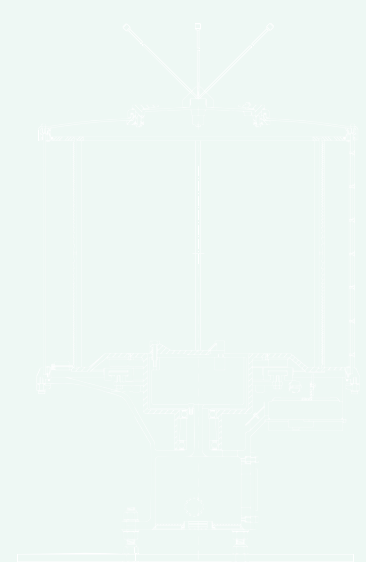




Vega *guides the way*



VRB-25

MARINE ROTATING BEACON

6 OR 8 PANELS LIGHTHOUSE BEACON



ISO 9001

BUREAU VERITAS
Certification



VRB-25 MARINE ROTATING BEACON

The VRB-25 is a powerful, reliable and compact marine rotating beacon suitable for ranges from 15 to 22 nautical miles. Six or eight equally-spaced fresnel lenses rotate around a stationary lamp of up to 100 Watts, generating six or eight discrete pencil beams. Individual beams can be coloured or blanked off to generate grouped characters.

Powerful Optics

The heart of the VRB-25 is a high-performance acrylic fresnel lens designed by Vega to maximise the useful output from industry-standard pre focused tungsten-halogen marine signal lamps. Lenses are held on all edges in an accurately-machined cage to ensure precision alignment.

All six beams are consistent in peak intensity to within 5% of the average. Every beacon is individually tested for peak and effective intensities, the consistency of intensity between beams, and rotational speed. Factory tests are performed in a computer-controlled zero-range photometric facility.

Reliable Mechanicals

The lens carousel is rotated by a direct-drive electronically-commutated brushless pancake motor of 280mm diameter, designed by Vega specially for the VRB-25. This motor provides plenty of torque while consuming only 1-2 watts of energy. Two large, heavy-duty, fully-sealed ball races (packed with low-temperature grease) are the only moving parts, and these can be expected to

operate for at least 20 years without attention.

Intelligent Electronics

A versatile micro-processor based electronic controller is housed in a metal capsule sealed with O'rings. This controls the lampchanger, solar switch and motor drive. One of the 248 speeds from 0.5-15.9 rpm can be selected by adjusting two hex switches. The speed will be maintained to within $\pm 2\%$. External monitoring functions are available, and the VRB-25 interfaces readily to the VegaWeb monitoring system.

To ensure maximum lamp life, consistent output intensity and minimum energy consumption, the lamp voltage is regulated using Pulse-Width-Modulation. Even if the input voltage ranges from 11-20 Volts (as in an unregulated solar-powered installation) the RMS voltage at the lamp will never exceed 12VDC.

High-Wattage Lampchanger

The VRB-25 is equipped with a 6-position VLC-153 lampchanger. Vega has been building lampchangers for lamps up to 250 Watts for 20 years and the VLC-153 is one of the latest design.

EASY MAINTENANCE

A small removable hatch gives instant access for lamp replacement.

The electronics module can be removed from the base by sliding two latches. All external fasteners are captive.

The entire Glazing Assembly lifts off after twisting eight latches.

Lenses and glazing are made of acrylic and have a rated life of 5-7 years.

Secure Latches

The VRB-25 is supplied with captive latches. These latches do not require special tools for their operation.

If secured access to the beacon is required, special forms of latches are available that will require special tools to operate. The use of these latches can be sufficient to discourage unauthorised personnel from opening the beacon.

SPECIFICATIONS

Optics

Lenses	Six or eight, optical grade acrylic, 178.5mm focal length
Colours	Clear, Red (32%T), Green(34%T), Blanking Panel (0%T)
Service Life	Approximately 7 years

Motor Drive

Type	30-pole brushless three-phase direct drive
Current Drain	90mA continuous typical at 1 rpm
Rotation Speeds	248 user-selectable speeds in range 0.5 to 15.9 rpm



Speed Control	PID Controller, optical feed-back with 1200 pulses/rotation
Speed Variation	Less than 2% variation. Automatic torque compensation
Bearings	Two deep groove sealed ball races, 62mm diameter

Electronics

Power Supply	Nominal 12VDC, 11 - 30 VDC acceptable
Controller	Vega CALC-20B (motor driver, lamp changer controller)
Lamp Voltage	Regulated to a maximum of 12V rms by PWM
Current Lamps	125mA for CALC-20B
Lampchanger	Vega VLC-153 automatic 6-position, escapement type
Photocell	Built in, sensor compatible with USCG Type LDR
Monitoring	Fixed duration contact-closure twice per rotation

