

Navigation Lights Users Guide

The information shown is based on the international Regulations for Preventing Collisions at Sea 1972 (IMO).

Lichterführung

Diese Darstellungen zur vorschriftmäßigen Lichterführung basieren auf den Internationalen Kollisionsverhütungsregeln von 1972 (IMO).

Powercraft underway, less than 7 m L.O.A. max. speed 7 knots including yacht under power / Kleinfahrzeuge bis 7 m Länge mit einer Höchstgeschwindigkeit von max. 7 Knoten	Sailing vessels less than 20 m L.O.A. / Segelfahrzeuge bis 20 m Länge unter Segel			Sailing vessels more than 20 m L.O.A. / Segelfahrzeuge über 20 m Länge unter Segel
1 Allround white / Vollkreislaternen weiß	1 Tricolour sailing light / dreifarbige Segellaterne	*1 Allround red / Vollkreislaternen rot *1 Allround green / Vollkreislaternen grün 1 Port / Backbordlaterne 1 Starboard / Steuerbordlaterne 1 Stern / Hecklaterne	*1 Allround red / Vollkreislaternen rot *1 Allround green / Vollkreislaternen grün 1 Bi-colour / Doppelfarbige Seitenlaterne 1 Stern / Hecklaterne	*1 Allround red / Vollkreislaternen rot *1 Allround green / Vollkreislaternen grün 1 Port / Backbordlaterne 1 Starboard / Steuerbordlaterne 1 Stern / Hecklaterne

* maybe exhibited in addition / darf zusätzlich geführt werden

Powercraft underway, less than 20 m L.O.A. / Maschinenfahrzeuge bis 20 m Länge	Powercraft underway, less than 12 m L.O.A. when masthead- & stern can't be mounted / Maschinenfahrzeuge bis 12 m Länge, wenn von der Bauart Topp- und Hecklaternen nicht geführt werden können	Motor driven vessels 12 m up to 20 m L.O.A. / Motorfahrzeuge von 12 m bis 20 m Länge		Motor driven vessels up to 50 m L.O.A. / Motorfahrzeuge bis 50 m Länge	
1 Masthead / Topplaterne 1 Port / Backbordlaterne 1 Starboard / Steuerbordlaterne 1 Stern / Hecklaterne	1 Masthead / Topplaterne 1 Bi-colour / Doppelfarbige Seitenlaterne 1 Stern / Hecklaterne	1 Allround white / Vollkreislaternen weiß 1 Bi-colour / Doppelfarbige Seitenlaterne 1 Port / Backbordlaterne 1 Starboard / Steuerbordlaterne	1 Masthead / Topplaterne 1 Bi-colour / Doppelfarbige Seitenlaterne 1 Stern / Hecklaterne	1 Masthead / Topplaterne 1 Port / Backbordlaterne 1 Starboard / Steuerbordlaterne 1 Stern / Hecklaterne	Masthead / Topplaterne 1 Port / Backbordlaterne 1 Starboard / Steuerbordlaterne 1 Stern / Hecklaterne



Vessel at anchor, aground or at pier (jetty) / Motor- und Segelfahrzeuge vor Anker, auf Grund und an der Pier			Restricted in manoeuvrability Sailing and power boats more than 12 m L.O.A. / manövrierbehinderte Segel- oder Maschinenfahrzeuge über 12 m Länge	Not under command Sailing and power boats more than 12 m L.O.A. / manövrierunfähige Segel- oder Maschinenfahrzeuge über 12 m Länge
less than 50 m at anchor / unter 50 m Länge vor Anker	from 12 m aground / ab 12 m Länge auf Grund	less than 50 m at pier / unter 50 m Länge an der Pier		
1 Allround white / Vollkreislaternen weiß	1 Allround white / Vollkreislaternen weiß 2 Allround red in vertical line / Vollkreislaternen rot im Mast übereinander	1 Allround white showing on out boardside / Vollkreislaternen weiß zur Fahrt-Wassenseite	normal signaling light plus / zusätzlich zur vorgeschriebenen Navigationsbeleuchtung 2 Allround red / Vollkreislaternen rot 1 Allround white / Vollkreislaternen weiß	normal signaling light plus / zusätzlich zur Stb-, Bb-, und Hecklaternen 2 Allround red in vertical line / Vollkreislaternen rot übereinander

Vessels of more than 50 m in length / Fahrzeuge über 50 m Länge (Vessels less than 50 m in length only need 1 masthead and 1 anchor light / Fahrzeuge unter 50 m Länge benötigen nur 1 Topp- und 1 Ankerlaterne)					Pilot vessels on duty / Lotsenfahrzeuge im Einsatz	Police vessels on duty / Polizeifahrzeuge im Einsatz	Motor driven up to 12 m in length / Motorfahrzeuge bis 12 m Länge
under way / in Fahrt	not under command / manövrierunfähig	restricted in manoeuvrability / manövrierbehindert	at anchor / vor Anker	aground / auf Grund			
2 Masthead / Topp 1 Port / Backbord 1 Starboard / Steuerbord 1 Stern / Heck	2 Allround red / Signal rot	2 Masthead / Topp 1 Port / Backbord 1 Starboard / Steuerbord 2 Allround red / Signal rot 1 Allround white / Signal weiß 1 Stern / Heck	2 Allround white / Signal weiß	2 Allround red / Signal rot 2 Allround white / Signal weiß	1 Allround white / Signal weiß 1 Allround red / Signal rot 1 Port / Backbord 1 Starboard / Steuerbord 1 Stern / Heck	1 Flashinglight / Franklicht 1 Masthead / Topp 1 Port / Backbord 1 Starboard / Steuerbord 1 Stern / Heck	1 Masthead / Topp 1 Port / Backbord 1 Starboard / Steuerbord 1 Stern / Heck

Fishing vessels on duty / Fischereifahrzeug im Einsatz	Dredging and underwater works / Bagger- und Unterwasserarbeiten	Towing and pushing vessels under way / Schlepp- und Schubverbände in Fahrt	Floating accessories / schwimmendes Zubehör	Vessels restricted by their draught / tieftengbehinderte Fahrzeuge	Mine - sweeping vessels / Fahrzeuge beim Minensuchen
under way / Fahrt durchs Wasser	under way, no speed / ohne Fahrt durchs Wasser				
1 Allround green / Signal grün 1 Allround white / Signal weiß 1 Masthead / Topp 1 Port / Backbord 1 Starboard / Steuerbord 1 Stern / Heck	1 Allround red / Signal rot 2 Allround white / Signal weiß	4 Allround red / Signal rot 1 Allround white / Signal weiß 2 Allround green / Signal grün	1 Allround white / Signal weiß	3 Allround red / Signal rot 2 Masthead / Topp 1 Port / Backbord 1 Starboard / Steuerbord 1 Stern / Heck	3 Allround green / Signal grün 2 Masthead / Topp 1 Port / Backbord 1 Starboard / Steuerbord 1 Stern / Heck

No responsibility is accepted for any errors or omissions in the information given. Darstellungen und Angaben ohne Gewähr.

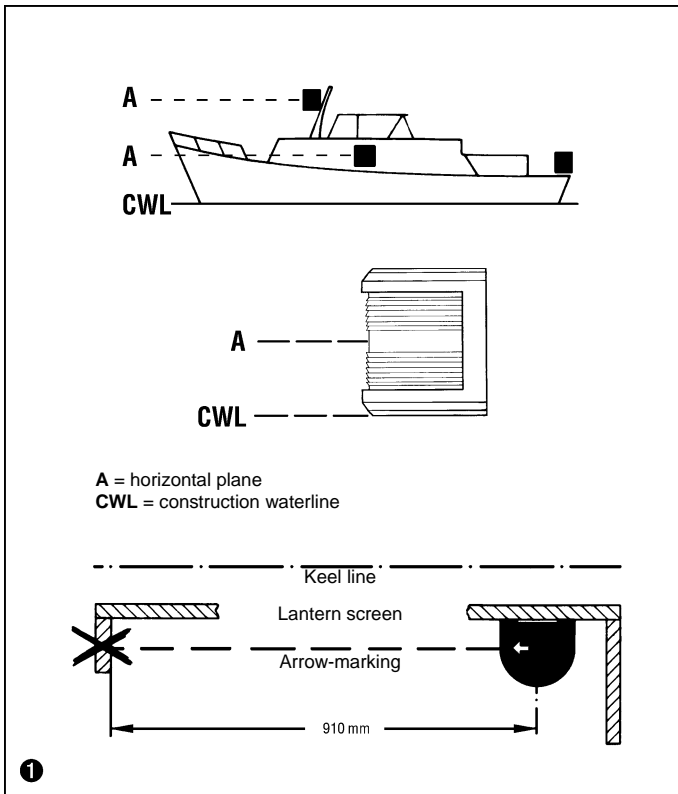


Mounting Instructions for Navigation Lights



aqua signal 40 / 41 / 42 / 50

**Aqua[®]
Signal**



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 ¥ 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).

