



MARINE

Aids to  
**NAVIGATION**



# About Us

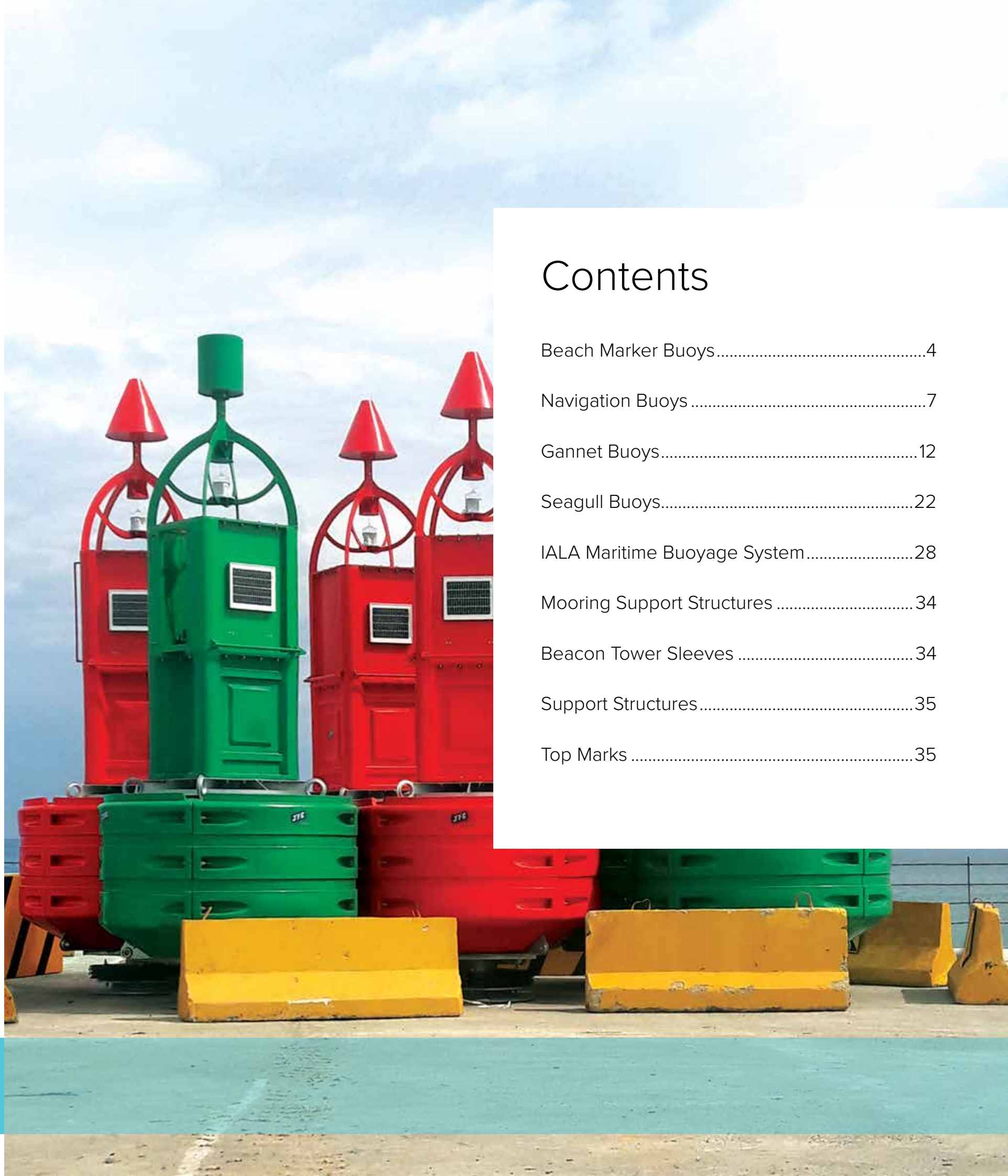
With over 35 years' experience in business, our solutions are derived from customer understanding, innovative design, and expert engineering. We manufacture and supply a comprehensive range of navigation buoys complete with Aids to Navigation (Aton) systems.

Our extensive range of Aton equipment includes lanterns, AIS systems, battery and solar powered solutions. Designed and engineered for the most demanding conditions, our navigation buoys are manufactured using 100% recycled materials and offer excellent stability characteristics, power system versatility and environmental credentials.

Our navigation buoys have extra strength mooring and lifting eyes to ensure ease of manoeuvrability and improved mooring flexibility. Designed to reduce costs and increase service intervals, our Aton solutions are used to mark out shipping channels, hazardous waters, aquaculture sites, and other marine installations.

As members of IALA (Association of Marine Aids to Navigation and Lighthouse Authorities), our buoys and beacons are manufactured in accordance with IALA Maritime Buoyage System guidelines and are available in a wide range of IALA recommended colours and configurations.

We set standards in marine navigation thanks to our award-winning Seagull and Gannet navigation buoy range and aim to continue to bring innovative solutions to our customers globally.



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International Harbour  
Masters Association



# Beach Marker Buoys

Our Beach Marker Buoys offer a high visibility lightweight solution ideal for marking navigation channels, small ports and inner harbours, inland water ways and beach areas for the safe marking of swim zones and jet ski channels. Our Beach Marker Buoys are fully recyclable and are manufactured from marine grade virgin polyethylene. Available foam filled if required.

## Features & Benefits:

- Manufactured from marine grade (UV stabilised) virgin polyethylene
- Small and lightweight, easy to handle
- Optional mould in graphics (signs or words etc.)
- Available in colours: Green, Red, White, Orange and Yellow
- Foam filling available
- Manufactured using 100% recyclable material
- Optional spar extenders available

<b>Code</b>	BMB40	BMB250
<b>Diameter</b>	Ø420mm	Ø880mm
<b>Overall Height</b>	650mm	945mm
<b>Weight</b>	5kg	19kg
<b>Volume</b>	40L	250L
<b>Number of mooring eyes</b>	1	2
<b>Internal diameter of mooring eye</b>	40mm	35mm
<b>Colours</b>	In accordance with IALA Maritime Buoyage System	
<b>Life Expectancy</b>	15 - 20 years	
<b>Warranty</b>	1 Year <i>(extended warranty available upon request)</i>	
<b>Accessory Options</b>	Mould-on Graphics & small lantern brackets available	
<b>Recommended Chain Sizes</b>	8mm - 12mm <i>(chain size will be dependent on the sea state conditions)</i>	







## Navigation Buoys

We manufacture a comprehensive range of polyethylene navigation buoys which are designed to offer easy installation and provide a low maintenance cost solution to marine navigation. These products are successfully being used to mark port entrances, shipping channels, hazardous waters, wind farms, aquaculture sites and a variety of other marine installations and obstructions.

Designed with an emphasis on durability, flexibility, and economy throughout, our range of buoys boast excellent stability characteristics, power system versatility, and environmental credentials. By addressing key design criteria, our navigation buoys can reduce costs and maximise servicing intervals. Safe access for maintenance personnel and ease of operation has been prioritised as have all mooring and retrieval requirements. Our navigation buoy range is available with all IALA Maritime Buoyage System configurations to suit a range of installation requirements.

### Features & Benefits:

- Manufactured from marine grade (UV stabilised) virgin polyethylene
- Can be fitted with a range of solar powered LED marine lanterns
- All fixings are 316 stainless steel
- Fitted with lifting eyes for ease of installation and maintenance
- All our buoys are manufactured using 100% recyclable material
- All IALA Maritime Buoyage System configurations available

## NAV01

### Ø600mm Navigation Buoy

The NAV01 navigation buoy is used for shallow water installations ideal for marking navigation channels, temporary construction areas, aquaculture sites and racing marks. Manufactured from strong durable polyethylene, it is foam filled with internal ballast for additional strength and durability. Small and lightweight it has a pillar design with a nominal focal height of 1000mm. The NAV01 is fitted with two lifting eyes for ease of manoeuvrability during installation or servicing. Small self-contained lanterns available.

