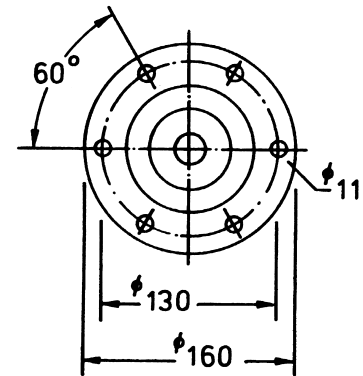


Empfangsantennen / Receiving ROD Antennas

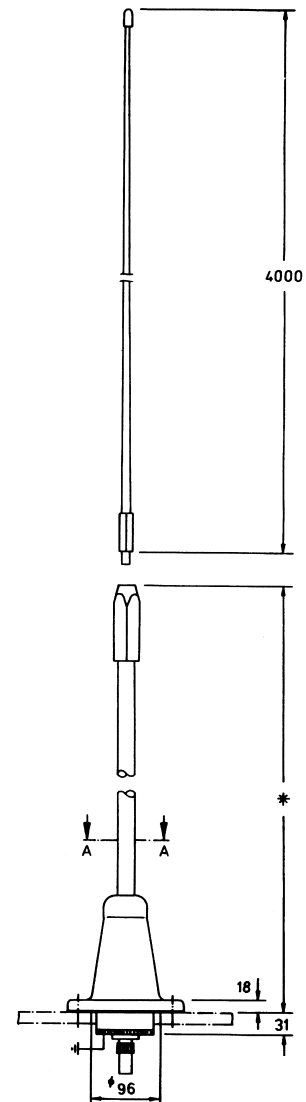
STA 50 – 70 E, STA 50 – 70 E / EAU

Specification

Construction	two-section rod antenna self-supporting
Material	Rods: glassfibre reinforced polyester resin Rod Coupling: brass screw joint Base Insulator: moulded poly- ester resin
RF connection	N-system 50 Ohms
Colour	light grey (similar to RAL 7035)
Length	STA 50 E = approx. 5 m STA 60 E = approx. 6 m STA 70 E = approx. 7 m
Weight	STA 50 E = approx. 4.4 kg STA 60 E = approx. 5.3 kg STA 70 E = approx. 6.2 kg
Wind load	max. 200 km/h
Environment	resistant to marine environment, e.g. seawater, exhaust gases, carbon disulphide, benzol, petrol, diesel, heavy oil, grease, trichlorethylene, hydrochloric and sulphuric acid, acetone insensitive
Icing	
Formation of microbes and mould	none
Damages by white ants	none
	Vertical Polarization Robust Solid Glassfibre Rods Sectional Assemblage Excellent Rigidity Low Weight Simple Mounting Approved Installation Technique Screw Cap Insert with N-Socket N-Plug with Rubber Sleeve
Length *	STA 50 E STA 50 E/EAU = 1035 mm STA 60 E STA 60 E/EAU = 1955 mm STA 70 E STA 70 E/EAU = 2885 mm



Section A-A



STA = Rod Antenna
E = Receiving Rod Antenna
EAU = Transformer

K = Tilt
TR = reinforced
SE = Transmit Antenna

SSB = internal feeding
SSB/E = external feeding
PM/M = dark grey (similar to RAL 7000)

NDB = Non Directional Radio Beacon

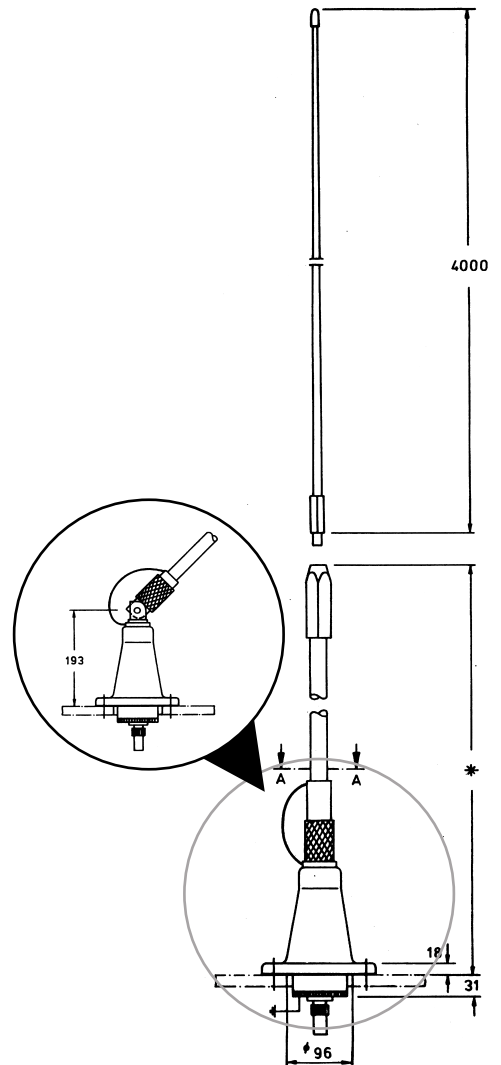
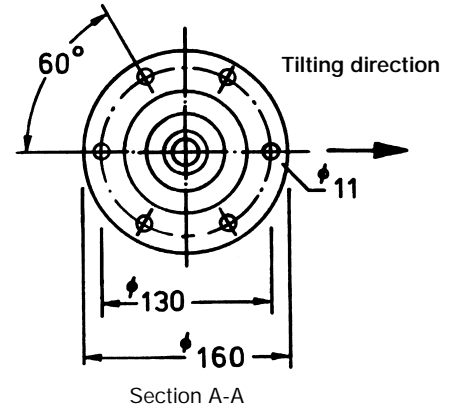


Empfangsantennen / Receiving ROD Antennas

STA 50 – 70 E/K, STA 50 – 70 E/K/EAU

Specification

Construction	two-section rod antenna self-supporting
Material	Rods: glassfibre reinforced polyester resin Rod Coupling: brass screw joint Base Insulator: moulded poly- ester resin
RF connection	N-system 50 Ohms
Colour	light grey (similar to RAL 7035)
Length	STA 50 E = approx. 5 m STA 60 E = approx. 6 m STA 70 E = approx. 7 m
Weight	STA 50 E = approx. 4.4 kg STA 60 E = approx. 5.3 kg STA 70 E = approx. 6.2 kg
Wind load	max. 200 km/h
Environment	resistant to marine environment, e.g. seawater, exhaust gases, carbon disulphide, benzol, petrol, diesel, heavy oil, grease, trichlorethylene, hydrochloric and sulphuric acid, acetone insensitive
Icing	
Formation of microbes and mould	none
Damages by white ants	none
	Vertical Polarization Robust Solid Glassfibre Rods Sectional Assemblage Excellent Rigidity Low Weight Simple Mounting Approved Installation Technique Screw Cap Insert with N-Socket N-Plug with Rubber Sleeve
Length *	STA 50 E/K STA 50 E/K/EAU = 1155 mm STA 60 E/K STA 60 E/K/EAU = 2075 mm STA 70 E/K STA 70 E/K/EAU = 3005 mm