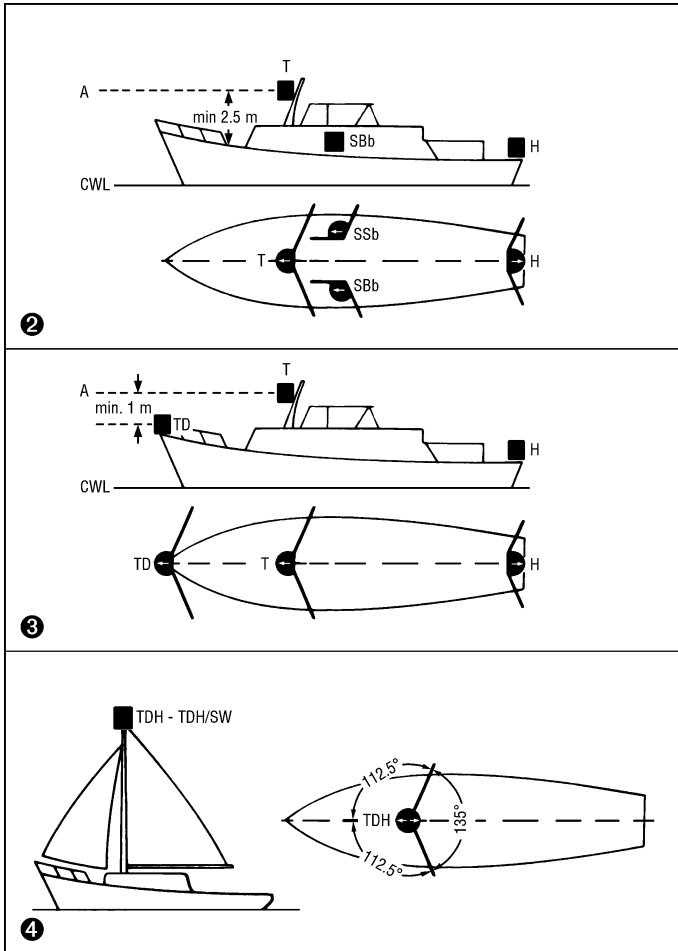
Their light must not be obstructed by parts of the vessel or objects or persons aboard within a vertical sector of $\pm 10^\circ$ and a horizontal sector corresponding to the one of the lights. Their relative positions to the vessel are not to be changed while in operation.

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 ❺

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

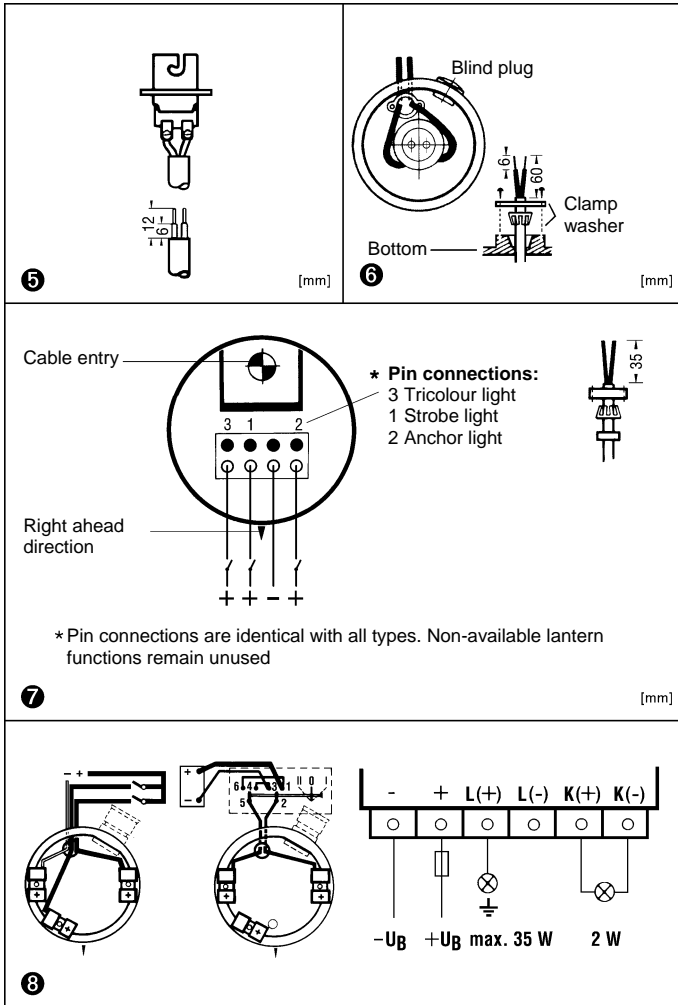
HGe 40 (stern yellow, towing)

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

aqua signal 40 / 41 / 42 / 50



The following lights are exclusively for navigation on European inland waterways € 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.

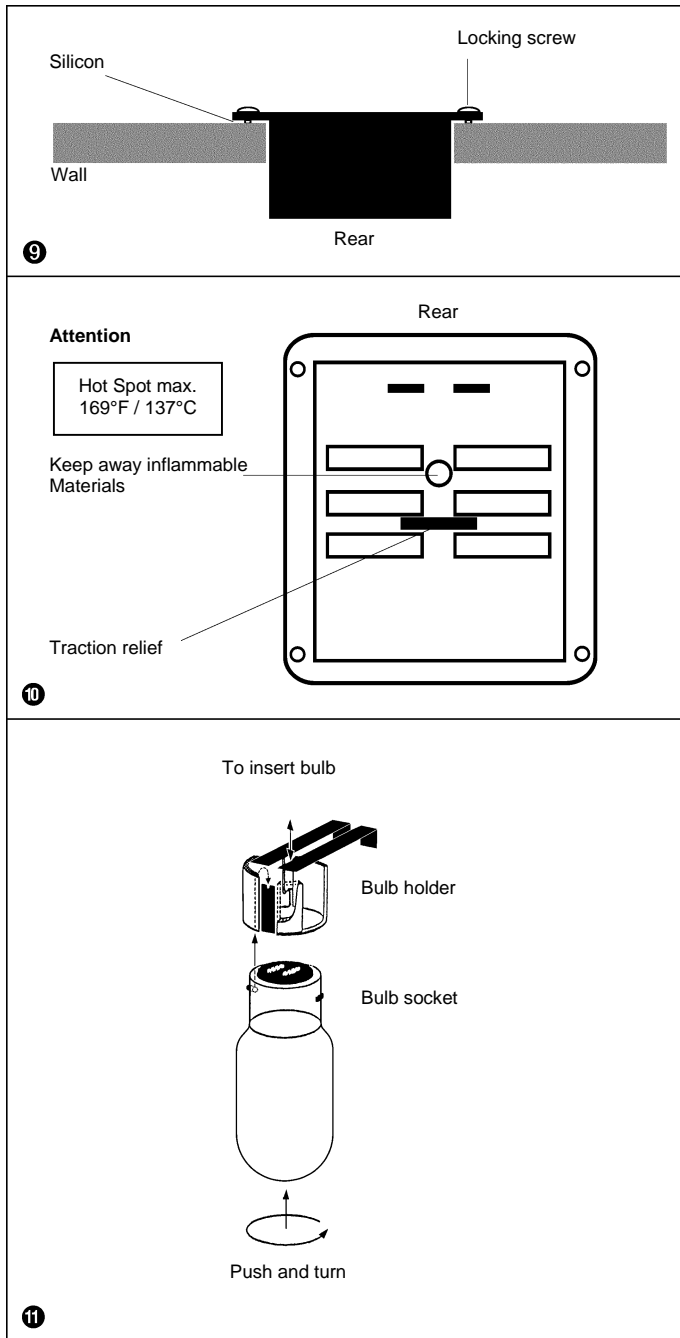
Technical details:

Charge: max. 35W

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

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

Electrical connection by use of terminal Ⓢ



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.