#### Features & Benefits

- Small and Light weight, easy to handle
- Fitted with two lifting eyes for ease of Installation and deployment
- Can be fitted with solar powered LED marine lanterns - Type M550 or M660 (or equivalent sized lanterns)
- Free standing for ease of storage during transportation and maintenance



<b>Code</b>	NAV01
<b>Diameter</b>	Ø600mm
<b>Nominal Focal Height</b>	1000mm
<b>Overall Height</b>	1400mm
<b>Nominal Draft</b>	350mm
<b>Weight</b>	55kg
<b>Number lifting eyes</b>	2
<b>Internal diameter of lifting eye</b>	22mm
<b>Number of mooring eyes</b>	1
<b>Internal diameter of mooring eye</b>	30mm
<b>Colours</b>	In accordance with IALA Maritime Buoyage System
<b>Life Expectancy</b>	15 - 20 years
<b>Warranty</b>	1 Year <i>(extended warranty available upon request)</i>
<b>Lantern Options</b>	M550, M660
<b>Accessory Options</b>	Mould-on Graphics, Topmarks
<b>Recommended Chain Sizes</b>	8mm - 12mm <i>(chain size will be dependent on the sea state conditions)</i>

## NAV02

### Ø1200mm Navigation Buoy

Ideal for inshore and sheltered areas the NAV02 navigation buoy is used for marking aquaculture sites, inner harbours, lakes or sheltered safe water channels. Manufactured from strong durable polyethylene, the pillar design offers a high visibility solution with a nominal focal height of 2100mm. Foam filled with internal ballast for stability, the NAV02 navigation buoy is fitted with two lifting eyes for ease of maneuverability for installation and servicing purposes. The NAV02 is designed for use with self-contained lanterns and has the option to be fitted with top marks if required.

#### Features & Benefits

- High visibility pillar design
- A range of top marks are available
- Fitted with two lifting eyes for ease of installation and deployment
- Single point mooring with stainless steel insert
- Free standing for ease of storage during maintenance and installation
- Can be fitted with a range of solar powered LED marine lanterns
- Mould on graphics such as warning signage is available upon request



<b>Code</b>	NAV02
<b>Diameter</b>	Ø1200mm
<b>Nominal Focal Height</b>	2100mm
<b>Overall Height</b>	2800mm
<b>Nominal Draft</b>	470mm
<b>Weight</b>	195kg
<b>Number lifting eyes</b>	2
<b>Internal diameter of lifting eye</b>	50mm
<b>Number of mooring eyes</b>	1
<b>Internal diameter of mooring eye</b>	42mm
<b>Colours</b>	In accordance with IALA Maritime Buoyage System
<b>Life Expectancy</b>	15 - 20 years
<b>Warranty</b>	1 Year <i>(extended warranty available upon request)</i>
<b>Lantern Options</b>	M550, M650H, M660 or M800 series (or equivalent sized lanterns)
<b>Accessory Options</b>	Mould-on Graphics, Topmarks
<b>Recommended Chain Sizes</b>	12mm - 25mm <i>(chain size will be dependent on the sea state conditions)</i>



## NAV03

### Ø900mm Cone or Can Navigation Buoy

Small and lightweight these cone shaped navigation buoys are manufactured from strong, durable polyethylene. Foam filled with internal ballast for stability. Fitted with two lifting eyes for ease of maneuverability during installation and servicing. Designed for use with self-contained lanterns with the option to fit a top mark if required. Ideal for marking temporary construction areas, racing marks, navigation channels, outfalls and aquaculture sites.

#### Features & Benefits

- Available in either a can or cone shape
- A range of top marks are available
- Fitted with two lifting eyes for ease of installation and deployment
- Single point mooring with stainless steel insert
- Free standing for ease of storage during transportation, maintenance, and installation
- Can be fitted with a range of solar powered LED marine lanterns
- Mould on graphics such as warning signage is available upon request



<b>Code</b>	NAV03 - Cone and Can
<b>Diameter</b>	Ø900mm
<b>Nominal Focal Height</b>	1000mm
<b>Overall Height</b>	1200mm
<b>Nominal Draft</b>	370mm
<b>Weight</b>	85kg
<b>Number lifting eyes</b>	2
<b>Internal diameter of lifting eye</b>	37mm
<b>Number of mooring eyes</b>	1
<b>Internal diameter of mooring eye</b>	30mm
<b>Colours</b>	In accordance with IALA Maritime Buoyage System
<b>Life Expectancy</b>	15 - 20 years
<b>Warranty</b>	1 Year (extended warranty available upon request)
<b>Lantern Options</b>	M550, M650H, M660 or M800 series (or equivalent sized lanterns)
<b>Accessory Options</b>	Mould-on Graphics, Topmarks
<b>Recommended Chain Sizes</b>	12mm - 25mm (chain size will be dependent on the sea state conditions)



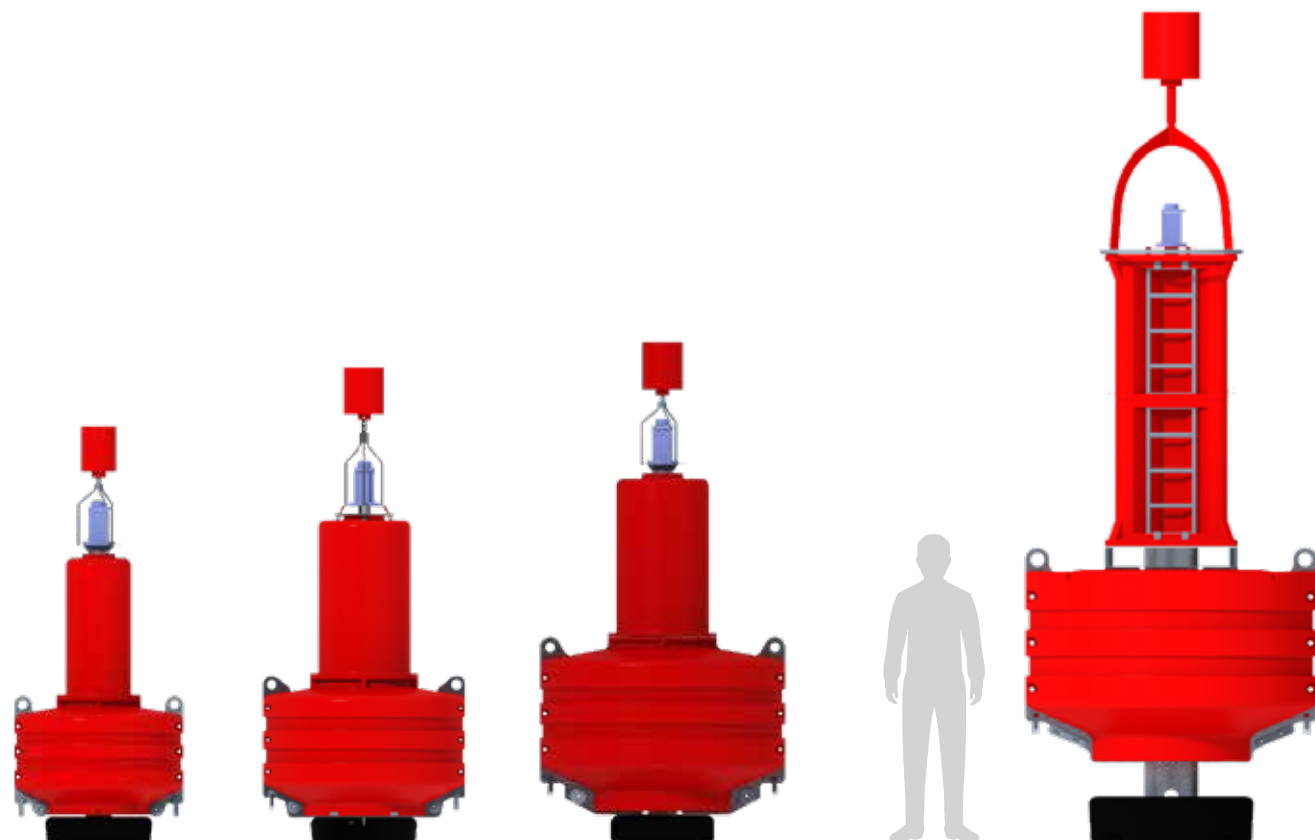


# Gannet Navigation Buoys

Our range of Gannet Navigation Buoys includes G1250, G1500, G1800 & G2200. The Gannet range has a modular buoy design, manufactured from marine grade (UV stabilised) virgin polyethylene. The daymark design has a large visual impact tower available in both can or cone shapes with a nominal focal height for increased buoy visibility. The buoy has a unique central core steel arrangement which supports the float sections and connects the lifting eyes to the mooring eyes ensuring superior strength and durability. The Gannet range is available in all the IALA Maritime Buoyage System recommended colours and configurations.