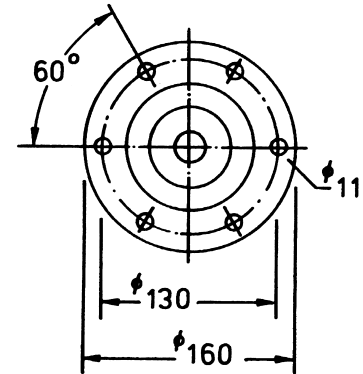


Empfangsantennen / Receiving ROD Antennas

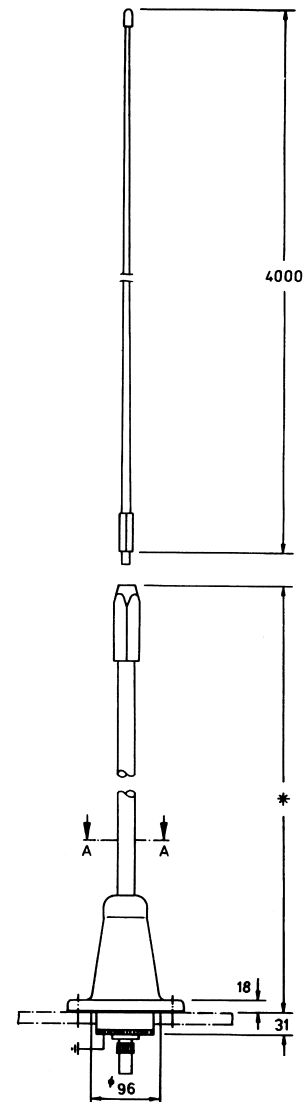
STA 50 – 70 E/TR, STA 50 – 70 E/TR/EAU

Specification

Construction	two-section rod antenna self-supporting
Material	Rods: glassfibre reinforced polyester resin Rod Coupling: brass screw joint Base Insulator: moulded polyester resin
RF connection	N-system 50 Ohms
Colour	light grey (similar to RAL 7035)
Length	STA 50 E = approx. 5 m STA 60 E = approx. 6 m STA 70 E = approx. 7 m
Weight	STA 50 E = approx. 4.4 kg STA 60 E = approx. 5.3 kg STA 70 E = approx. 6.2 kg
Wind load	max. 200 km/h
Environment	resistant to marine environment, e.g. seawater, exhaust gases, carbon disulphide, benzol, petrol, diesel, heavy oil, grease, trichlorethylene, hydrochloric and sulphuric acid, acetone insensitive
Icing	
Formation of microbes and mould	none
Damages by white ants	none
	Vertical Polarization Robust Solid Glassfibre Rods Sectional Assemblage Excellent Rigidity Low Weight Simple Mounting Approved Installation Technique Screw Cap Insert with N-Socket N-Plug with Rubber Sleeve
Length *	STA 50 E/TR STA 50 E/TR/EAU = 1045 mm STA 60 E/TR STA 60 E/TR/EAU = 1965 mm STA 70 E/TR STA 70 E/TR/EAU = 2895 mm



Section A-A



STA = Rod Antenna
E = Receiving Rod Antenna
EAU = Transformer

K = Tilt
TR = reinforced
SE = Transmit Antenna

SSB = internal feeding
SSB/E = external feeding
PM/M = dark grey (similar to RAL 7000)

NDB = Non Directional Radio Beacon



Mounting Instructions

The antenna consists of two parts: the upper and the lower sections. The antenna must be assembled before installing. The brass fittings of both rods must be screwed together and shall be locked then by two fork wrenches, 30 mm and 22 mm size.

The base insulator of the antenna shall be screwed to a prepared counterflange. The flat gasket belonging to the delivery scope shall be used with all installations, because it serves not only as a sealing, but it also compensates unevenness on the counterflanges. The base insulator screws (use stainless steel, please) shall be fixed with an about 40 Nm tightening torque. A screw too much tightened may damage the base insulator flange.

Whenever possible, install the antenna in a sloping position (about five degrees to the vertical).

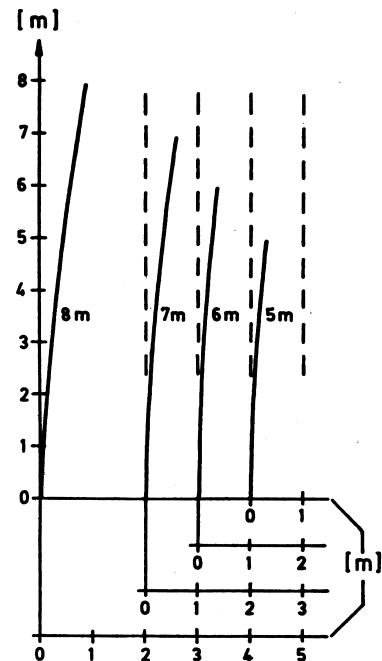
A pre-fabricated mounting support permits three different mounting attachments: welding to any kind of steel structure, screwing with bolts to vertical counter-parts, and round iron clamp fixing to vertical round tubes, diameters 51 to 63.5 mm.

TR-antennas shall be installed with about 20 degrees to the vertical in order to stabilize the antenna and to minimize rotation of the upper part of the antenna rod.

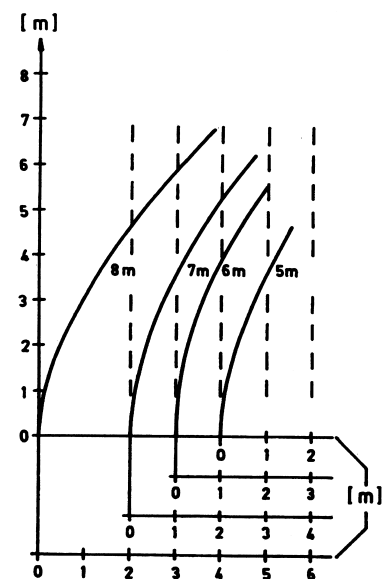
The moderate priced mounting supports EAH 3/5, EAH 3/20 and EAH 2 are painted with a rust preventing primer.

When planning a new installation, please, take care that the supporting flange for the antenna is built in a sloping position of about 5 degrees (20 degrees with TR-version). In this way the rotary motion of the antenna is being reduced remarkably during pitching and overheeling in heavy sea. Keep 3 meters distance to other parallel superstructures.

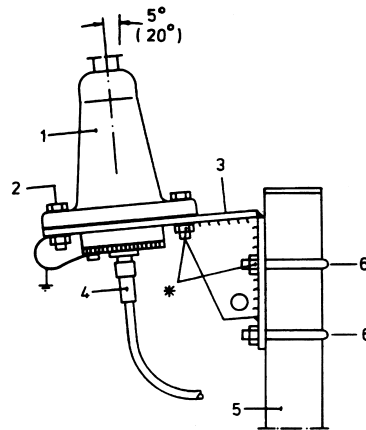
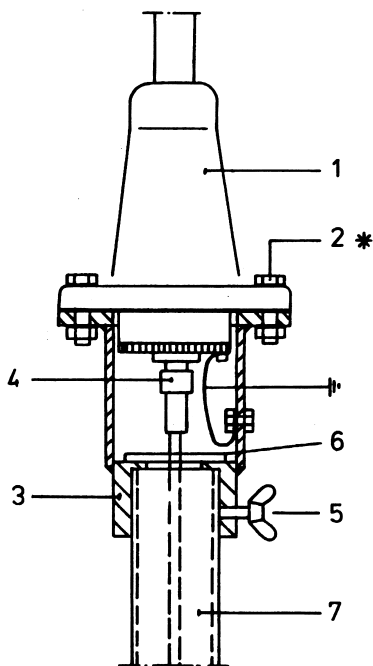
Deflection at wind 6 (Beaufort)