Spare Parts / *Extras

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

90200127

*83514002

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 adaptateur/
3/4" Rohradapter
*85506035

aqua signal quickfits system

23545029

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

95800155

83501006

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/Båbord/Backbord
83504002
Masthead/Tête de mât/
Topp 83501008
Stern white/Poupe blanc/
Heck weiß 83502003
Stern yellow/Poupe jaune/
Heck gelb 83502004

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
*63030011

Bracket/Halteblech/Support
*83502002

Bent bracket/
Support avec dispositif d'arrêt/
Halter mit Arretierungsblech
160 mm
*3908001

Bent bracket/
Support coude/
Halter abgewinkelt
160 mm
*63030012

63030009

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

aqua signal 40

83507008

*83514002

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

83514012

90200127

83545007

23545029

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

23514024

*83507001

83514004

12V/25W 90400002
24V/25W 90400003

90200127

12V/10W 90400005
24V/10W 90400006

83545007

83545007
cpl. with cap/
complet avec cache de protection/
kompl. mit Schutzkappe

23545029

Special mast bracket for side mounting/
Support pour montage laterale/
Halter für seitliche Montage
Starboard/Tribord/Steuerbord *3914001
Port/Båbord/Backbord *3914002

83514011

83514011

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

aqua signal 41

white/blanc/weiß 23540002
red-green/rouge-vert/rot-grün 23542002
red/rouge/rot 23544002
green/vert/grün 23543002
yellow/jaune/gelb 23541004

Starboard/Tribord/Steuerbord
black/noir/schwarz 23543001
white/blanc/weiß 23543006

Port/Båbord/Backbord
black/noir/schwarz 23544001
white/blanc/weiß 23544006

Masthead + Bicolour/Tête du mât + bicolore/
Topp + Doppelfarbig
black/noir/schwarz 23540001
white/blanc/weiß 23540015

Stern/Poupe/Heck
black/noir/schwarz 23541001
white/blanc/weiß 23541008

23540005

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

Complete/Complet/Komplett
83540001

23540011

23540008

Mast bracket/
Support au mât/
Masthalter
*3921002

Multi-purpose bracket/
Support multiple
Mehrfachhalter
*3921003

"Easy to fit" pulpit bracket/
Support de bastingage/
Relingshalter
*3921001

* 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 lens straight out to change bulb

To close the navigation light just reverse the sequence:

1. Put lens back into position
2. Put housing back to the hooks (top side) and move it over the lens 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:

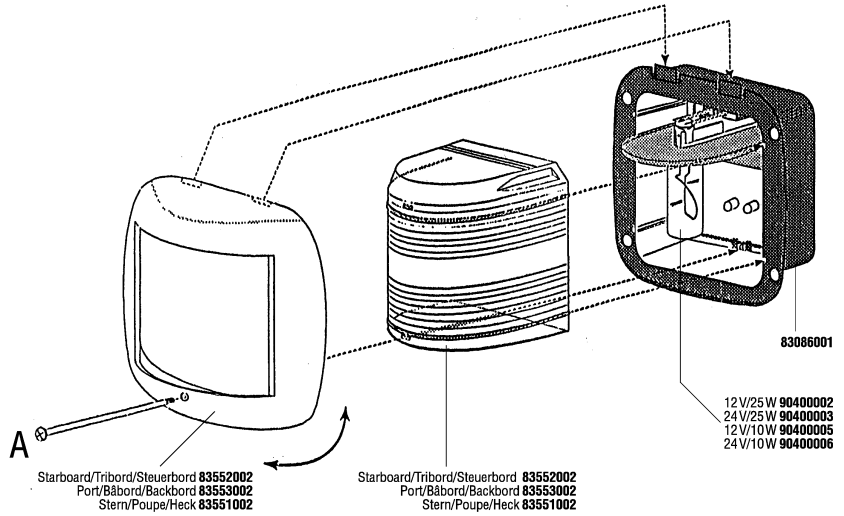
1. Placer la lentille
2. Accrocher le corps du feu par le haut et le faire basculer sur la lentille tenant compte du vis enlevé jusqu'à l'arrêt
3. Faire entrer le vis et le fixer

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 83059002
white bright/blanc clair/weiß hell 83083017
white ordinary/blanc normal/weiß gewöhnlich 83086002

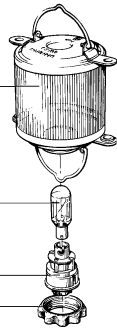
12V/25W 90400002
24V/25W 90400003
12V/10W 90400005
24V/10W 90400006

83037009

95800099

83037002

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



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/Topp weiß STARK 83087001
Stern yellow/Poupe jaune/Heck gelb 83091001

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

83030006

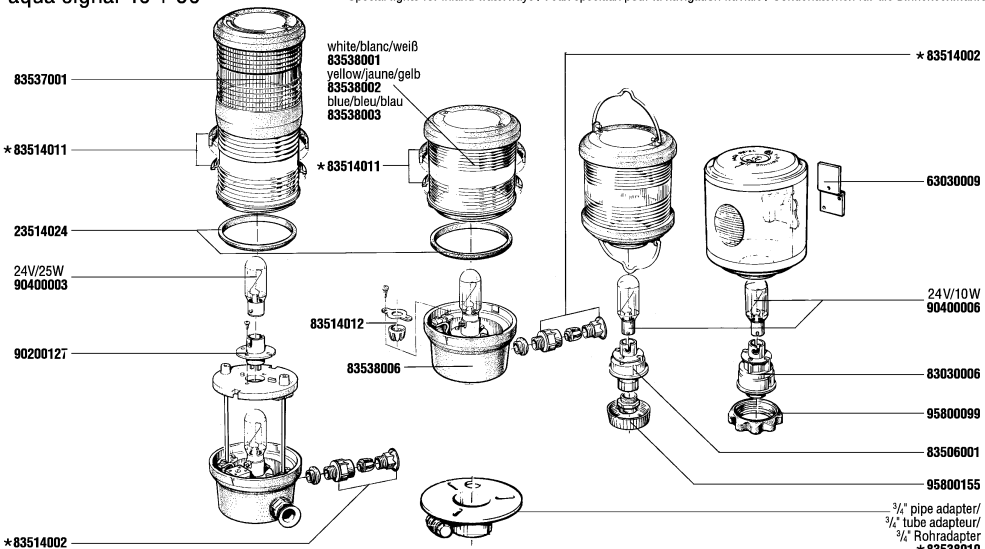
95800099

- ① Mast bracket / Support auf mât / Masthalter * 83501004
 - ② Bent bracket / Support coude / Halter abgewinkelt, H 160 mm. * 63030012
 - 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. * 63030011
 - ⑤ "Easy to fit" pulpit bracket / Support de bastingage / Reilingshalter, * 3902001
- Cable adapter / Presse etoupe pour le feu à hisser / Kabelverschraubung, PG 13.5. * 83080002

* 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



* 83514011

23514024

24V/25W
90400003

90200127

* 83514002

white/blanc/weiß
83538001
yellow/jaune/gelb
83538002
blue/bleu/blau
83538003

* 83514011

83514012

83538006

* 83514002

63030009

24V/10W
90400006

83030006

95800099

83506001

95800155

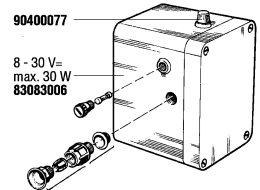
3/4" pipe adapter/
3/4" tube adaptateur/
3/4" Rohradapter
* 83538010

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

FLASHER UNIT BOÎTE CLIGNOTANTE BLINKGEBER

8 - 30 V=
max. 30 W
83083005

8 - 30 V=
max. 30 W
83083006



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ATTENTION

Bulbs for Navigation Lights

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

Bulbs which are non-approved null-void 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.

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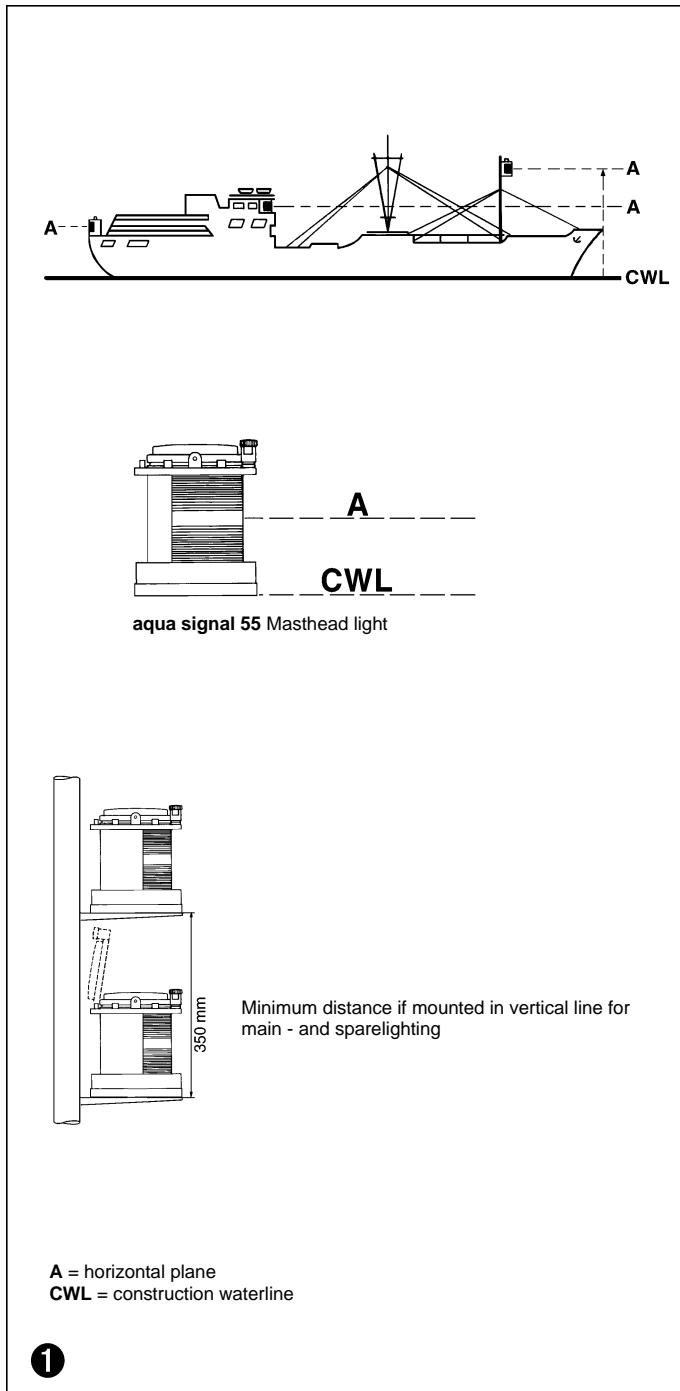
Mounting Instructions for Navigation Lights



