



## Type 22W

### Marine HF antenna for vessels over 10.5 metres (34.5 feet)

Designed to give high radiating efficiency in demanding service conditions, especially in the 2-13 MHz range.

The 22W, a scaled down model of the 29W, is self supporting and provides high efficiency performance on medium size vessels (over 10.5m) where an 8.8 metre (29 ft) whip is not suitable, such as high speed craft.

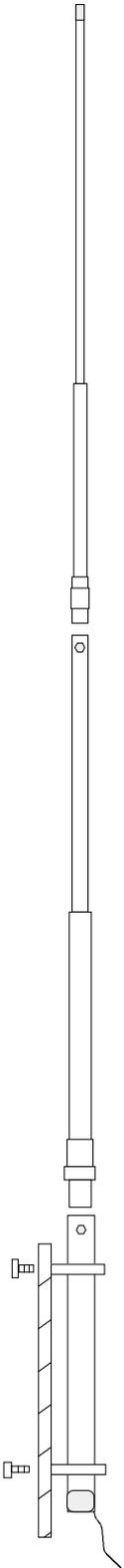
Heavy gauge aluminium alloy tubing, coated with high durability epoxy based coating, resistant to chemical attack, abrasion and the effects of ozone and ultra-violet radiation, provides a large low loss radiating surface. Fittings are of nylon and stainless steel. Low loss loading coils and/or traps 4 metres (13 ft) from the base are used.

The antenna is assembled from three easily transportable sections, the largest of which is 2.7m (9 ft) long.

It is available unloaded, resonant at a single frequency (the highest to be used - normally 2.6, 4.6 or 6.3 MHz), or resonant at two frequencies (8.3 and 12.4 MHz or 4.6 and 8.3 MHz). For operation on other frequencies, the difference is made up in the ATU.

### Specifications

<b>Colour</b>	Standard is Black. Optional White
<b>HF Marine Band</b>	2-30 MHz
<b>Length</b>	6.7 metres (22 ft)
<b>Pattern</b>	Omnidirectional
<b>Polarisation</b>	Vertical
<b>Base Diameter</b>	32mm (1.25 in)
<b>Frequency Range</b>	Pre-tuned to frequency or frequencies required, or unloaded 2-30 MHz with suitable ATU
<b>Wind Loading</b>	7.7 kg at 100 km/h (16.9 lbs at 60 mph) 13.0 kg at 130 km/h (28.6 lbs at 81 mph)
<b>Power Capability</b>	1 kW PEP for normal loaded or unloaded top sections; 500 W PEP for trapped top sections; higher power to order
<b>Mountings</b>	Two 100mm (4 in) nylon clamp type insulators, 50mm (2 in) diameter, threaded to take ½ inch Whitworth bolt (not supplied); insulator spacing not less than 0.9 m (3 ft)
<b>Connection</b>	Silicone insulated flexible cable tail 2.5 m long (8 ft) 56/0.3 tinned copper; length should not exceed that provided for correct operation on the higher frequencies
<b>Packed Weight</b>	7.25 kg (15.95 lbs) with mountings



Specifications subject to change – Issued 01/09/13

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# **TYPE 22W INSTALLATION INSTRUCTIONS:**

## **Assembly**

1. Slide the two mounting insulators on the base section before assembling, being careful not to damage the antenna coating. Mounts may be opened by reversing the clamp screw, placing a coin or similar in the slot behind the screw and using the screw to force the slot apart.
2. Assemble the base, mid and top sections and fasten with the three stainless steel self tapping screws supplied. Use of a smear of grease on the bare aluminium before assembly will aid future disassembly.

## **Mounting**

1. Make sure the mounting bolts enter the insulator thread by not less than 25 mm (1 in) but not so that they bottom in the hole.
2. Mounting insulators should be spaced not less than 0.9 metres (3 ft) apart.

## **Important Factors**

1. For best results, the antenna should be mounted vertically (not sloping) on the cabin side or stub mast.
2. For correct operation on frequencies 8 MHz and above, the length of the lead supplied (2.5m/8ft) should not be exceeded.
3. Keep the lead clear of ship's wiring and other metallic objects and avoid running parallel to metal decks, etc., with less than 2 cm (3/4 in) clearance. We recommend Moonraker standoff and cable run insulators.
4. Lead should be run as short and direct as possible between the antenna and equipment.
5. If using deck feed through Insulator, make sure the terminals are protected from salt spray, otherwise severe loss of power may result due to leakage across the wet insulator. Moonraker feed through insulators are recommended.
6. Earth leads should be connected directly to the ATU and kept as short as possible.
7. Copper strip at least 50 mm (2 in) wide is recommended for earth lead between equipment and Moonraker earth plate.

## **Tuning**

As the feed point impedance of this antenna is relatively high on all frequencies, antenna current will be relatively low, and earth losses minimised. At the self resonant frequencies little or no inductance will be required in the ATU. At 8 and 12 MHz. frequencies series capacitance may be required if the antenna and earth leads are long.