Deflection at wind 10



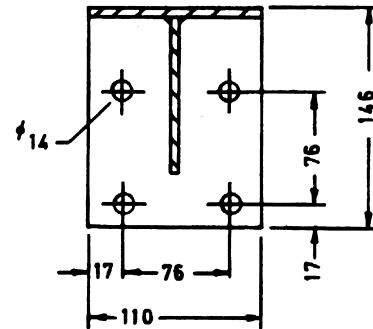
Mounting Proposal



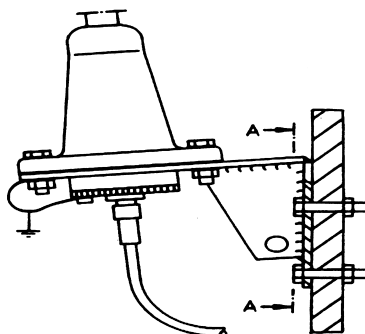
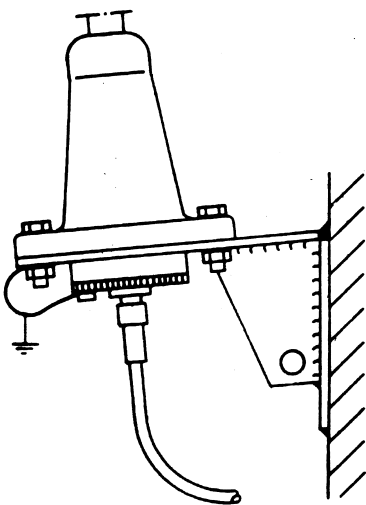
Antenna STA...

- 2 Hexagon screw M 10x45 DIN 933 (6x)
- Washer 10.5 DIN 125 (6x)
- Spring washer 10 DIN 127 (6x)
- Hexagon nut M 10 DIN 934 (6x)
- 3 Mounting support EAH 2
- 4 N-connection
- 5 Wing screw M 8x20 DIN 316 (3x)
- 6 Supporting plate
- 7 St-pipe Ø 60.3

* Tightening torque $M_A = 40 \text{ Nm}$



Section A-A



Antenna STA...

- 2 Hexagon screw M 10x45 DIN 933 (6x)
- Washer 10.5 DIN 125 (6x)
- Spring washer 10 DIN 127 (6x)
- Hexagon nut M 10 DIN 934 (6x)
- 3 Mounting support EAH 3/5 (EAH 3/20)
- 4 N-connection
- 5 St-pipe Ø 51 - Ø 63.5 DIN 2448/DIN 2458
- 6 U-bracket DN 50/M 12 DIN 3570

* Tightening torque $M_A = 40 \text{ Nm}$

Delivery scope of item 3 involves item 6.

STA = Rod Antenna
E = Receiving Rod Antenna
EAU = Transformer

K = Tilt
TR = reinforced
SE = Transmit Antenna

SSB = internal feeding
SSB/E = external feeding
PM/M = dark grey (similar to RAL 7000)

NDB = Non Directional Radio Beacon

Description

The rod antennas STA 50 - 70 E are made for receiving. They are manufactured of solid glassfibre reinforced polyester. A copper litz wire is concentrically embedded into the antenna rods.

The antennas are made of two sections. Their upper rods are of the same standardized length for all antennas, whereas the different antenna heights are being made up by varying the lower section lengths. Screw fittings connect the lower and the upper sections, both mechanical and electrical. The lower rods are mounted on robust base insulators fabricated of glassfibre reinforced plastics. A junction insert containing the interconnection between the antenna radiator and the RF cable is screwed into the lower section's base insulator cavity. This screw insert may also contain a wideband matching transformer (upon request). The primary and the secondary of the wideband transformer are electrically insulated. The primary is grounded in order to discharge static load. An overload protector shunts the primary when the antenna picks up too high voltages.

The base insulator cavity is sealed waterproof by an O-ring in the screw insert cap. The cap also carries the N-connector socket for the RF cable. A key face of 24 mm on this socket shall help to keep the assembly fixed when undoing a corroded plug. A rubber sleeve for protection of the N-connector is included in the delivery. These types of receiving antennas are manufactured 5, 6, and 7 meters long.

Tiltable rod antennas STA .. E/K are shown on page 2. The tilting joint is directly mounted above the base insulator. The special **reinforced** version STA .. E/TR is shown on page 3. With the reinforced fixed-end of the rod the antenna withstands also continuous and heavy rotary motion as it is often met on smaller boats (trawlers etc.).

Standard Supply

Antenna - consisting of top and lower sections, complete with screw insert, and
 1 N-connector plug
 1 rubber sleeve
 1 flat gasket

Optional Accessories (upon request)

Designation	Order-Code
1 Mounting support EAH 2, for 2"-pipe	E 107-127
2 Mounting support EAH 3/5, for 5° installation	E 107-128
3 Mounting support EAH 3/20, for 20° installation	E 107-129
4 Mounting set MS 1 (stainless steel fitting material consisting of bolts, nuts and washers)	E 107-130

Type Models

5 meters:

Receive Antenna:
 STA 50 E
 with transformer:
 STA 50 E/EAU
 with tilt:
 STA 50 E/K
 with tilt and transformer:
 STA 50 E/K/EAU
 reinforced model:
 STA 50 E/TR
 reinforced model
 with transformer:
 STA 50 E/TR/EAU

6 meters:

Receive Antenna:
 STA 60 E
 with transformer:
 STA 60 E/EAU
 with tilt:
 STA 60 E/K
 with tilt and transformer:
 STA 60 E/K/EAU
 reinforced model:
 STA 60 E/TR
 reinforced model
 with transformer:
 STA 60 E/TR/EAU

7 meters:

Receive Antenna:
 STA 70 E
 with transformer:
 STA 70 E/EAU
 with tilt:
 STA 70 E/K
 with tilt and transformer:
 STA 70 E/K/EAU
 reinforced model:
 STA 70 E/TR
 reinforced model
 with transformer:
 STA 70 E/TR/EAU

Features

Solid glassfibre reinforced polyester rod antenna (unnotched specimen) of 3 m and 5 m length with passivated cast aluminium antenna base (bichromate finish as per MIL-C-5541).

Meets all climatic environmental conditions in the temperature range of -40° to $+60^{\circ}$ C and wind speed of 200 km/h.

Application

STA 30 R
receiving antenna
STA 30 R/EAU
(e.g. autoalarm,
safety receivers,
yacht receivers, etc.)

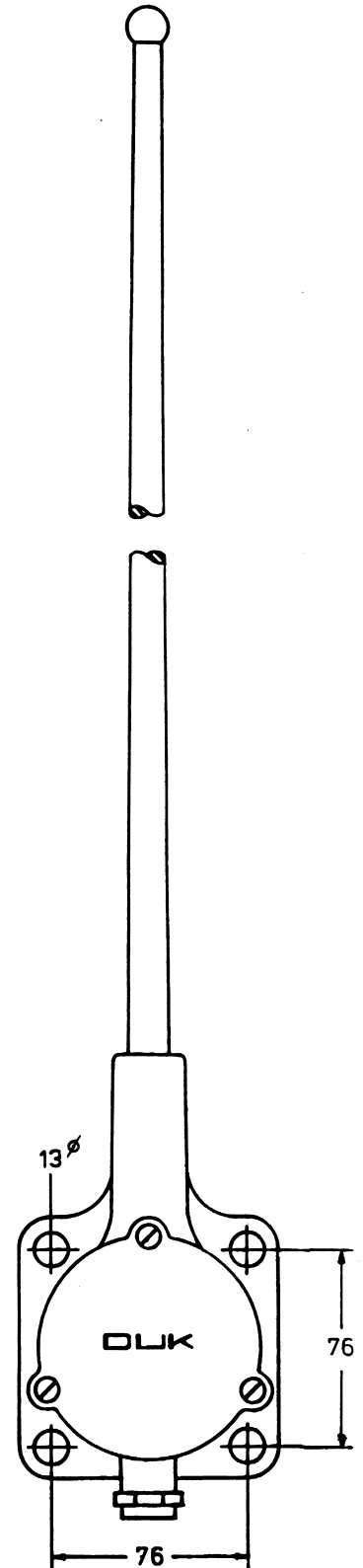
STA 50 R
receiving antenna
STA 50 R/EAU
all bands up to 30 MHz