aqua signal 55

**aqua[®]
signal**

aqua signal 55



Mounting Instructions

for Navigation Lights Type AQUA SIGNAL 55

These navigation lights comply with the national and international regulations (IMO 1972) regarding minimum range of visibility, luminous intensity of horizontal and vertical sectors, and color specifications for vessels >20 - < 50 meter in length (Regulations for Preventing Collisions at Sea). Lights marked ¥ D in addition to DHI resp. BSH marking may be utilized on European inland waterways.

However, the correct functioning of the lanterns in accordance with the rules can only be ensured when some important points regarding mounting and maintenance have been considered. It is therefore essential to study the following pages attentively.

Regulations

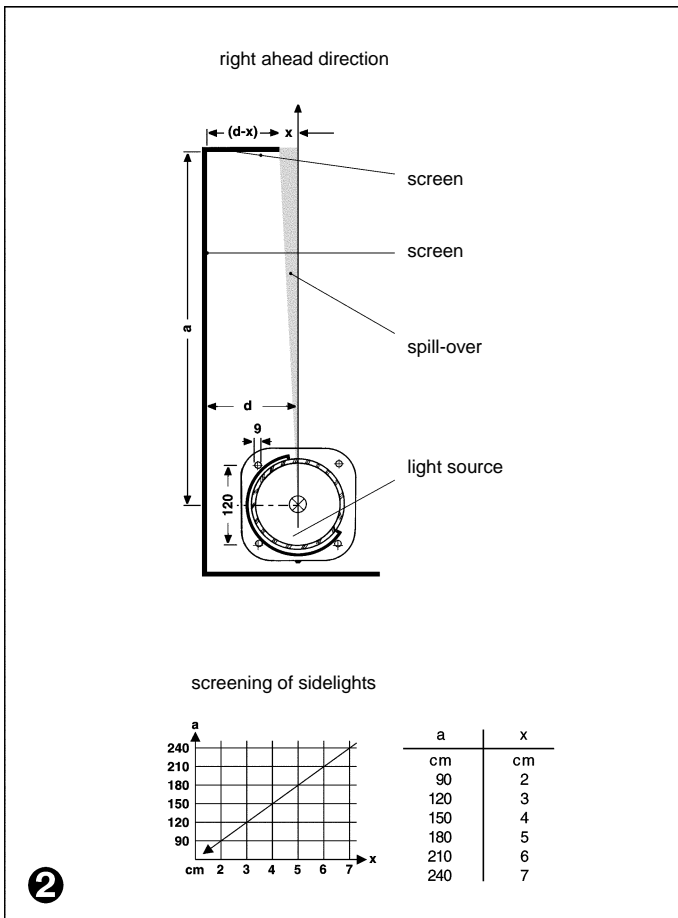
For all ships the rules set forth in Annex 1 to the International Regulations for Preventing Collisions at Sea – Positioning and Technical Details of Lights and Signalling Shapes – must be adhered to. The technical data regarding horizontal and vertical positioning and spacing of the navigation and signalling 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 the 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. Their relative positions to the vessels are not to be changed while in operation.

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



Mounting Instructions

The navigation and signalling light AQUA SIGNAL 55 are in conformance with the IMO regulations 1972 and approved by the respective national authorities. For approval number and manufacturers type designation look at the nameplate.

Sidelight AQUA SIGNAL 55

green-STRONG resp. red-STRONG

angle 112,5°

visibility 2 nm

The light must be fitted with its horizontal plane (A) parallel with the CWL ❶.

Pay attention to the right ahead direction mark of the light ❷ that must be parallel with the keel line and conform with the ship's marking. It is important to respect the dimensions shown in ❷. The measurement 'x' ❷ must precisely be adhered to since otherwise the light intensity in the right ahead direction maybe reduced.

Masthead light AQUA SIGNAL 55

white-STRONG

angle 225°

visibility 5 nm

The light must be fitted with its horizontal plane (A) parallel with the CWL ❶.

Pay attention to the right ahead direction mark of the light ❸ that must be parallel with the keel line and conform to the ship's marking.

For precise mounting refer to ❷.

Stern light AQUA SIGNAL 55

white-STRONG resp. yellow-STRONG

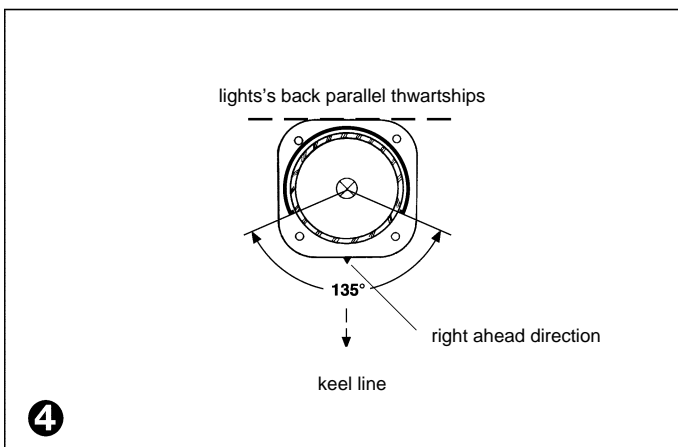
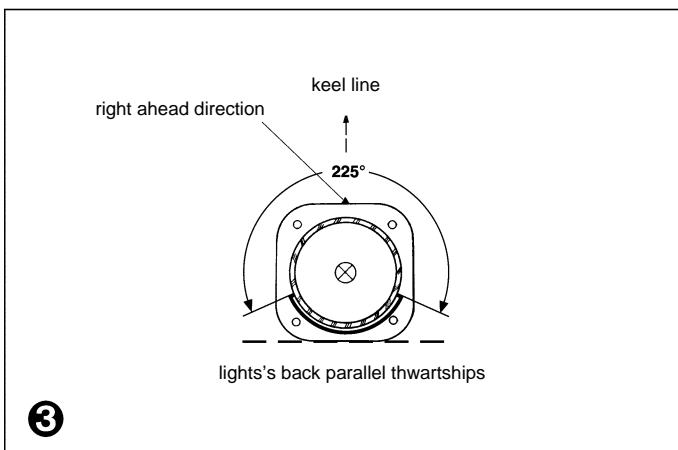
angle 135°

visibility 2 nm

The light must be fitted with its horizontal plane (A) parallel with the CWL ❶.

Pay attention to the right ahead direction mark of the light ❹ that must be parallel with the keel line and conform to the ship's marking.

For precise mounting refer to ❷.