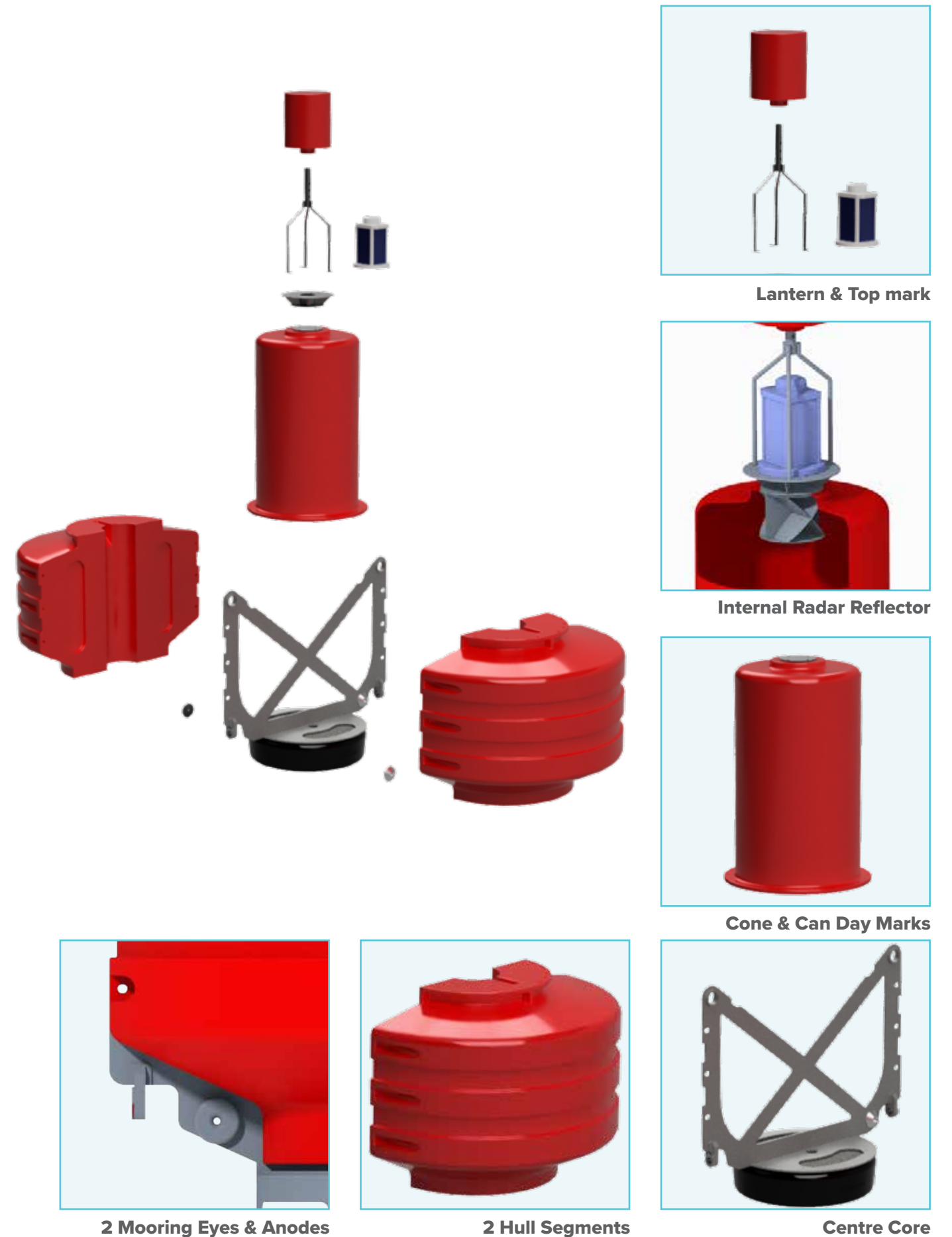
## Features & Benefits

- Manufactured from marine grade (UV stabilised) virgin polyethylene
- Solid ballast plate adding extra protection to the underside of the buoy hull
- Reduced hydrodynamic drag and the watch circle (swing radius)
- 316 Grade stainless handrail and ladder (G2200 only)
- Fitted with two large lifting eyes for ease of installation and maintenance
- Mooring eyes (bridal system) for increased stability in harsh marine environments
- Mooring eyes fitted with replaceable sacrificial hardened steel bushes
- Stands upright on the deck of vessel for ease of storage on site
- Modular design making it easier to replace damaged parts if necessary
- Slip resistant surface on hull deck
- Replaceable sacrificial anodes for corrosion protection (available as spares)
- Open central core for data applications available
- All IALA Maritime Buoyage System configurations available



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# Gannet Navigation Modular Buoy