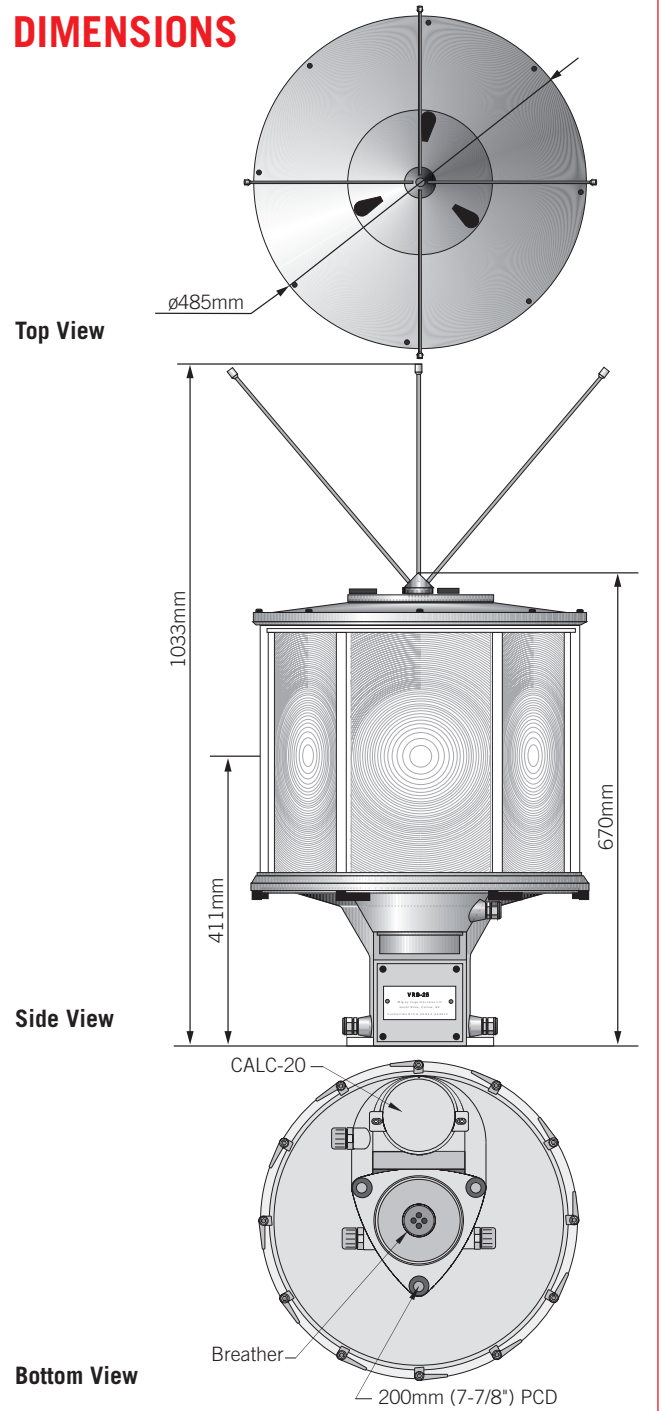
Environmental

Temperature	Rated for continuous operation -35°C to +60°C ambient
Salt	Rated for continuous exposure to salt air and sea water spray
Humidity	Rated for humidity 0-100%, driving rain at 45° from vertical
Wind	Rated to withstand winds to 100kt
Cooling	Natural radiation only, no cooling fan or ventilation required