aqua signal 55

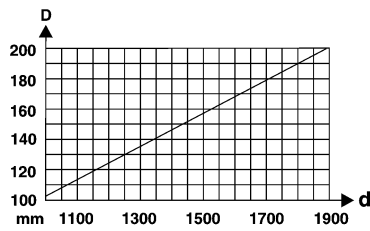
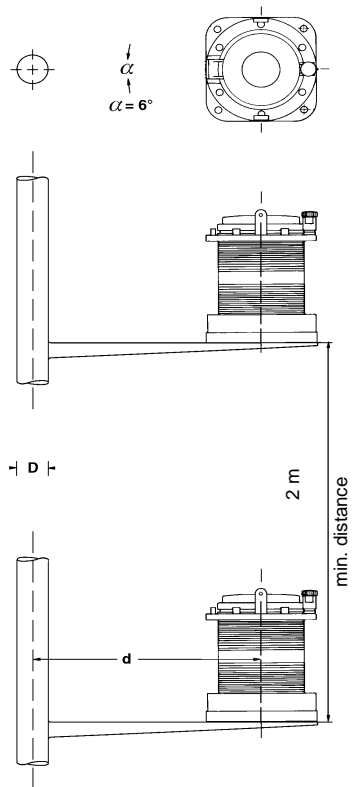
Signalling light AQUA SIGNAL 55

white-, red-, green-STRONG

angle 360°

visibility 2 nm

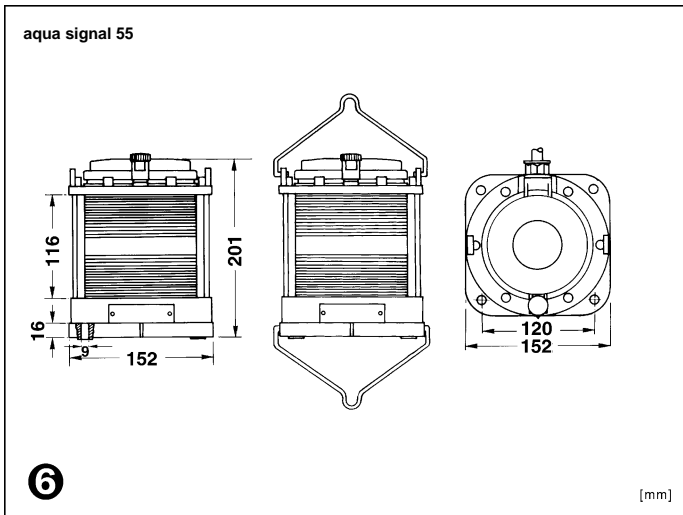
Signalling lights may be positioned solidly mounted or variably. In case of solid mounting attention has to be paid that their sector will not partly be obstructed by the vessel to a greater extend than negligible. At any event the sector of obstruction may not exceed 6° ⑤. The graph ⑤ reveals the distance ,d' mast center to light center. In case two signalling lights white are fitted as anchor lights they must be positioned in a way that one of them can be seen from all over the horizon. In case 2 or 3 signalling lights shall be fitted in a vertical line the distance amongst them must at least be 2 meters ⑤.



Graph to determine the min. distance d to keep Alpha 6°

⑤

aqua signal 55



Connection cable

The navigation lights AQUA SIGNAL 55 as standard are equipped with one cable of 1,5 meters in length (Type HO 7 RN.F).

AQUA SIGNAL 55

As standard the cable is fed in from the side. If cable should be fed in from underneath the necessary cable gland can be ordered under ref. no. 8351001. If cable needs to be replaced see ⑥.

Incandescent bulbs and how to change them

AQUA SIGNAL 55

There are 2 different bulbs available, 12V and 24V.

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

25W ZP D1302/1304.

For vessels under American or Chinese flag a 120V bulb is available as well.

The bulb socket BAY 15d ensures the correct position of the bulb in the light.

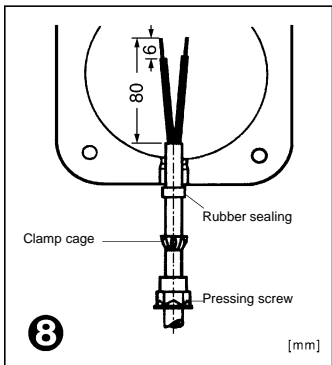
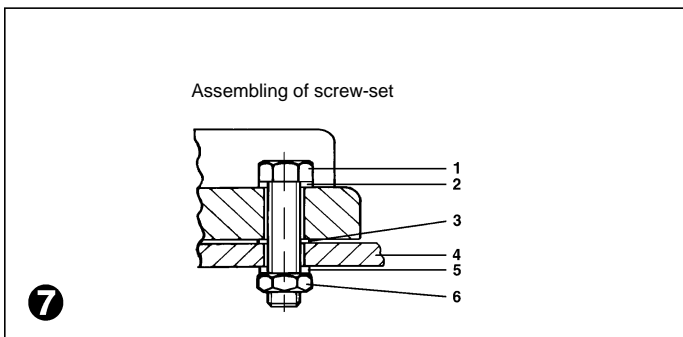
To change the bulb disconnect the plug. The bulb change is done from the top.

Maintenance

All the components of the light are made of seawater resistant materials and need no particular maintenance except occasional cleaning. For cleaning just take fresh water and a soft cloth or sponge, by no means solvents or abrasive substances like e.g. steelwool or scouring sand.

Important

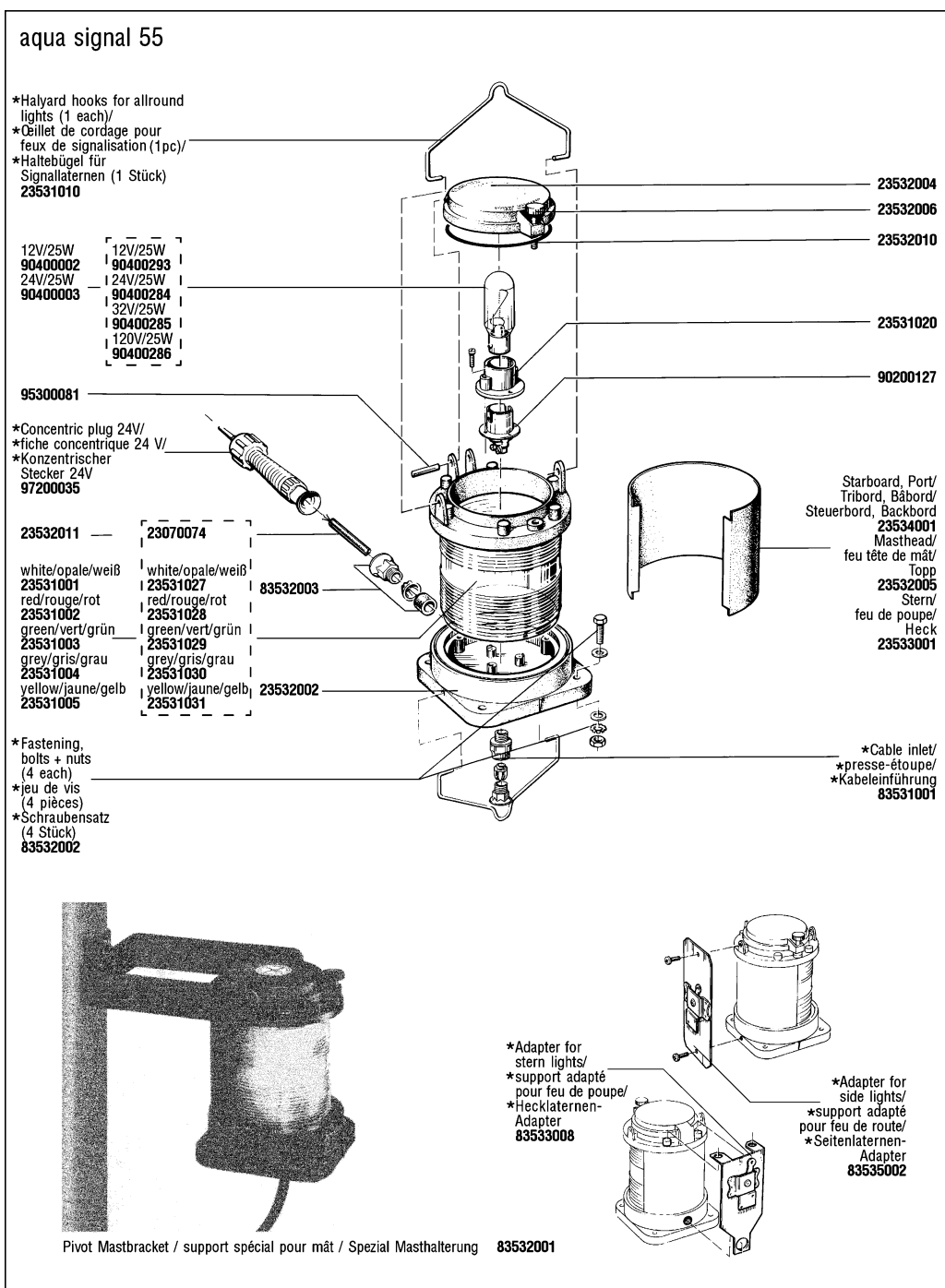
Navigation light housings are not to be painted for photometric reasons. Especially the optics and other parts like shades must not be covered with paint.



Assembling of screw set ⑦

1. stainless steel screw M 8 x 45
2. stainless steel washer Ø 8,5
3. plastic washer Ø 8,5
4. mounting console 8 mm minimum or with appropriate support
5. lock washer Ø 8,5
6. stainless steel nut M 8 max. torque 50Nm (= 5 Kpm)

Spare Parts / *Extras



Legend:
Légende:
Legende:

only for USCG and CCS
 uniquement USCG et CCS
 nur für USCG und CCS

*** Extras not included**
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 Zubehör gehört nicht zum Lieferumfang

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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.