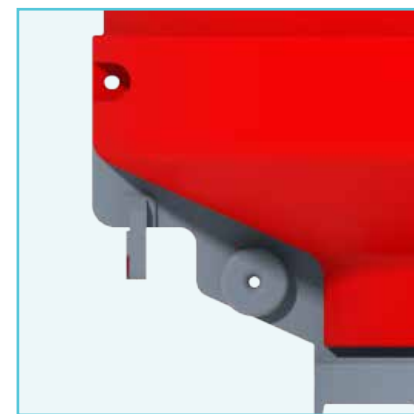
Lantern & Top mark



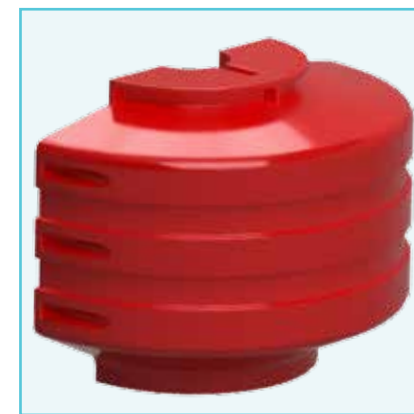
Internal Radar Reflector



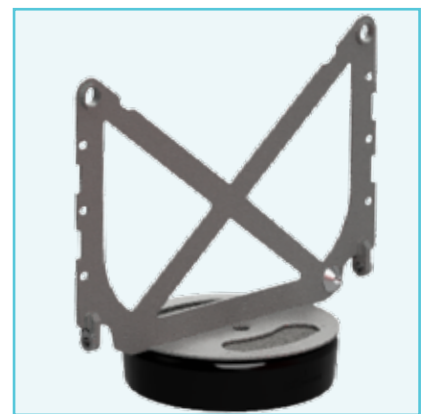
Cone & Can Day Marks



2 Mooring Eyes & Anodes



2 Hull Segments



Centre Core

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## Gannet Ø1250

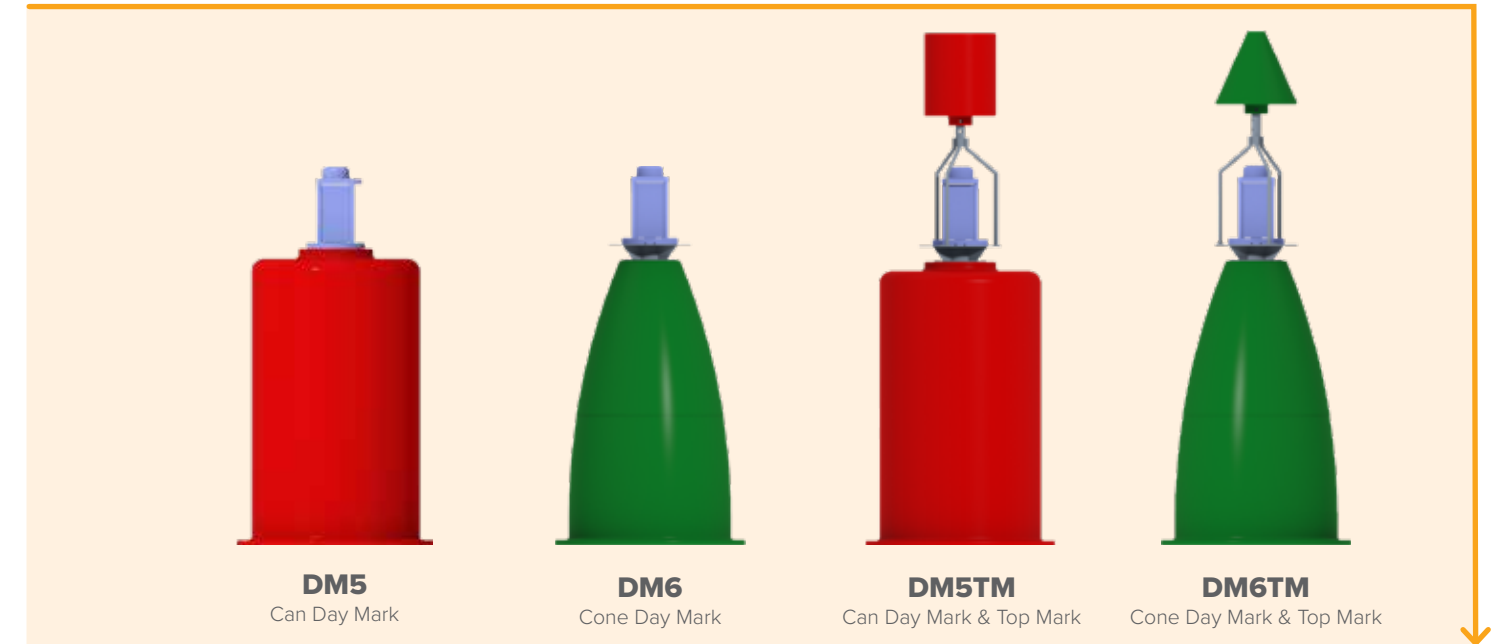
The Gannet Ø1250 are navigation buoys designed for use in moderate seas. Both cone and can daymarks are available with a nominal focal height of 2000mm and are available in all the IALA Maritime Buoyage System recommended colours and configurations.

<b>Code</b>	G1250
<b>Diameter</b>	Ø1250mm
<b>Nominal Focal Height</b>	2000mm
<b>Overall Height</b>	3300mm
<b>Nominal Draft</b>	580mm
<b>Weight</b>	360kg
<b>Number lifting eyes</b>	2
<b>Internal diameter of lifting eye</b>	70mm
<b>Number of mooring eyes</b>	2
<b>Internal diameter of mooring eye</b>	30mm
<b>Safe working load 1 eye</b>	4500kg
<b>Safe working load 2 eyes</b>	10000kg
<b>Colours</b>	In accordance with IALA Maritime Buoyage System
<b>Life Expectancy</b>	15 - 20 years
<b>Warranty</b>	1 Year <i>(extended warranty available upon request)</i>
<b>Lantern Options</b>	M550, M650H, M660, M850 Series
<b>Accessory Options</b>	Mould-on Graphics, Topmarks
<b>Recommended Chain Sizes</b>	12mm - 25mm <i>(chain size will be dependent on the sea state conditions)</i>



## Gannet Ø1250 Matrix

### Options for Day Marks available for Gannet Ø1250



### Options for Hulls available for Gannet Ø1250



## Gannet Ø1500 / Ø1800

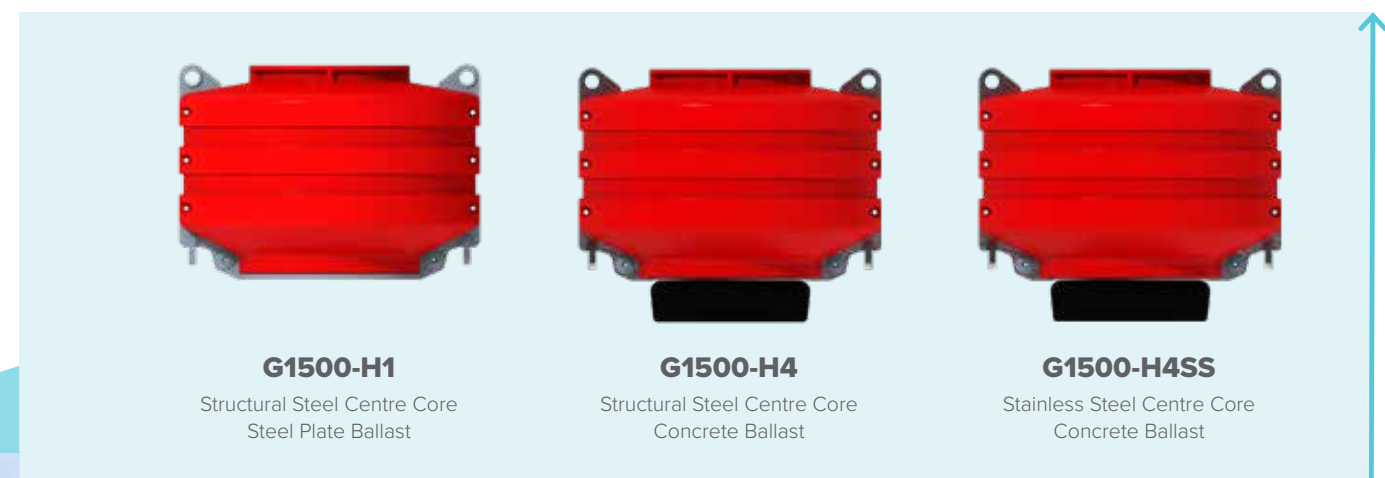
The Gannet Ø1500 / Ø1800 are navigation buoys designed for use in moderate seas. Both cone and can daymarks are available with a nominal focal height up to 2500mm and are available in all the IALA Maritime Buoyage System recommended colours and configurations.

<b>Code</b>	G1500	G1800
<b>Diameter</b>	Ø1500mm	Ø1800mm
<b>Nominal Focal Height</b>	2250mm	2500mm
<b>Overall Height</b>	3470mm	3750mm
<b>Nominal Draft</b>	690mm	650mm
<b>Weight</b>	490kg	620kg
<b>Number lifting eyes</b>	2	
<b>Internal diameter of lifting eye</b>	70mm	
<b>Number of mooring eyes</b>	2	
<b>Internal diameter of mooring eye</b>	30mm	
<b>Safe working load 1 eye</b>	5000kg	
<b>Safe working load 2 eyes</b>	11000kg	
<b>Colours</b>	In accordance with IALA Maritime Buoyage System	
<b>Life Expectancy</b>	15 - 20 years	
<b>Warranty</b>	3 Years <i>(extended warranty available upon request)</i>	
<b>Lantern Options</b>	As per requirements	
<b>Accessory Options</b>	Mould-on Graphics, Topmarks	
<b>Recommended Chain Sizes</b>	12mm - 28mm <i>(chain size will be dependent on the sea state conditions)</i>	