Specification

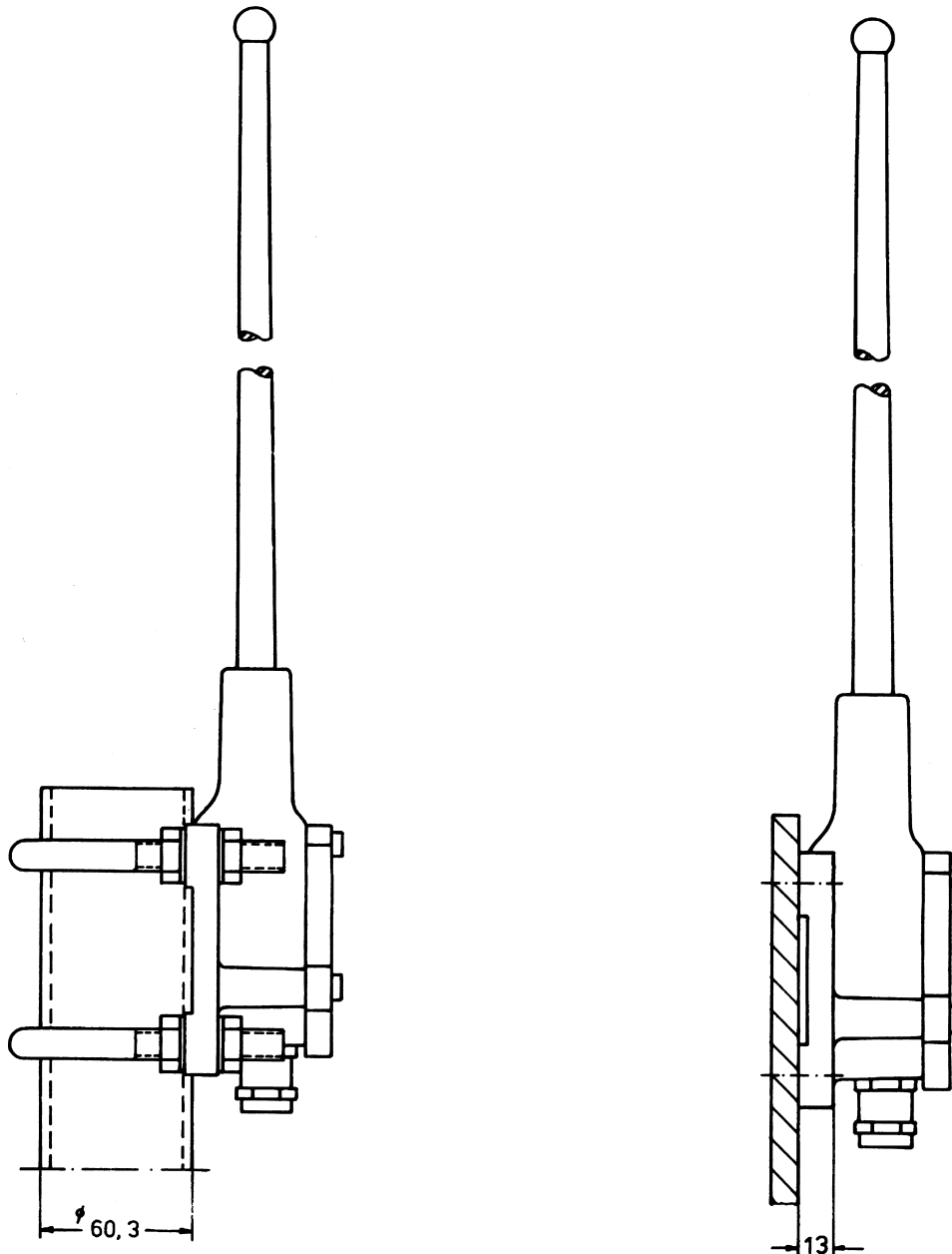
Length	STA 30 R STA 30 R/EAU = approx. 2890 mm STA 30 R/EAU with wide band symmetrical matching STA 50 R STA 50 R/EAU = approx. 4890 mm STA 50 R/EAU transformer
Insulation resistance	$> 10^6$ Ohm
Overload protection	90 V
Polarization	vertical
Horizontal pattern	omnidirectional
Cable connection	screw terminal standard marine valve cone PG11 (IP65)
Cable diameter	10 – 11 mm
screen diameter	7 – 8 mm

Primary winding with overload protection electrically separated from secondary winding.

Easy mounting to all kind of super-structures incl. supporting pipes with 60.3 mm \varnothing . For installation proposals, please, see overleaf.



Recommended Installation Methods



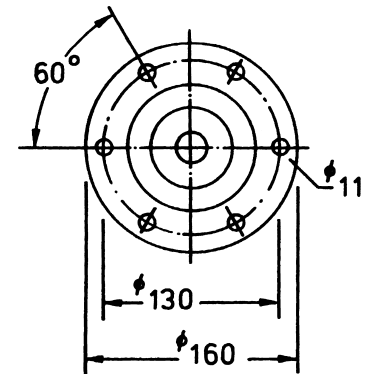
- with round iron straps "U-brackets"
(involved in our standard delivery scope) -

Sende-/Empfangsantennen / Transmitting ROD Antennas

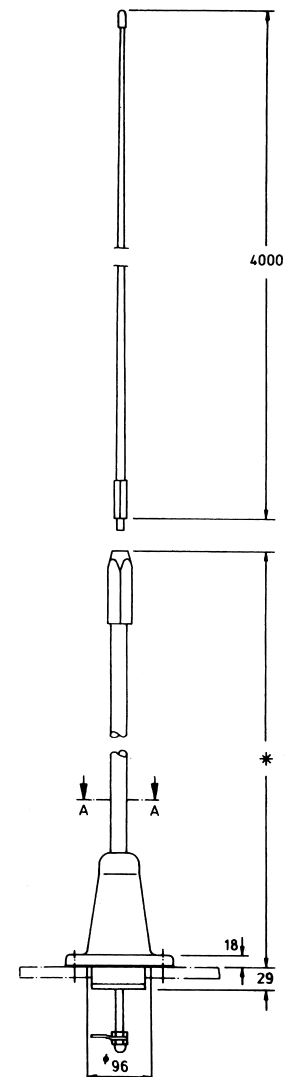
STA 50 – 70 SE

Specification

Construction	two-section rod antenna self-supporting
Material	Rods: glassfibre reinforced polyester resin Rod Coupling: brass screw joint Base Insulator: moulded poly- ester resin
RF connection	copper screw terminal
Colour	light grey (similar to RAL 7035)
Length	STA 50 SE = approx. 5 m STA 60 SE = approx. 6 m STA 70 SE = approx. 7 m
Weight	STA 50 SE = approx. 4.4 kg STA 60 SE = approx. 5.3 kg STA 70 SE = approx. 6.2 kg
Wind load	max. 200 km/h
Environment	resistant to marine environment, e.g. seawater, exhaust gases, carbon disulphide, benzol, petrol, diesel, heavy oil, grease, trichlorethylene, hydrochloric and sulphuric acid, acetone insensitive
Icing	
Formation of microbes and mould	none
Damages by white ants	none
	1.5 ... 30 MHZ Vertical Polarization Omnidirectional Pattern Up to 1000 Watt HF Power Robust Solid Glassfibre Rods Excellent Rigidity Sectional Assemblage Low Weight Simple Mounting Approved Installation Technique Resistive to Sea Environment
Length *	STA 50 SE = 1035 mm STA 60 SE = 1955 mm STA 70 SE = 2885 mm