55_13_GB

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Mounting Instructions for Navigation Lights



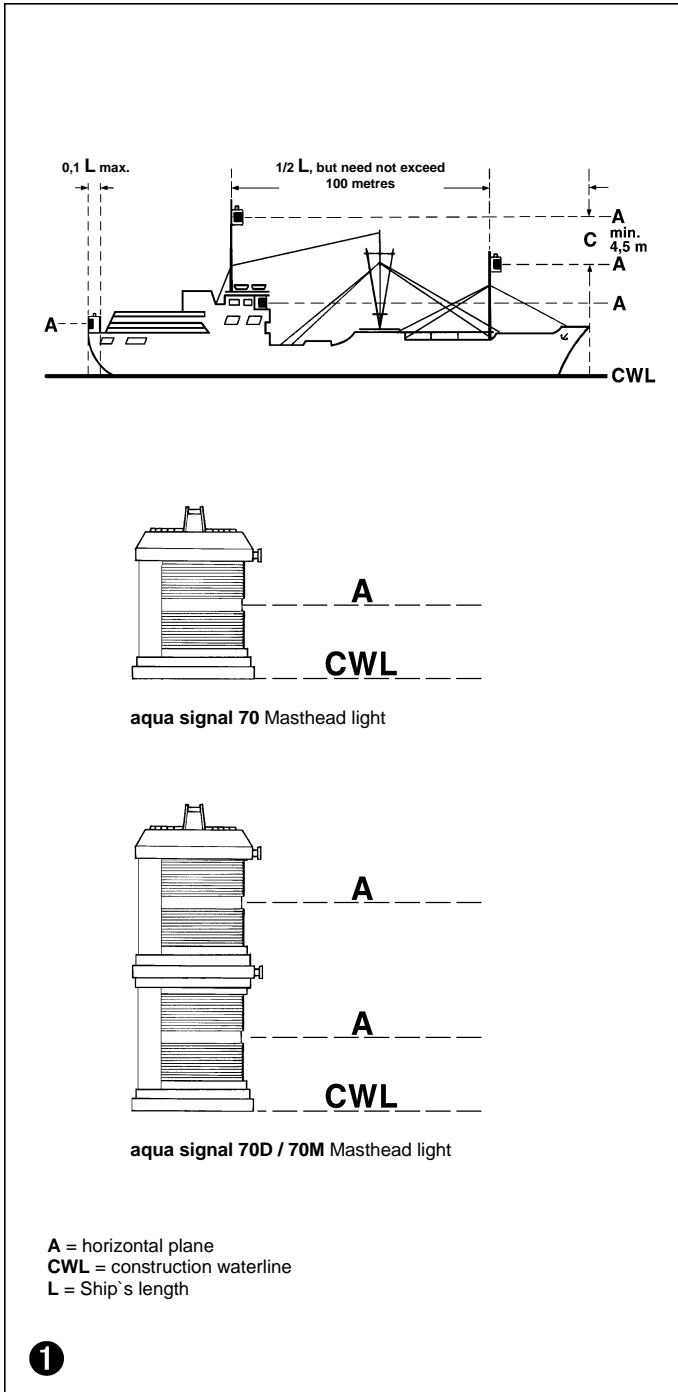
aqua signal 70

aqua signal 70D

aqua signal 70M



aqua signal 70 / 70D / 70M



Mounting Instructions

for Navigation Lights

Type AQUA SIGNAL 70 (single lens)

Type AQUA SIGNAL 70 D (double lens)

Type AQUA SIGNAL 70 M (double lens MODULAR)

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 Ψ D in addition to the DHI resp. BSH marking may be utilized on European inland waterways.

However, the correct functioning of the lanterns in accordance with the rules can only be ensured when some important points regarding mounting and maintenance have been considered. 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

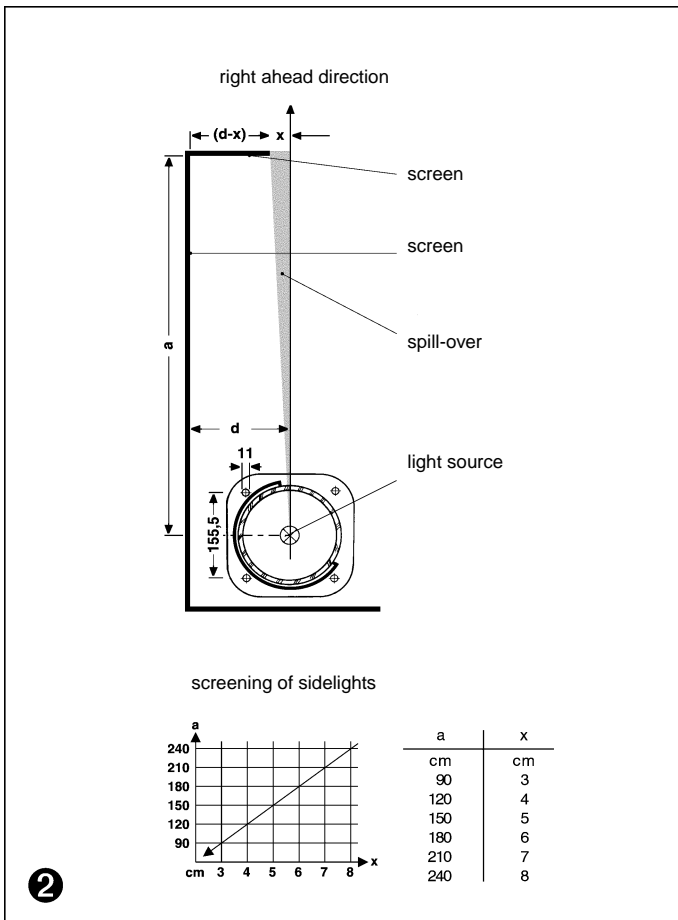
The lights must be positioned in and above keel line resp. parallel with it. Their horizontal plane (A) must be parallel with the construction water line (CWL).

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.

* 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.

aqua signal 70 / 70D / 70M



Mounting Instructions

The navigation and signalling lights AQUA SIGNAL 70, 70 D, and 70 M are in conformance with the IMO regulations 1972 and approved by the respective national authorities. For approval no. and manufacturer's type designation look at the name plate.

Sidelight AQUA SIGNAL 70 / 70 D / 70 M

Horizontal sector 112,5°

Range of visibility 3 nautical miles

The light must be fitted with its horizontal plane (A) parallel with the CWL ❶.

The right ahead direction mark of the light must be aligned parallel with the keel line and conform with the ship's marking. For precise measures look at ❷. Special attention is to be paid to the right ahead direction. The measurement „X“ ❷ must precisely be adhered to since otherwise the light intensity in the right ahead direction may be reduced.

Masthead light AQUA SIGNAL 70 / 70 D / 70 M

Horizontal sector 225°

Range of visibility 6 nautical miles

The light must be fitted with its horizontal plane (A) parallel with the CWL ❶.

The right ahead direction mark of the light ❸ must be in and above the keel line and in conformity with the ship's marking.

For precise mounting look at ❷.

Stern light AQUA SIGNAL 70 / 70 D / 70 M

Horizontal sector 135°

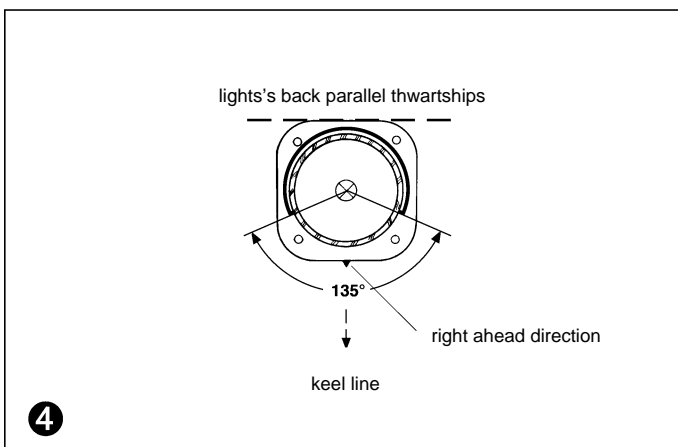
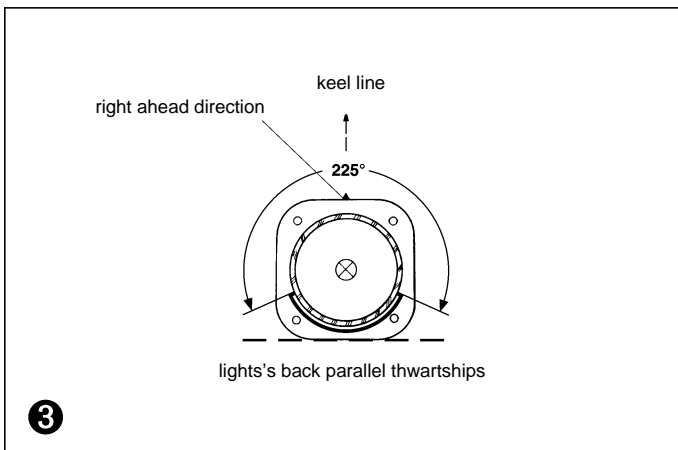
Range of visibility 3 nautical miles

The light must be fitted with its horizontal plane (A) parallel with the CWL ❶.