## Gannet Ø1500 Matrix

### Options for Day Marks available for Gannet Ø1500/Ø1800



### Options for Hulls available for Gannet Ø1500/Ø1800



## Gannet Ø2200

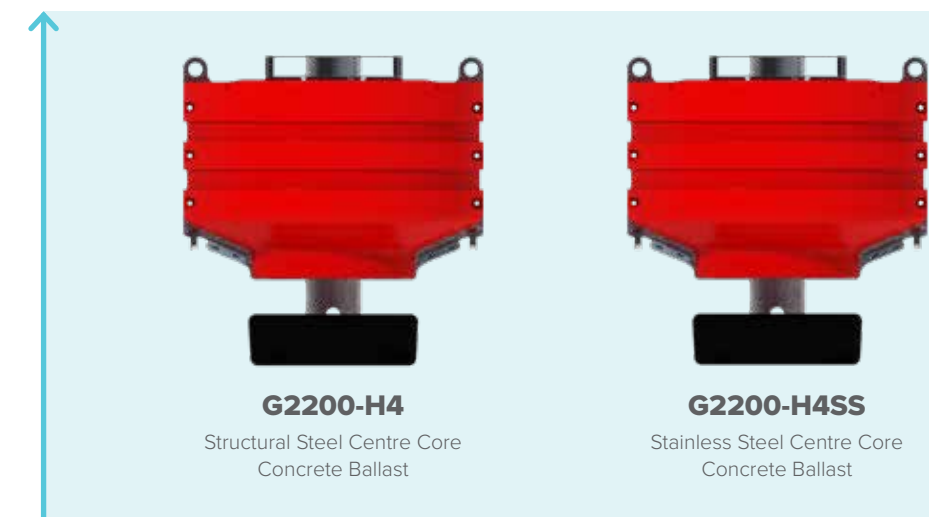
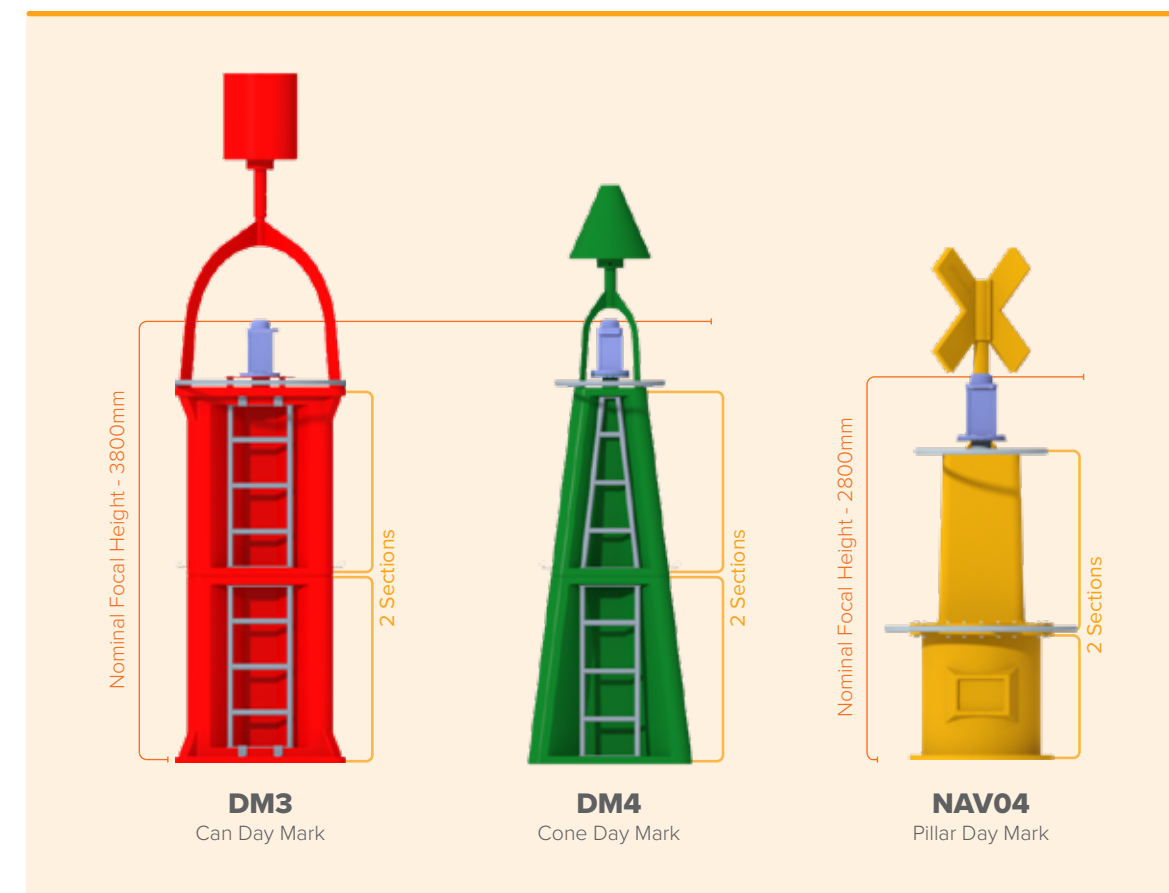
The Gannet Ø2200 is a navigation buoy designed for use in moderate seas. The daymark design has a large visual impact tower available in both can or cone shapes with a nominal focal height for increased buoy visibility. Available in all the IALA Maritime Buoyage System recommended colours and configurations.

<b>Code</b>	G2200
<b>Diameter</b>	Ø2200mm
<b>Nominal Focal Height</b>	2821mm - 3800mm
<b>Overall Height</b>	6300mm
<b>Nominal Draft</b>	1300mm
<b>Weight</b>	1930kg
<b>Number lifting eyes</b>	2
<b>Internal diameter of lifting eye</b>	100mm
<b>Number of mooring eyes</b>	2
<b>Internal diameter of mooring eye</b>	37mm
<b>Safe working load 1 eye</b>	6000kg
<b>Safe working load 2 eyes</b>	12000kg
<b>Colours</b>	In accordance with IALA Maritime Buoyage System
<b>Life Expectancy</b>	15 - 20 years
<b>Warranty</b>	3 Years <i>(extended warranty available upon request)</i>
<b>Lantern Options</b>	As per requirements
<b>Accessory Options</b>	Mould-on Graphics, Topmarks
<b>Recommended Chain Sizes</b>	20mm - 32mm <i>(chain size will be dependent on the sea state conditions)</i>



## Gannet Ø2200 Matrix

### Options for Day Marks available for Gannet Ø2200



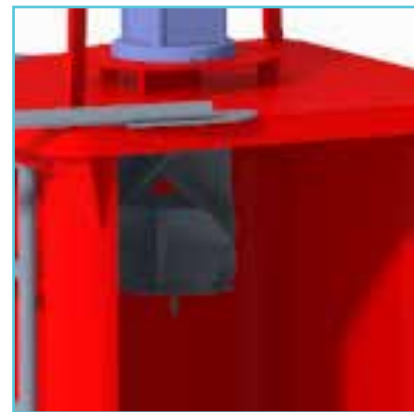
### Options for Hulls available for Gannet Ø2200



