Zubehör gehört nicht zum Lieferumfang

### FLASHER UNIT BOÎTE CLIGNOTANTE BLINKGEBER





aqua signal reserves the right to modify their products without prior notice to not impede progress in technology or design.



#### **ATTENTION**

##### **Bulbs for Navigation Lights**

The bulbs used in Navigation Lights are part of the approval/certification.

Bulbs which are non-approved null-invoid your insurance cover as your lights will not be in line with the regulations/certification.

**We recommend to use approved material only since this is in the interest of your safety.**

40\_02\_GB

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