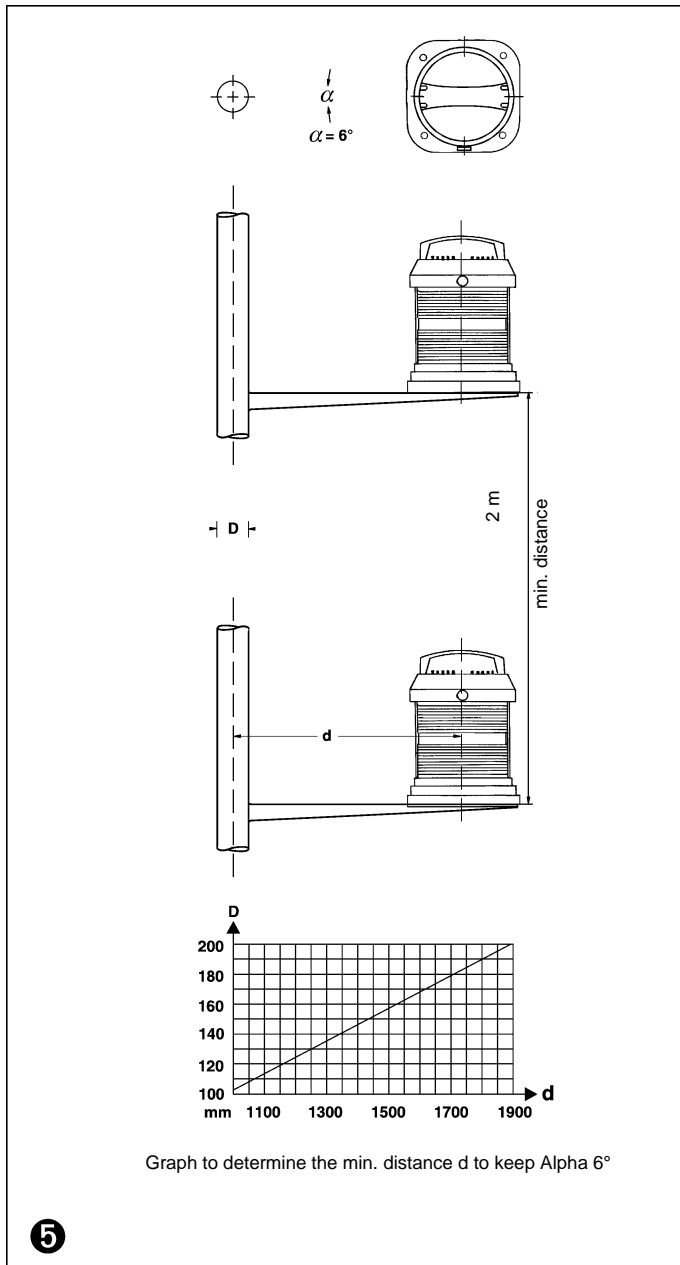
The right ahead direction mark of the light ❹ must be in and above the keel line and in conformity with the ship's marking.

For precise mounting look at ❷.

Stern light white: The light is equipped with a colourwise neutral grey filter to prevent undue glare.



aqua signal 70 / 70D / 70M



5

Signalling lights AQUA SIGNAL 70 / 70 D / 70 M

Horizontal sector 360°

Range of visibility 3 nautical miles

Signalling light white: The light is equipped with a colourwise neutral grey filter to prevent outshining of coloured signalling lights.

Signalling lights may be positioned solidly mounted or variably. In case of solid mounting attention is to be paid that their sector will not partly be obscured by the vessel to a greater extent than negligible. At any event the sector of obscuration must not exceed 6° 5.

The graph 5 reveals the distance „d“ mast centre to light centre. In case two signalling lights white are fitted as anchor lights they must be positioned in such a way that one of them can be seen from all over the horizon.

In case 2 or 3 signalling lights shall be fitted in a vertical line the distance between them must at least be 2 metres 5.

Signalling lights for special application

e.g. manoeuvre light

Horizontal sector 360°

Range of visibility 5 nautical miles

e.g. morse light

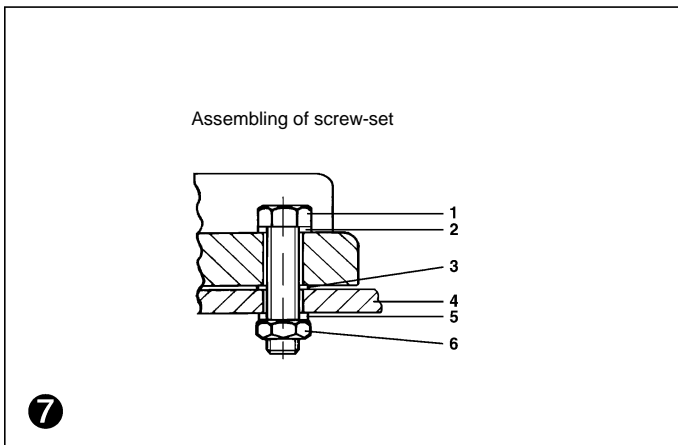
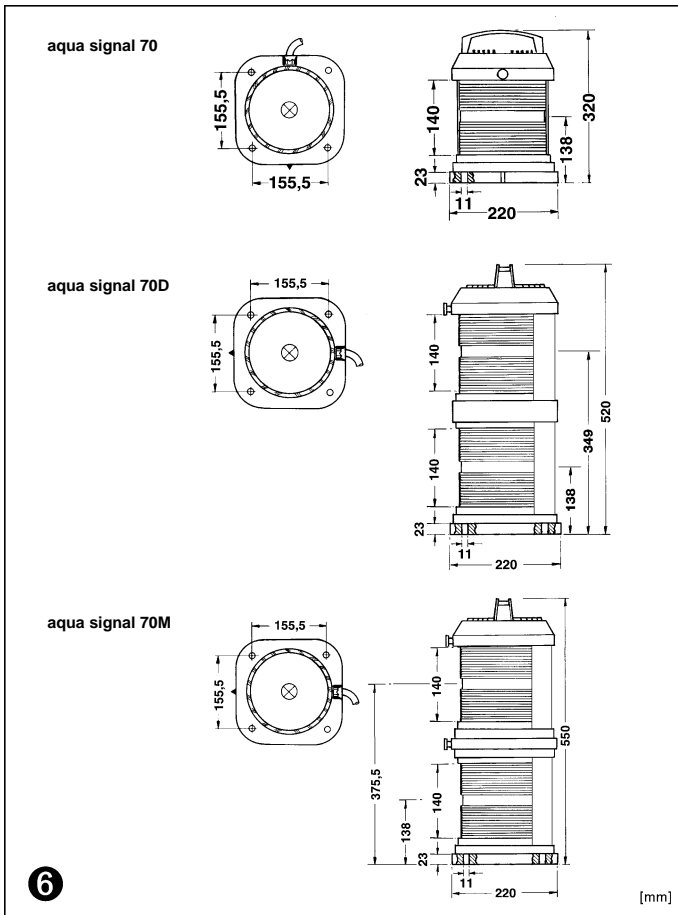
Horizontal sector 360°

Range of visibility 3 nautical miles

These lights must only be operated by means of approved morse keys.

These lights must be solidly mounted. Their sector must not partly be obscured by the vessel to a greater extent than negligible. At any event the sector of obscuration must not exceed 6° 5.

aqua signal 70 / 70D / 70M



Connection cable

The navigation and signalling lights AQUA SIGNAL 70 as standard are equipped with one cable of 1,5 metres in length. Those lights of types 70 D and 70 M have two of these cables.

In case these cables need to be renewed with types AQUA SIGNAL 70 and 70 M unscrew the lampholder assembly (3 screws) and pull it out upwards. The terminal is fitted to its reverse. With type AQUA SIGNAL 70 D you have first to remove the lampholder assembly from the upper lens compartment to obtain free access to the upper terminal. To exchange the lower cable proceed as advised above.

Incandescent bulbs and how to change them

There are 3 different bulbs available for 24, 110, and 230 V. Their lamp base is P28s making sure that the bulb is correctly positioned.

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

24V/ 40W ZP D 1103, 110V/ 60W ZP D1103, 230V/ 65W ZP D 1103

To change the bulb disconnect the plug, loosen the locker screw, turn the light's cover to the left and lift it off. Now the bulb may easily be changed from top.

To change the lower bulb of an AQUA SIGNAL 70 D you additionally have to remove the lampholder assembly from the upper lens compartment first.

To change the lower bulb of an AQUA SIGNAL 70 M please disconnect the plug, loosen the lower locker screw, turn the complete upper light left, lift it off and make it hang down sideways. Then change the bulb, put the upper light in place again and lock it by turning it right, and tighten the locking screw.