# Gannet Ø2200 Modular Buoy



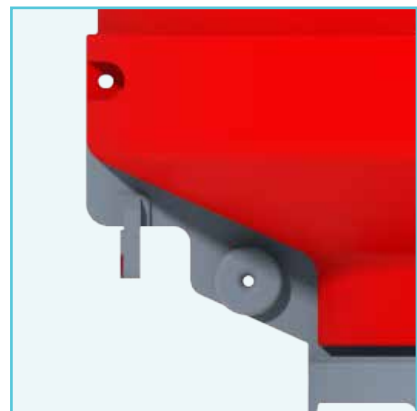
Lantern Frame & Top mark



Internal Radar Reflector



Stainless Steel Handrails & Ladders



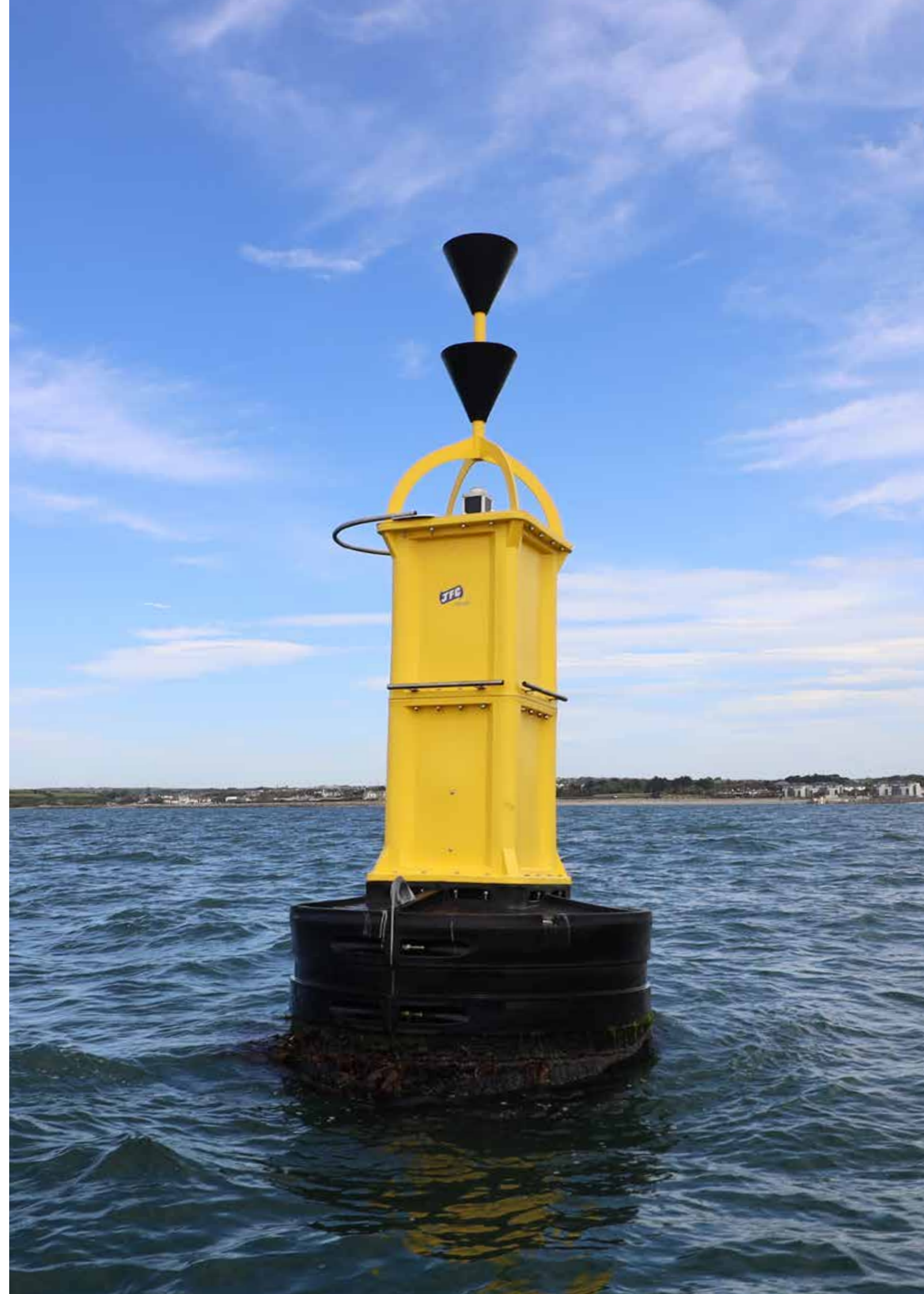
2 Mooring Eyes & Anodes



2 Hull Segments  
20



Centre Core & Lifting Eyes





# Seagull Navigation Buoy

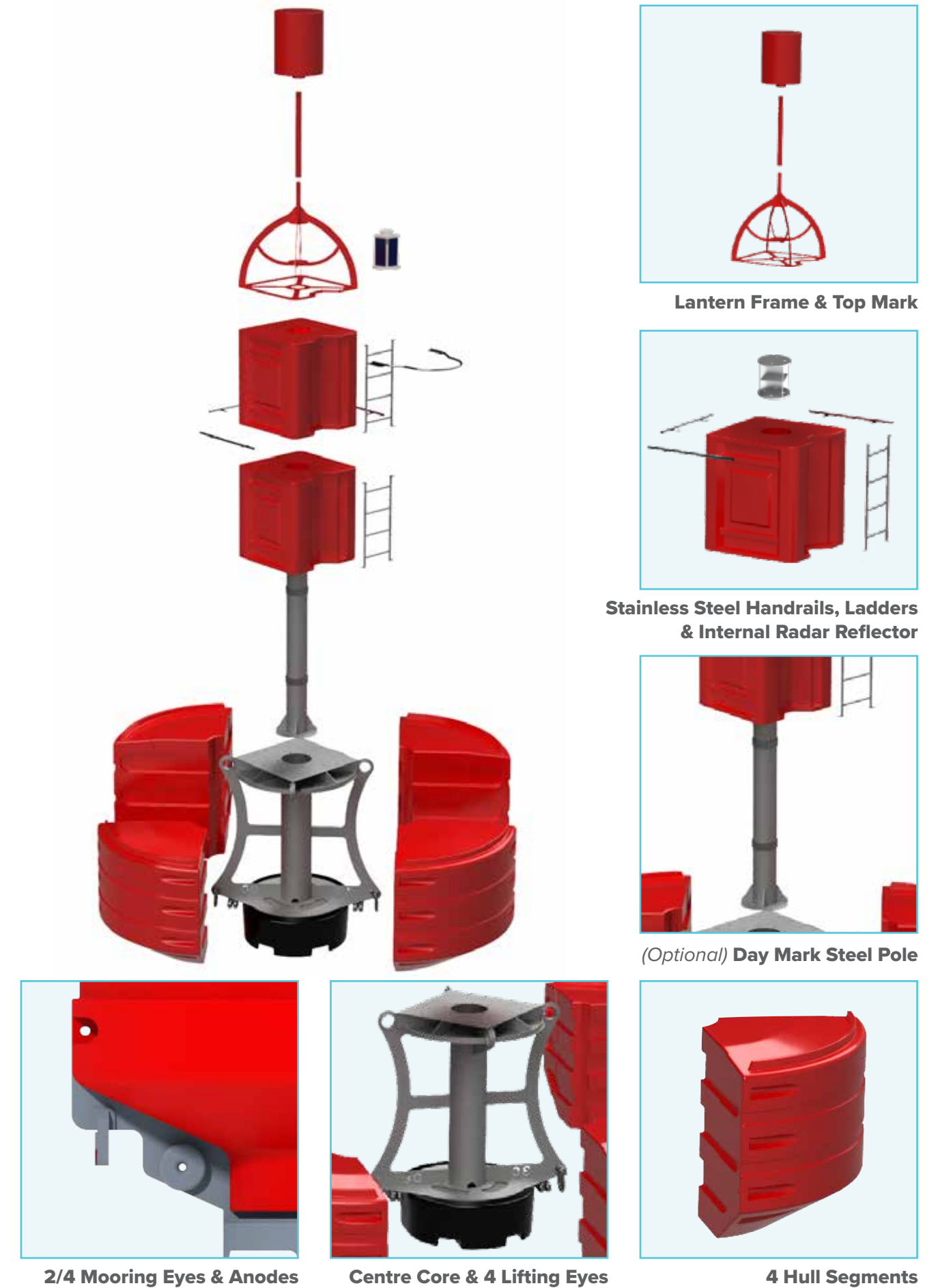
The Seagull range is made from marine grade (UV stabilised) virgin polyethylene and has a central steel core for support and durability. The highly visible daymark provides a focal height ranging from 3.5m - 6m. Our Seagull navigation buoy range has a unique ballast system, versatile power options, and environmental sustainability. The design prioritises safe maintenance access and ease of use. The range is available in IALA Maritime Buoyage System recommended colors and configurations with optional daymark shapes to suit installation needs.

