



RF ROD ANTENNAS

for transmission and reception

1.5 to 30 MHz

10 kHz to 30 MHz



HA 175 for seagoing applications



HA 104/8 for mobile use

- HA 104/8 and HA 104/512 for mobile radio services (dismountable)
- HA 104/1211 and HA 175 for fixed installations – especially on ships
- Sturdy construction
- Shock- and vibration-proof
- Suitable for groundwave and long-distance sky-wave transmissions



RF ROD ANTENNAS HA 104 and HA 175

Characteristics

The RF Rod Antennas HA 104/... and HA 175 are intended for the **reception of frequencies below 30 MHz** and – when used with a suitable matching unit – for **transmissions in the range from 1.5 to 30 MHz**.

The Antennas HA 104/8 and HA 104/512 are especially designed for mobile use. They consist of eight (HA 104/8) or five (HA 104/512) tubular rod sections, each 1 m long.

The antennas HA 104/1211 and HA 175 are made of sea-water-resistant alloy (AlMg5 F32 DIN 1795).

A **base protection** is available for both types to prevent contamination of the antenna insulator – especially salt deposits when the antenna is used on ships.

RF Rod Antennas are intended for vertical operation, but they can also be mounted in an inclined position. When the antenna is installed on the ground or on an isolating surface we recommend using a **counterpoise** to achieve higher efficiency and better electrical characteristics.

Specifications

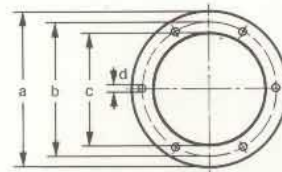
Type (► Order designation)	HA 104/512 156.2039.02	HA 104/8 101.1247.02	HA 104/1211 101.1053.02	HA 175 101.1101.02
Frequency range for transmission ¹⁾ for reception			1.5 to 30 MHz 10 kHz to 30 MHz	
Max. transmitter power	100 W	800 W	1 kW	1 kW
Polarization			vertical circular	
Horizontal pattern				
Antenna height	5 m	8 m	12 m	7 m
Rod sections	5 ²⁾	8 ²⁾	6	5
length	1 m	1 m	2 m	1.4 m
diameter (graded)	10 to 6.2 mm	16 to 5 mm	100 to 26 mm	62 to 22 mm
Weight	4 kg	14 kg	40 kg	27 kg
Max. wind velocity	150 km/h	130 km/h	185 km/h	185 km/h
Connector			screw terminal	

¹⁾ With matching unit.

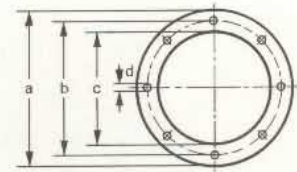
²⁾ Can be dismantled (for mobile use).

Dimensions of screw terminal

Dimensions in mm	a	b	c	d
HA 104/8	220	197	150	11
HA 104/1211	320	280	240	18
HA 175	268	240	205	24
HA 104/512	bore holes 51 mm dia.			



HA 104/8
HA 175



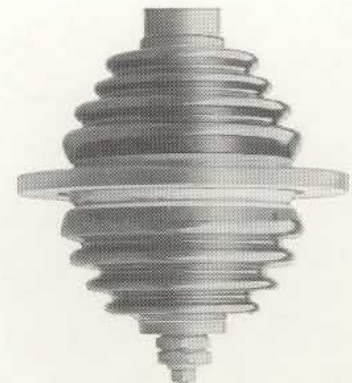
HA 104/1211

Recommended Extras

Antenna Tuner FK 315 (matching and control unit)	448.0710.02	} see data sheet N2-274
Antenna Tuner FK 316 (matching, control and punched-card control unit)	448.0733.02	
Counterpoise HA 229/100, consisting of 12 zinc-plated steel-wire ropes, plastic-sheathed (10 m long), ground pegs and terminal boards	103.5727.02	
Base Protection HA 175/1-1 (for HA 175)	154.6120.02	
Base Protection RH 13964/1 (for HA 104/1211)	155.8827.02	



Antenna base of HA 104/8



Antenna base of HA 175