Maintenance

All components of the lights are made of seawater resistant materials and need no particular maintenance except occasional cleaning.

For cleaning just take fresh water and a soft cloth or sponge, by no means solvents or abrasive substances like e.g. steelwool or scouring sand.

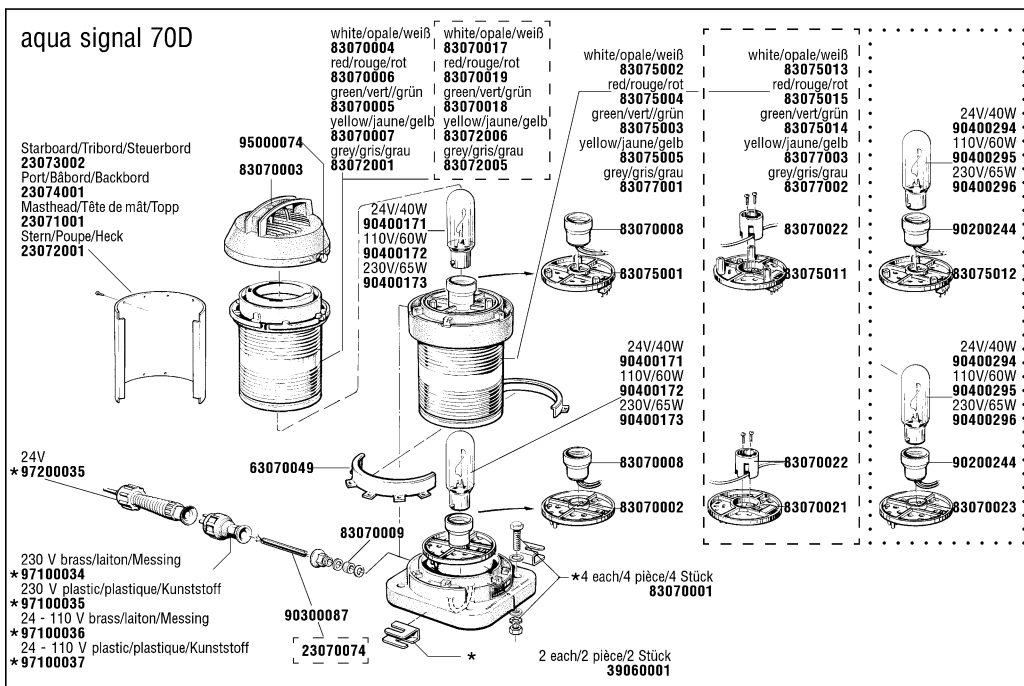
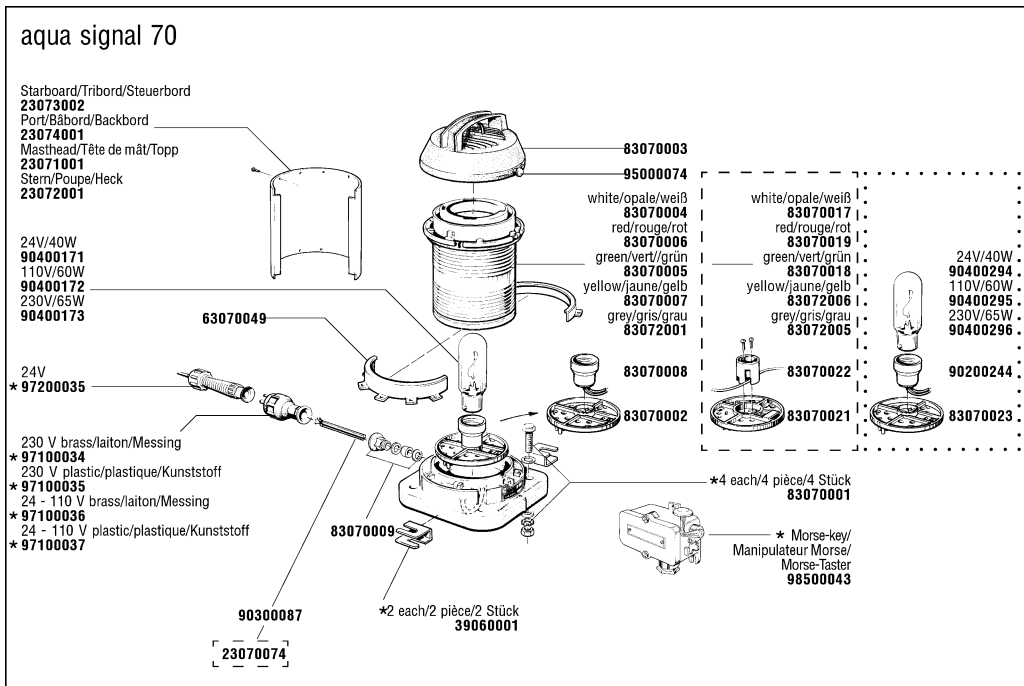
Important

for optical reasons the navigation light's housing must not be painted. The lenses in particular but also other plastic components may not be touched with paint.

Assembling of screw-set 7

1. Stainless steel screw M 10 x 50
2. Stainless steel washer Ø 10.5
3. Plastic washer Ø 10.5
4. Mounting console min. 8 mm or with appropriate support
5. Lock washer Ø 10,5
6. Stainless steel nut M 10 max. torque 50 Nm (= 5 Kpm)

Spare Parts / *Extras

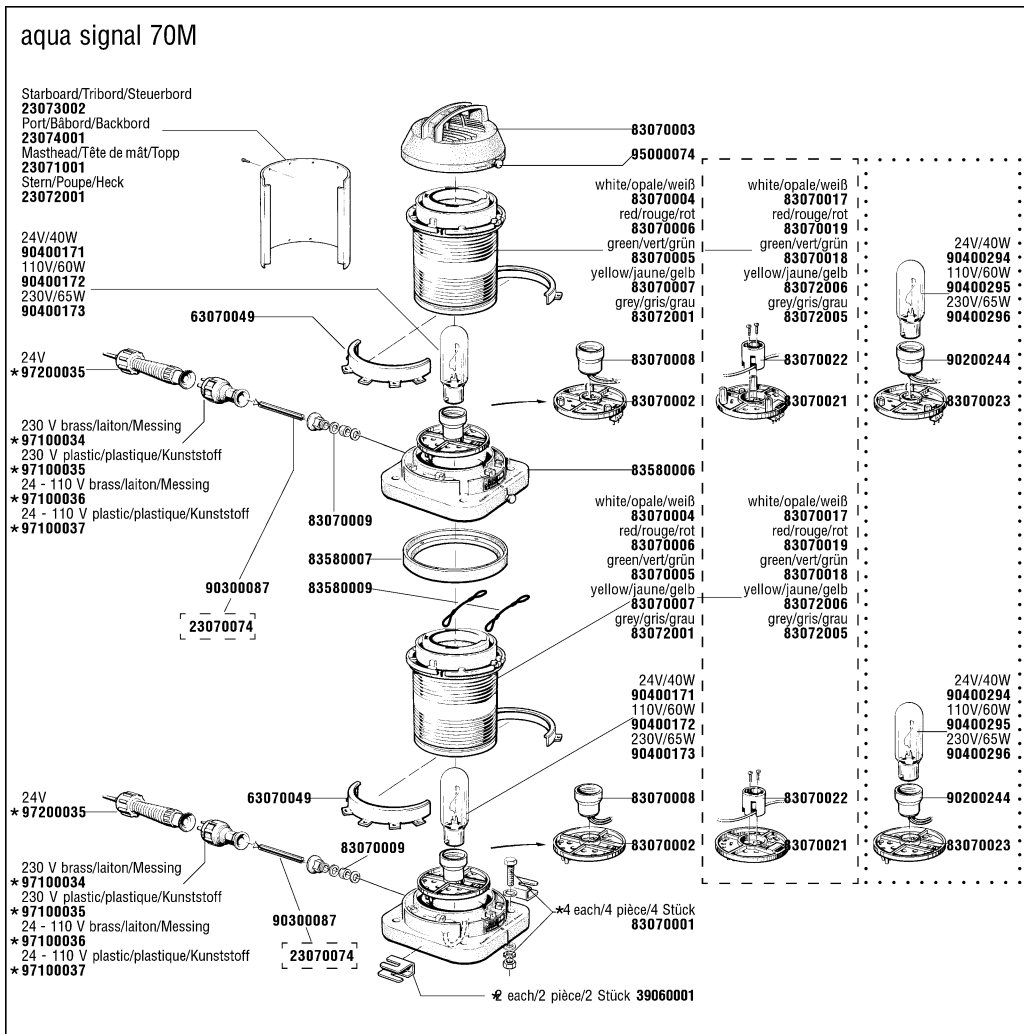


Legend:
Légende:
Legende:

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uniquement USCG et CCS	uniquement RINA
nur für USCG und CCS	nur für RINA

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

Spare Parts / *Extras



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