## Features & Benefits

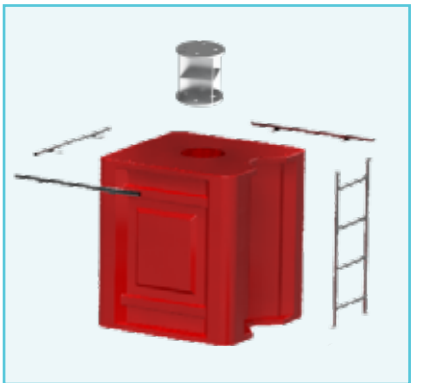
- Manufactured from marine grade (UV stabilised) virgin polyethylene
- Solid base plate adding extra protection under the buoy hull
- Safe working area aluminium crow's nest
- Reduced hydrodynamic drag and the watch circle (swing radius)
- Open central core for data applications available
- Fitted with four large lifting eyes for ease of installation and during maintenance
- Four mooring eyes fitted with replaceable hardened steel bushes
- Mooring eyes (bridal system) for increased stability in harsh marine environments
- 316 grade stainless steel top mark hand rail
- Replaceable sacrificial anodes for corrosion protection
- Modular design making it easier to replace damaged parts if necessary
- Stands upright on the deck of vessel for ease of storage on site
- Slip resistant surface on hull deck
- Suitable for all AIS Systems & stand alone lanterns



# Seagull Navigation Modular Buoy



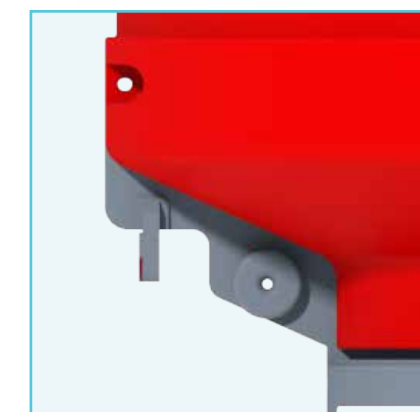
Lantern Frame & Top Mark



Stainless Steel Handrails, Ladders & Internal Radar Reflector



(Optional) Day Mark Steel Pole



2/4 Mooring Eyes & Anodes



Centre Core & 4 Lifting Eyes



4 Hull Segments



## Seagull Ø2600

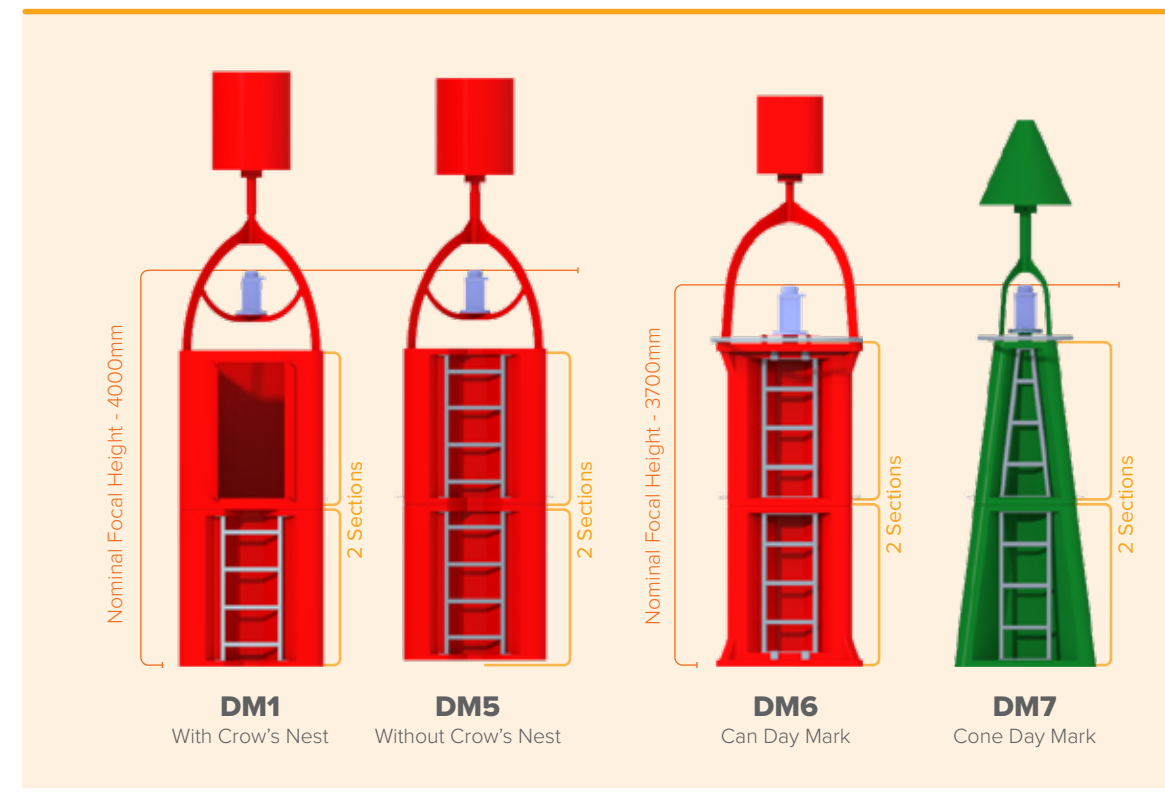
The SG2600 buoy has a large visual daymark with a nominal focal height of up to 4000mm. It features a unique central core steel arrangement connecting the lifting eyes to the mooring eyes for superior strength and durability with a hardened steel bushing system. The twin bridal mooring provides greater stability in fast water currents. The centre core is fitted with four lifting eyes for ease of maneuverability during installation or servicing.

<b>Code</b>	SG2600
<b>Diameter</b>	Ø2600mm
<b>Nominal Focal Height</b>	3700mm - 4000mm
<b>Overall Height</b>	6760mm - 7726mm
<b>Nominal Draft</b>	1300mm
<b>Weight</b>	2652kg - 3189kg
<b>Number lifting eyes</b>	H1, H3, H4 = 4   H5, H5SS = 2
<b>Internal diameter of lifting eye</b>	140mm
<b>Number of mooring eyes</b>	H1, H4 = 4   H3 = 1   H5, H5SS = 2
<b>Internal diameter of mooring eye</b>	64mm
<b>Safe working load 1 eye</b>	9500kg
<b>Safe working load 2 eyes</b>	14000kg
<b>Colours</b>	In accordance with IALA Maritime Buoyage System
<b>Life Expectancy</b>	15 - 20 years
<b>Warranty</b>	3 Years (extended warranty available upon request)
<b>Lantern Options</b>	As per requirements
<b>Recommended Chain Sizes</b>	25mm - 36mm (chain size will be dependent on the sea state conditions)



