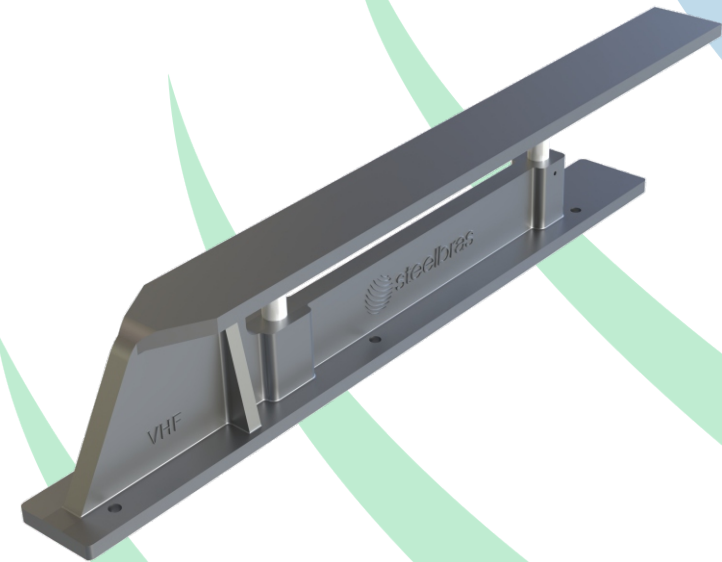


# MOBILE ANTENNA VHF 136/175 MHZ 1/4 WAVE A LOW-PROFILE RAILWAY

AP31000



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# MOBILE ANTENNA VHF 136/175 MHZ 1/4 WAVE LOW-PROFILE RAILWAY

## TECHNICAL DATA

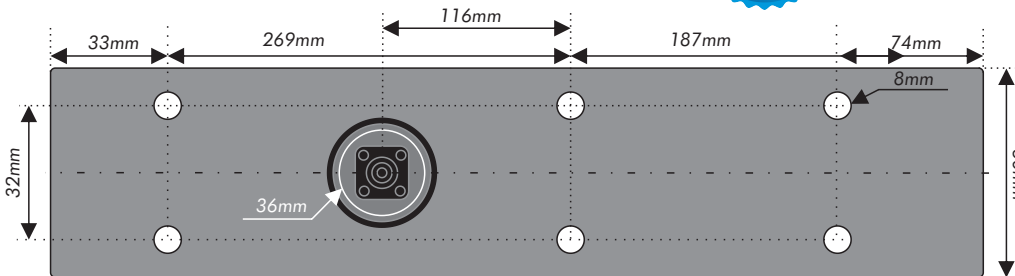
**AP31000** is a low-profile VHF 1/4 wave antenna designed to operate in the 136 - 175 MHz band. It is constructed from a special aluminum alloy, offering robustness and resistance to damage, making it ideal for applications in trains, armored vehicles, box trucks, and public security vehicles. The antenna can be installed in both vertical and horizontal positions, and its frequency can be adjusted by cutting off the upper end of the radiating element. It has an international standard UHF female connector.

### SPECIFICATIONS

FREQUENCY	136 - 175 MHz
MAXIMUM POWER	100 W
IMPEDANCE	50 Ω
VSWR	≤ 1,5:1
GAIN	2,15 dBi
LENGTH	658 mm
WIDTH	60 mm
HEIGHT	105 mm
WEIGHT	3,20 kg
MOUNTING	6 SCREWS 1/4"
WIND EXPOSURE AREA	0,06567 m <sup>2</sup>
ACABAMENTO	TEXTURED GRAY EPOXY PAINT
MATERIAL	ALUMINUM
CONNECTOR	UHF FEMALE

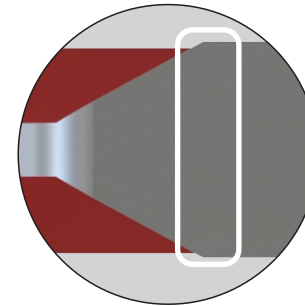
### IMPORTANT

The measurements in the adjustment table are for reference only and may change depending on the installation local site. The antenna should be installed on a flat metallic area with a radius of at least 1/4 wave plus 5% at the desired frequency. For the best results, always use a VSWR meter (WATTMETER). The reflected signal should not exceed 1.5:1 or 4% of the direct power. A 36mm diameter hole must be made in the installation area for the connector, ensuring it remains sealed with rubber. Use the drawing below as a model for the correct assembly of the antenna.

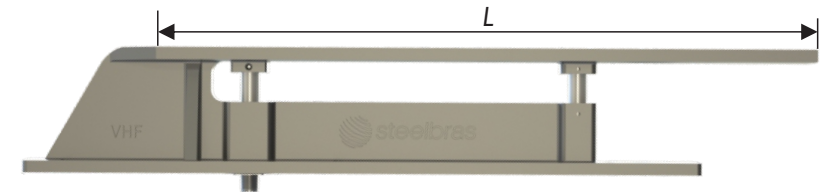


### IMPORTANT

To adjust the antenna, frequency on the use the chamfer on the upper part of the piece as a reference point for measuring the cut of the radiating element. As shown in the following image:



FREQUENCY (MHz)	LENGTH (L mm)	FREQUENCY (MHz)	LENGTH (L mm)
136	540	156	461
137	538	157	457
138	534	158	454
139	530	159	451
140	519	160	444
141	515	161	442
142	512	162	439
143	508	163	436
144	502	164	434
145	499	165	431
146	495	166	425
147	492	167	423
148	489	168	420
149	485	169	418
150	482	170	412
151	479	171	410
152	474	172	407
153	470	173	405
154	467	174	403
155	464	175	400



Example of the VSWR graph for the AP31000 tuned at 142 MHz.