Section A-A



STA = Rod Antenna
E = Receiving Rod Antenna
EAU = Transformer

K = Tilt
TR = reinforced
SE = Transmit Antenna

SSB = internal feeding
SSB/E = external feeding
PM/M = dark grey (similar to RAL 7000)

NDB = Non Directional Radio Beacon

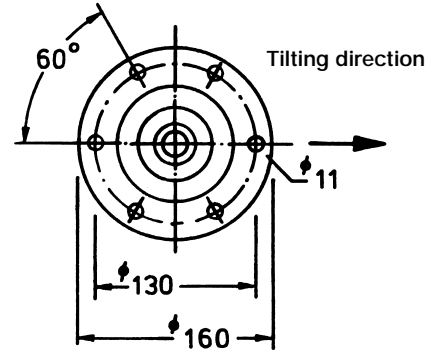


Sende-/Empfangsantennen / Transmitting ROD Antennas

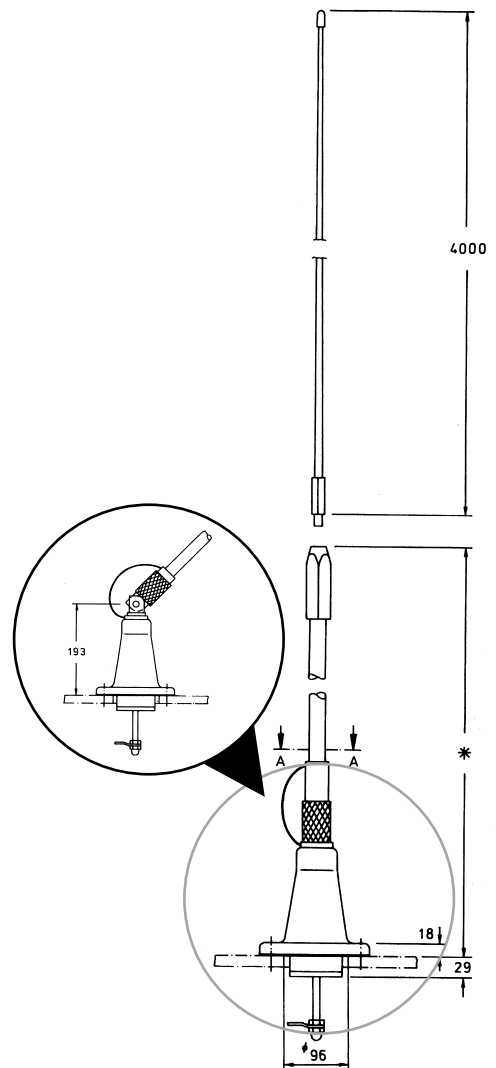
STA 50 – 70 SE/K

Specification

Construction	two-section rod antenna self-supporting
Material	Rods: glassfibre reinforced polyester resin Rod Coupling: brass screw joint Base Insulator: moulded poly- ester resin
RF connection	copper screw terminal
Colour	light grey (similar to RAL 7035)
Length	STA 50 SE = approx. 5 m STA 60 SE = approx. 6 m STA 70 SE = approx. 7 m
Weight	STA 50 SE = approx. 4.4 kg STA 60 SE = approx. 5.3 kg STA 70 SE = approx. 6.2 kg
Wind load	max. 200 km/h
Environment	resistant to marine environment, e.g. seawater, exhaust gases, carbon disulphide, benzol, petrol, diesel, heavy oil, grease, trichlorethylene, hydrochloric and sulphuric acid, acetone insensitive
Icing	
Formation of microbes and mould	none
Damages by white ants	none
	1.5 ... 30 MHZ Vertical Polarization Omnidirectional Pattern Up to 1000 Watt HF Power Robust Solid Glassfibre Rods Excellent Rigidity Sectional Assemblage Low Weight Simple Mounting Approved Installation Technique Resistive to Sea Environment
Length *	STA 50 SE/K = 1155 mm STA 60 SE/K = 2075 mm STA 70 SE/K = 3005 mm



Section A-A

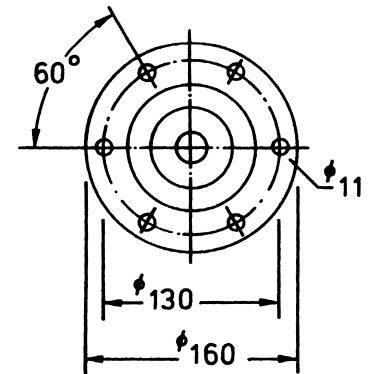


Sende-/Empfangsantennen / Transmitting ROD Antennas

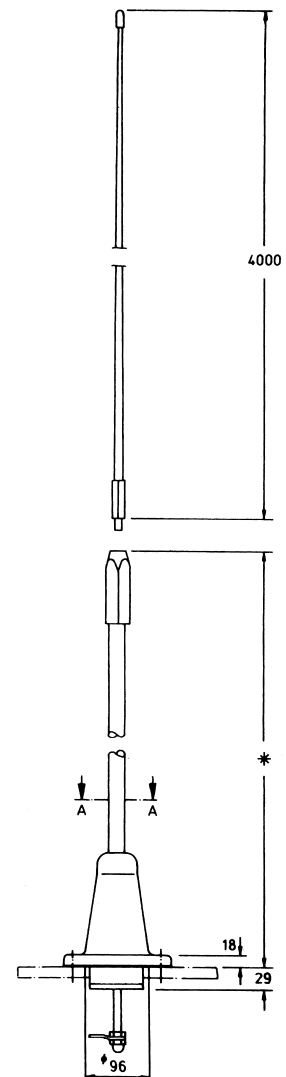
STA 50 – 70 SE/TR

Specification

Construction	two-section rod antenna self-supporting
Material	Rods: glassfibre reinforced polyester resin Rod Coupling: brass screw joint Base Insulator: moulded poly- ester resin
RF connection	copper screw terminal
Colour	light grey (similar to RAL 7035)
Length	STA 50 SE = approx. 5 m STA 60 SE = approx. 6 m STA 70 SE = approx. 7 m
Weight	STA 50 SE = approx. 4.4 kg STA 60 SE = approx. 5.3 kg STA 70 SE = approx. 6.2 kg
Wind load	max. 200 km/h
Environment	resistant to marine environment, e.g. seawater, exhaust gases, carbon disulphide, benzol, petrol, diesel, heavy oil, grease, trichlorethylene, hydrochloric and sulphuric acid, acetone insensitive
Icing	
Formation of microbes and mould	none
Damages by white ants	none
	1.5 ... 30 MHZ Vertical Polarization Omnidirectional Pattern Up to 1000 Watt HF Power Robust Solid Glassfibre Rods Excellent Rigidity Sectional Assemblage Low Weight Simple Mounting Approved Installation Technique Resistive to Sea Environment
Length *	STA 50 SE/TR = 1045 mm STA 60 SE/TR = 1965 mm STA 70 SE/TR = 2895 mm



Section A-A



STA = Rod Antenna
E = Receiving Rod Antenna
EAU = Transformer

K = Tilt
TR = reinforced
SE = Transmit Antenna

SSB = internal feeding
SSB/E = external feeding
PM/M = dark grey (similar to RAL 7000)

NDB = Non Directional Radio Beacon



Mounting Instructions

The antenna consists of two parts: the upper and the lower sections. The antenna must be assembled before installing. The brass fittings of both rods must be screwed together and shall be locked then by two fork wrenches, 30 mm and 22 mm size.