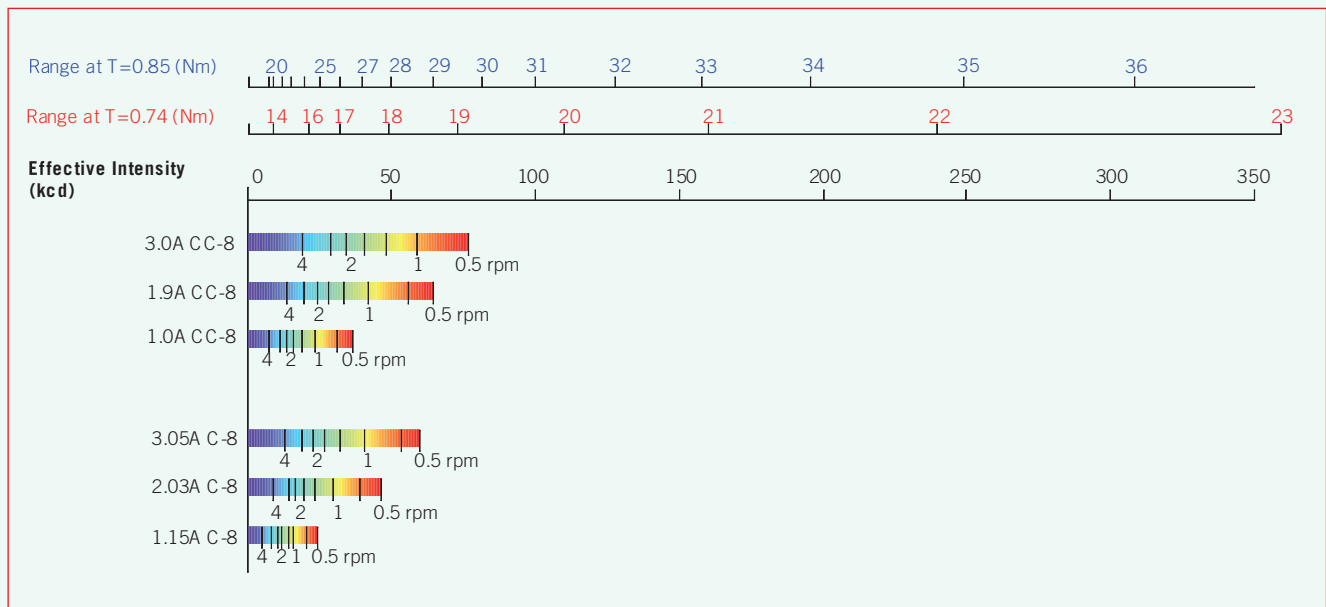
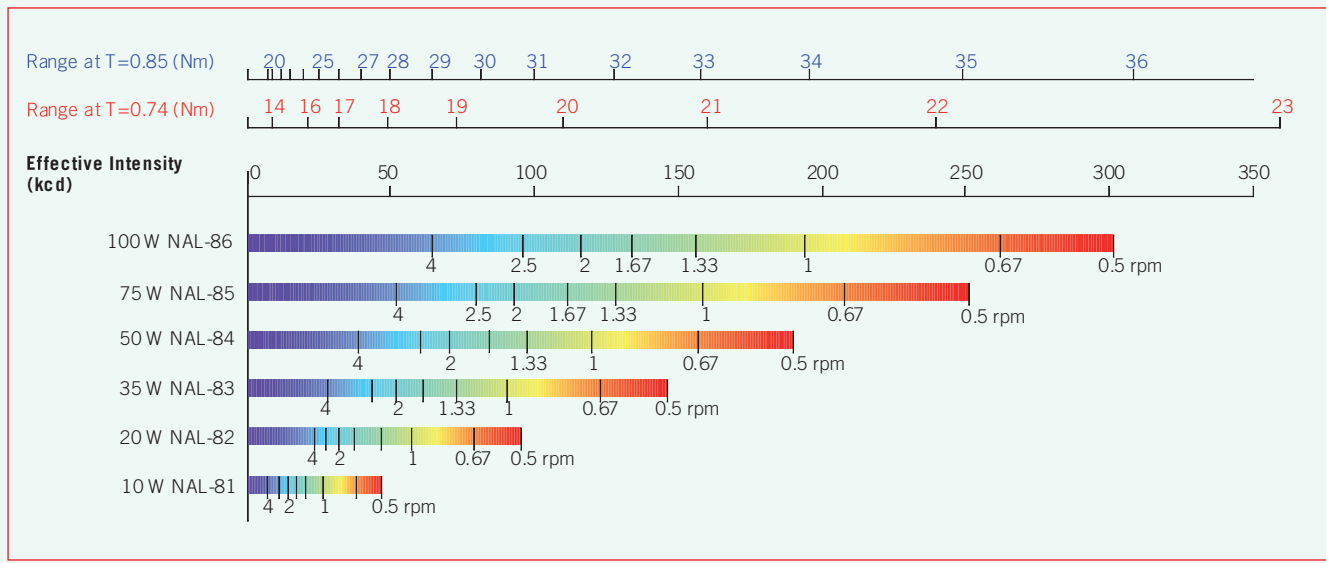
Materials

Base	DT 5008 grade Aluminium, anodised to 25 microns
Glazing	Optical grade acrylic
Glazing life	Approximately 7 years
Paint Finish	Epoxy primer, 2-pot polyurethane gloss paint on exterior metal surfaces

DIMENSIONS



INTENSITY RANGES



PARTS FOR ORDERING

DESCRIPTION

VRB-25 6 Panel (International version)
 VRB-25 8 Panel (International version)
 VRB-25 6 Panel (USCG without Lampchanger)
 Secure Clamps, **Add**
 Specify colour of lenses, specify quantity of blank panels if required

CODE

VRB-25-6P-int
 VRB-25-8P-int
 VRB-25-6P-US
 Add "-SEC" to code
 Add note to order

DISTRIBUTOR

Released on 17 February 2009