The base insulator of the antenna shall be screwed to a prepared counterflange. The flat gasket belonging to the delivery scope shall be used with all installations, because it serves not only as a sealing, but it also compensates unevenness on the counterflanges.

The base insulator screws (use stainless steel, please) shall be fixed with an about 40 Nm tightening torque. A screw too much tightened may damage the base insulator flange.

Whenever possible, install the antenna in a sloping position (about five degrees to the vertical).

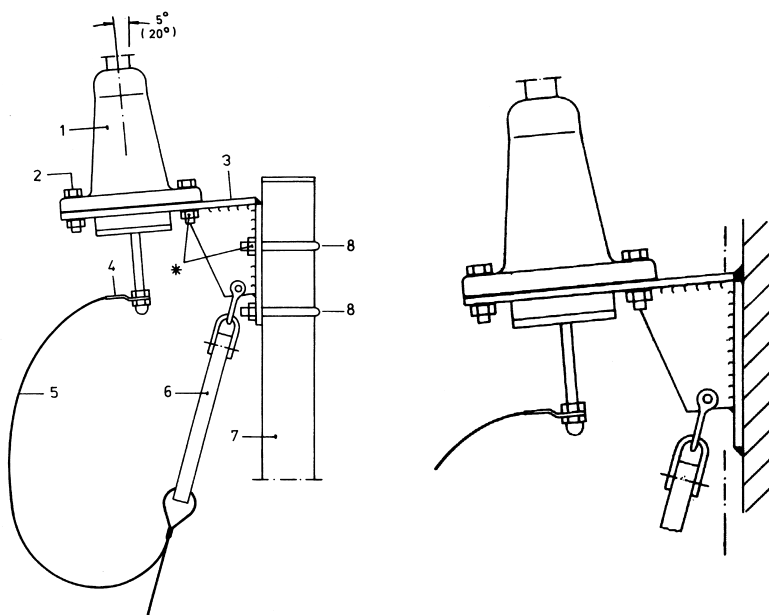
A pre-fabricated mounting support permits three different mounting attachments: welding to any kind of steel structure, screwing with bolts to vertical counter-parts, and round iron clamp fixing to vertical round tubes, diameters 51 to 63.5 mm.

TR-antennas shall be installed with about 20 degrees to the vertical in order to stabilize the antenna and to minimize rotation of the upper part of the antenna rod.

The moderate priced mounting supports EAH 3/5, EAH 3/20 are painted with a rust preventing primer.

When planning a new installation, please, take care that the supporting flange for the antenna is built in a sloping position of about 5 degrees (20 degrees with TR-version). In this way the rotary motion of the antenna is being reduced remarkably during pitching and overheeling in heavy sea. Keep 3 meters distance to other parallel superstructures.

Mounting Proposal



- 1 Antenna STA ...
- 2 Hexagon screw M 10x45 DIN 933 (6x)
Washer 10.5 DIN 125 (6x)
Spring washer 10 DIN 127 (6x)
Hexagon nut M 10 DIN 934 (6x)
- 3 Mounting support EAH 3/5 (EAH 3/20)
- 4 Terminal 10
- 5 Stranded wire 7x7x0.5
- 6 Strain isolator RH 200
- 7 St-pipe Ø 51 - Ø 63.5 DIN 2448/DIN 2458
- 8 U-bracket DN 50/M 12 DIN 3570
- * Tightening torque $M_A = 40 \text{ Nm}$

Delivery scope of item 3 involves item 8.

Description

The rod antennas STA 50 - 70 SE are made for transmitting and receiving. They are mainly used for low power radio stations.

The SE-antennas are manufactured of solid glassfibre polyester rods, into which a copperlitz wire is concentrically embedded. They are made of two sections. Their upper rods are of the same standardized length for all antennas, whereas the different antenna heights are being made up by varying the lower section lengths. Screw fittings connect the lower and the upper sections, both mechanical and electrical. The lower rods are mounted on robust base insulators fabricated of glassfibre reinforced plastics. The base injected insulator is equipped with a strong brass connector rod to which the antenna lead cable is connected with a copper screw terminal. A dry zone in the injection area at the bottom of the base insulator provides high insulation values. The connector rod leads through a water protected cavity into the base insulator before being connected to the radiator in the lower rod.

These antenna types are manufactured at lengths of 5, 6, and 7 meters. Other lengths, however, can be delivered upon request. The antennas are coloured light grey. By using new moulding compounds and resins an excellent surface and rigidity of all parts is accomplished.

Tiltable rod antennas corresponding to the versions STA .. SE/K are shown on page 2. The tilting joint is directly mounted above the base insulator.

The special reinforced version STA .. SE/TR is shown on page 3. Due to the reinforced fixed-end of the rod the antenna withstands also continuous and heavy rotary motion as it is often met on smaller boats (trawlers, etc.).

Standard Supply

Antenna - consisting of top and lower sections, complete with screw insert, and 1 gasket.

Optional Accessories (upon request)

Designation	Order-Code
1 Mounting support EAH 3/5, for 5° installation	E 107-128
2 Mounting support EAH 3/20, for 20° installation	E 107-129
3 Mounting set MS 1 (stainless steel fitting material consisting of bolts, nuts and washers)	E 107-130

Camping cone (instead of screw terminal)

Matching transformer EAU VA
(as per data sheet DUK 603)

Matching transformer EAU 60/240
(as per data sheet DUK 603)

Type Models

5 meters:

Transmit Antenna:
STA 50 SE
with tilt:
STA 50 SE/K
reinforced model:
STA 50 SE/TR

6 meters:

Transmit Antenna:
STA 60 SE
with tilt:
STA 60 SE/K
reinforced model:
STA 60 SE/TR

7 meters:

Transmit Antenna:
STA 70 SE
with tilt:
STA 70 SE/K
reinforced model:
STA 70 SE/TR

STA = Rod Antenna
E = Receiving Rod Antenna
EAU = Transformer

K = Tilt
TR = reinforced
SE = Transmit Antenna

SSB = internal feeding
SSB/E = external feeding
PM/M = dark grey (similar to RAL 7000)

NDB = Non Directional Radio Beacon



Application

The rod antenna STA 80 SSB resp. STA 80 SSB/E is a self-supporting TX / RX antenna for mobile marine radio communication use. It consists of an abt. 3 m long top rod (pos. 1) and an abt. 5 m long lower section (pos. 4). The mechanical / electrical overall length of abt. 8 m in combination with an antenna matching unit is usually sufficient to cover the frequency range from 1.5 to 22 MHz required by the marine radio service. For receiving purposes the antenna can be operated within an extended frequency range from 0.1 to 30 MHz.

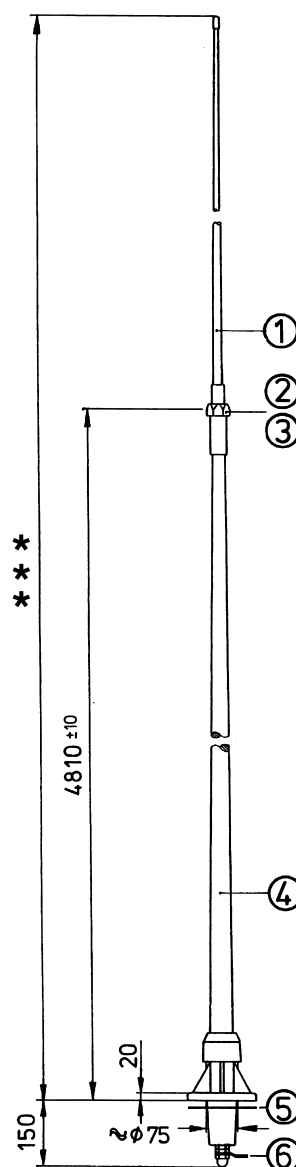
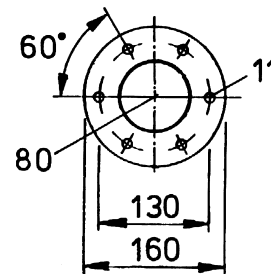
The antenna elements made of glassfibre reinforced plastic are equipped with brass armatures. The antenna has a cast aluminium base.

As the antenna is very reliable, light, and nearly maintenance-free, it meets all requirements resulting from the use on board of ships. The antenna feeder is fixed to a cable terminal (pos. 6), which may be replaced by a clamping cone (part of accessory set).

The feeder of the STA 80 SSB/E is supported by an eye-bolt and is also fastened at a cable terminal.

Specification

Construction	self-supporting rod antenna
Frequency range	(transmit) 1.5 – 30 MHz (receive) 0.1 – 30 MHz
Polarization	vertical
Horizontal diagram	circular
Isolation resistance	>10 MΩ
Permissible base voltage	22kV
Permissible rated power of transmitter	1.2 kW *
Static capacity	abt. 83 pF
Operation temperature	-40 ... + 70° C
Storage temperature	-50 ... + 70° C
Relative humidity	100 %
Overall length ***	7789 ± 20 mm
Weight	abt. 8.4 kg
Colour	similar to RAL 7035
Max. permissible wind load	200 km/h
Bending moment at antenna base	110 daNm **
Deflection	2750 mm **
Mounting flange	cast aluminium dimensions as per drawing
Connection	cable terminal or clamping cone 6 mm resp.



* with tuning unit $Q = 300$ $r_{\text{earth}} = 3 \Omega$

** with 150 km/h wind and 8 m/s^2 acceleration (ship movement)

Sende-/Empfangsantennen/Transmitting Receiving ROD Antennas

STA 80 SSB, STA 80 SSB/E

Mounting

The rod antenna shall be installed high and free standing and shall not be obstructed by other metallic conductive constructions. The installation place is to be stipulated in consideration of deflection, permissible ambient temperature, and accessibility of connection. The STA 80 SSB/E may be screwed directly onto the mounting construction.

The installation of the STA 80 SSB requires a bore hole of abt. \varnothing 80 mm for the insulator (see drawing STA 80 SSB).

Mounting material is not included in the delivery scope.

Appropriate mounting material:

Hexagon screws M 10 DIN 933-8.8

Washers 10.5 DIN 1 25-St

Installation Instructions

Both sections (pos. 1 and pos. 4) are to be assembled and screwed together before erecting the antenna. The locking nut (pos. 2/head width 46 mm) must be fastened with a tightening torque of 180 Nm. The antenna may be mounted once the supplied flat gasket (pos. 5) has been put between antenna base and supporting area. The flat gasket seals the deck duct (with internal feeding), balances unevenness of the mounting place, and opposes to corrosion resulting from contact among different materials. The fixing screws must be fastened with a tightening torque of 20 Nm.

Maintenance and Service Instructions

Maintenance:

The lower area of the antenna mast shall be checked for pollution and salt deposits from time to time. The antenna is to be cleaned by using sweet water. In case of heavy oily contamination, soft cleansers (detergents) may be added.

Servicing:

The antenna STA 80 ... requires nearly no servicing. The fixing bolts of the antenna base, the locking nut of the top rod, and the RF connection should be yearly checked for tight fastening.

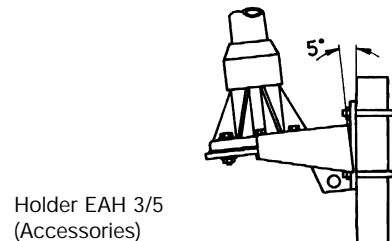
CAUTION: The antenna's plastic mast must never be painted!

Spare Parts List

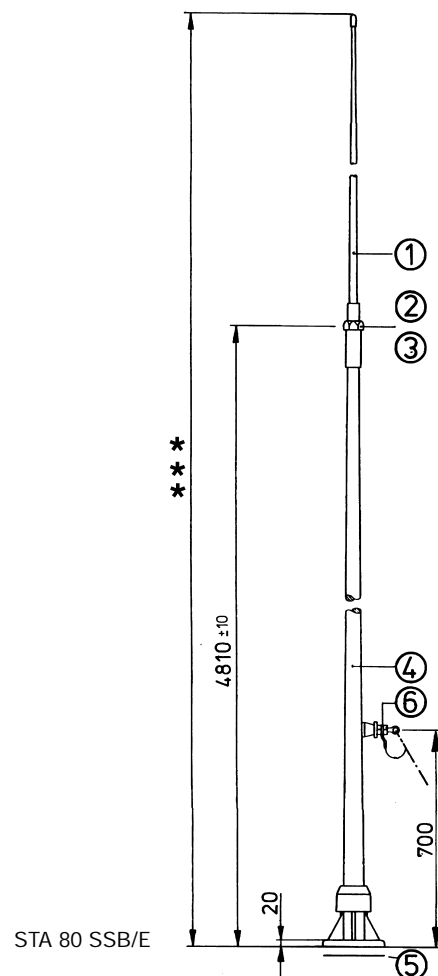
Position	Designation	Order-Code
1 (incl. pos. 3)	Antenna rod STA 30 HV	E 107-135
2	Locking nut 2	E 107-350
3	O-Ring 1	E 107-351
4 (incl. pos. 5+6)	Lower section US 50 SSB	E 107-123
4 (incl. pos. 5)	Lower section US 50 SSB/E	E 107-124
5	Flat gasket 7	E 107-352
6	Cable terminal	E 107-206
6 alternatively	Clamping cone (...SSB only)	E 107-353

ELNA reserves the right to make changes in specifications without notice.

June 2000



Holder EAH 3/5
(Accessories)



Accessories

The holders **EAH 3/5** (see drawing) and **EAH 3/20** are available for installation. These holders enable mounting of the internally as well as externally fed antenna with a sloping position of **5°** resp. **20°** on a 2"-pipe (outside \varnothing 60.3 mm) or at a wall. The required mounting material for the holder/antenna is included in the delivery scope of the holder.

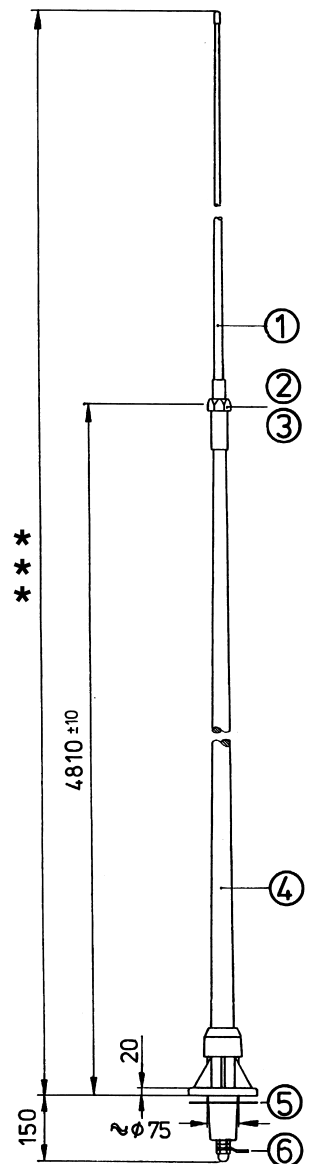
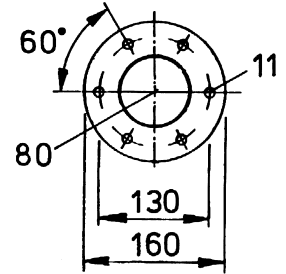
Application

The rod antenna STA 100 SSB resp. STA 100 SSB/E is a self-supporting TX / RX antenna for mobile marine radio communication use. It consists of an abt. 5 m long top rod (pos. 1) and an abt. 5 m long lower section (pos. 4). The mechanical / electrical overall length of abt. 10 m in combination with an antenna matching unit is usually sufficient to cover the frequency range from 1.5 to 22 MHz required by the marine radio service. For receiving purposes the antenna can be operated within an extended frequency range from 0.1 to 30 MHz.

The antenna elements made of glassfibre reinforced plastic are equipped with brass armatures. The antenna has a cast aluminium base.

As the antenna is very reliable, light, and nearly maintenance-free, it meets all requirements resulting from the use on board of ships. The antenna feeder is fixed to a cable terminal (pos. 6), which may be replaced by a clamping cone (part of accessory set).

The feeder of the STA 100 SSB/E is supported by an eye-bolt and is also fastened at a cable terminal.



Specification

Construction	self-supporting rod antenna
Frequency range	(transmit) 1.5 – 30 MHz (receive) 0.1 – 30 MHz
Polarization	vertical
Horizontal diagram	circular
Isolation resistance	>10 MΩ
Permissible base voltage	22kV
Permissible rated power of transmitter	1.5 kW *
Static capacity	abt. 97 pF
Operation temperature	-40 ... + 70° C
Storage temperature	-50 ... + 70° C
Relative humidity	100 %
Overall length ***	9570 ± 30 mm
Weight	abt. 10 kg
Colour	similar to RAL 7035
Max. permissible wind load	200 km/h
Bending moment at antenna base	170 daNm **
Deflection	5000 mm **
Mounting flange	cast aluminium
Connection	dimensions as per drawing cable terminal or clamping cone 6 mm resp.

* with tuning unit $Q = 300$ $r_{\text{earth}} = 3\Omega$
 ** with 150 km/h wind and 8 m/s^2 acceleration (ship movement)

Sende-/Empfangsantennen/Transmitting Receiving ROD Antennas

STA 100 SSB, STA 100 SSB/E

Mounting

The rod antenna shall be installed high and free standing and shall not be obstructed by other metallic conductive constructions. The installation place is to be stipulated in consideration of deflection, permissible ambient temperature, and accessibility of connection. The STA 100 SSB/E may be screwed directly onto the mounting construction.

The installation of the STA 100 SSB requires a bore hole of abt. \varnothing 80 mm for the insulator (see drawing STA 100 SSB). Mounting material is not included in the delivery scope.

Appropriate mounting material:

Hexagon screws M 10 DIN 933-8.8

Washers 10.5 DIN 1 25-St

Installation Instructions

Both sections (pos. 1 and pos. 4) are to be assembled and screwed together before erecting the antenna. The locking nut (pos. 2/head width 46 mm) must be fastened with a tightening torque of 180 Nm. The antenna may be mounted once the supplied flat gasket (pos. 5) has been put between antenna base and supporting area. The flat gasket seals the deck duct (with internal feeding), balances unevenness of the mounting place, and opposes to corrosion resulting from contact among different materials. The fixing screws must be fastened with a tightening torque of 20 Nm.

Maintenance and Service Instructions

Maintenance:

The lower area of the antenna mast shall be checked for pollution and salt deposits from time to time. The antenna is to be cleaned by using sweet water. In case of heavy oily contamination, soft cleansers (detergents) may be added.

Servicing:

The antenna STA 100 ... requires nearly no servicing. The fixing bolts of the antenna base, the locking nut of the top rod, and the RF connection should be yearly checked for tight fastening.

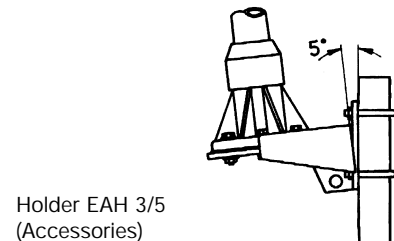
CAUTION: The antenna's plastic mast must never be painted!

Spare Parts List

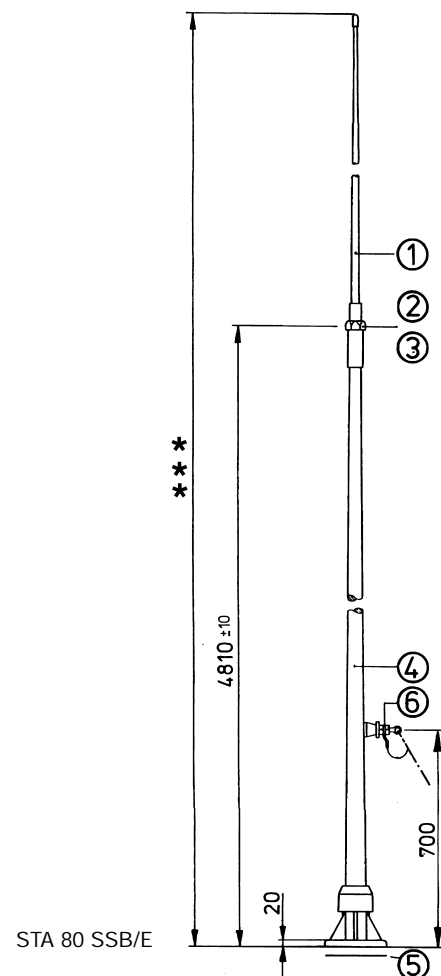
Position	Designation	Order-Code
1 (incl. pos. 3)	Antenna rod STA 50 HV	E 107-136
2	Locking nut 2	E 107-350
3	O-Ring 1	E 107-351
4 (incl. pos. 5+6)	Lower section US 50 SSB	E 107-123
4 (incl. pos. 5)	Lower section US 50 SSB/E	E 107-124
5	Flat gasket 7	E 107-352
6	Cable terminal	E 107-206
6 alternatively	Clamping cone (...SSB only)	E 107-353

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June 2000



Holder EAH 3/5
(Accessories)



STA 80 SSB/E

Accessories

The holders **EAH 3/5** (see drawing) and **EAH 3/20** are available for installation. These holders enable mounting of the internally as well as externally fed antenna with a sloping position of 5° resp. 20° on a 2"-pipe (outside \varnothing 60.3 mm) or at a wall. The required mounting material for the holder/antenna is included in the delivery scope of the holder.