## Seagull Ø2600 Matrix

### Options for Day Marks available for Seagull Ø2600



### Options for Hulls available for Seagull Ø2600

# Seagull Ø3000

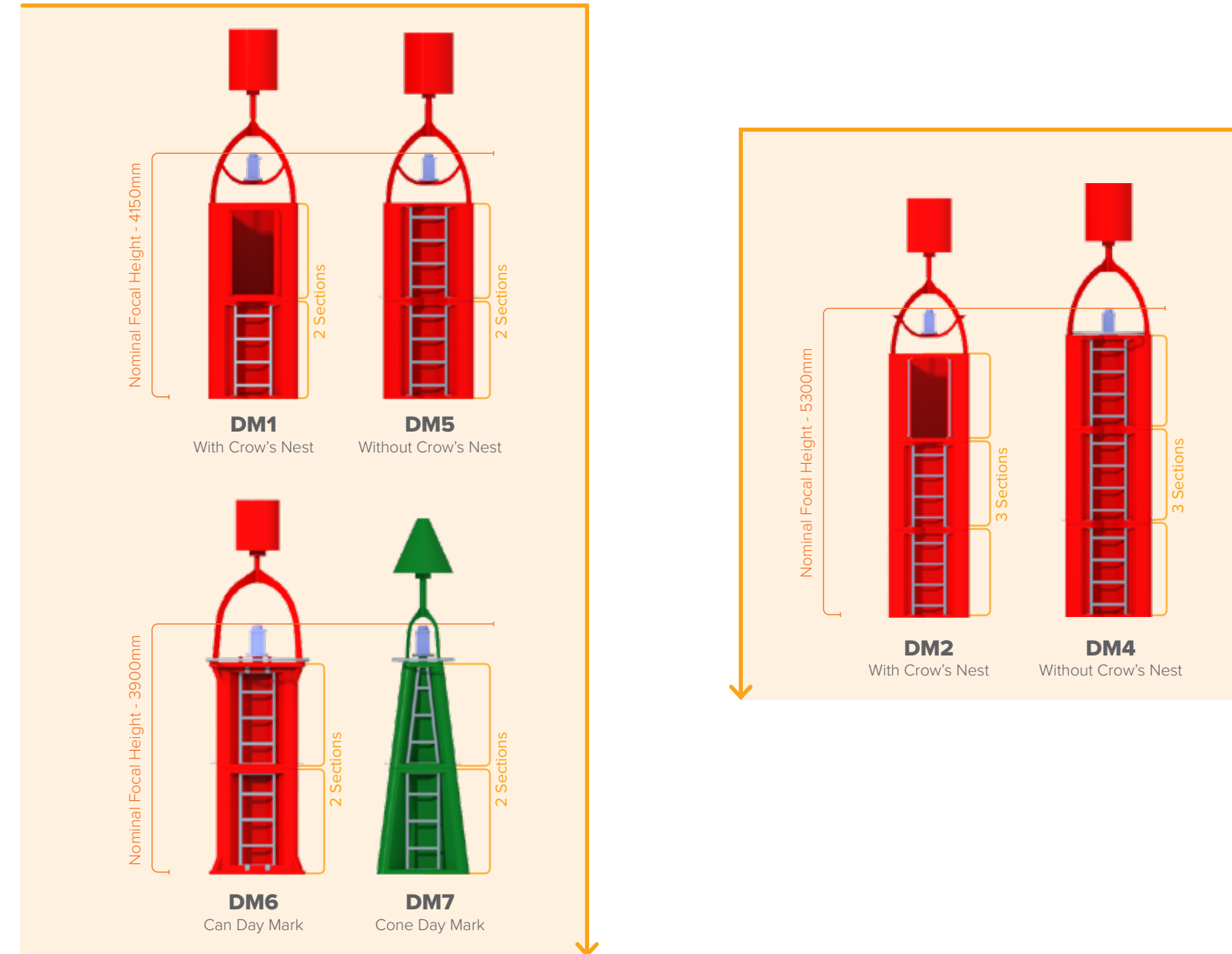
The SG3000 is built from marine grade (UV stabilised) polyethylene, ensuring durability in harsh environments. Its solid base plate provides extra protection while the aluminium crow's nest offers a safe working area for maintenance personnel. Its design minimizes hydrodynamic drag and swing radius for high efficiency. The SG3000 has four large lifting eyes, making it easy to install and maintain with extended lifting eyes available on request. The SG3000 is equipped with four mooring eyes featuring replaceable hardened steel bushes with extended lifting eyes available on request.

<b>Code</b>	SG3000
<b>Diameter</b>	Ø3000mm
<b>Nominal Focal Height</b>	3825mm - 5400mm
<b>Overall Height</b>	6545mm - 8966mm
<b>Nominal Draft</b>	1300mm
<b>Weight</b>	3100kg - 3400kg
<b>Number lifting eyes</b>	H1, H4 = 4   H5, H5SS = 2
<b>Internal diameter of lifting eye</b>	140mm
<b>Number of mooring eyes</b>	H1, H4 = 4   H5, H5SS = 2
<b>Internal diameter of mooring eye</b>	64mm
<b>Safe working load 1 eye</b>	9500kg
<b>Safe working load 2 eyes</b>	14000kg
<b>Colours</b>	In accordance with IALA Maritime Buoyage System
<b>Life Expectancy</b>	15 - 20 years
<b>Warranty</b>	3 Years (extended warranty available upon request)
<b>Lantern Options</b>	As per requirements
<b>Recommended Chain Sizes</b>	25mm - 36mm (chain size will be dependent on the sea state conditions)



# Seagull Ø3000 Matrix

## Options for Day Marks available for Seagull Ø3000



## Options for Hulls available for Seagull Ø3000





# IALA Maritime Buoyage System

A member of IALA (Association of Marine Aids to Navigation and Lighthouse Authorities), our navigation buoys and beacons are available in a wide range of IALA Maritime Buoyage System recommended colours and configurations.

## IALA Regions

The IALA Maritime Buoyage System has 2 systems in use, IALA A and IALA B.

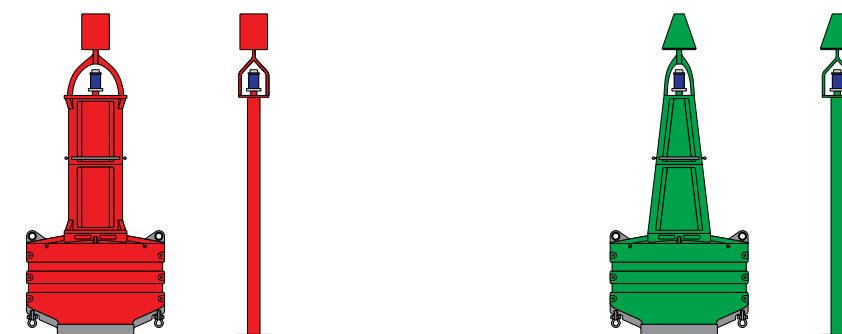
 IALA A is used by countries in Africa, most of Asia, Australia, Europe and India.

 IALA B is used by countries in North, Central and South America, Japan, Korea and the Philippines.



## Lateral Marks

Lateral marks define a channel and indicate the port and starboard sides of the navigation route to be followed into a waterway such as a harbour, river or estuary from seaward. The vessel should keep port marks to its left and keep starboard marks to its right. If lateral marks are unable to be represented by a can or cone shaped buoy they should carry the appropriate topmark.



**Port Hand Mark - Region A**

**Starboard Hand Mark - Region A**

Colour	Red	Green
Buoy Shape	Cylindrical (can) - <i>pillar or spar</i>	Conical - <i>pillar or spar</i>
Topmark	Single Red Cylinder (can)	Single Green Cone - <i>point upwards</i>
Light Colour	Red	Green
Light Rhythm	Any apart from composite group flashing (2+1)	



**Port Hand Mark - Region B**

**Starboard Hand Mark - Region B**

Colour	Green	Red
Buoy Shape	Cylindrical (can) - <i>pillar or spar</i>	Conical - <i>pillar or spar</i>
Topmark	Single Green Cylinder (can)	Single Red Cone - <i>point upwards</i>
Light Colour	Green	Red
Light Rhythm	Any apart from composite group flashing (2+1)	

## Preferred Channel Marks

At the point where a channel divides, a modified lateral mark is used to indicate a preferred channel (often a deep channel suitable for heavy commercial vessels) on the side and a secondary channel on the other. A preferred channel is indicated by red and green horizontal bands on the lateral marker. If a vessel wants to use the preferred channel they observe the top colour of the mark while a vessel wishing to use the secondary channel observes the bottom colour.



**Preferred Channel to Starboard - Region A**

**Preferred Channel to Port – Region A**

Colour	Red with 1 Broad Green Horizontal Band	Green with 1 Broad Red Horizontal Band
Buoy Shape	Cylindrical (Can) - <i>pillar or spar</i>	Conical - <i>pillar or spar</i>
Topmark	Single Red Cylinder (Can)	Single Green Cone - <i>point upwards</i>
Light Colour	Red	Green
Light Rhythm	Composite group flashing (2+1)	



**Preferred Channel to Starboard - Region B**

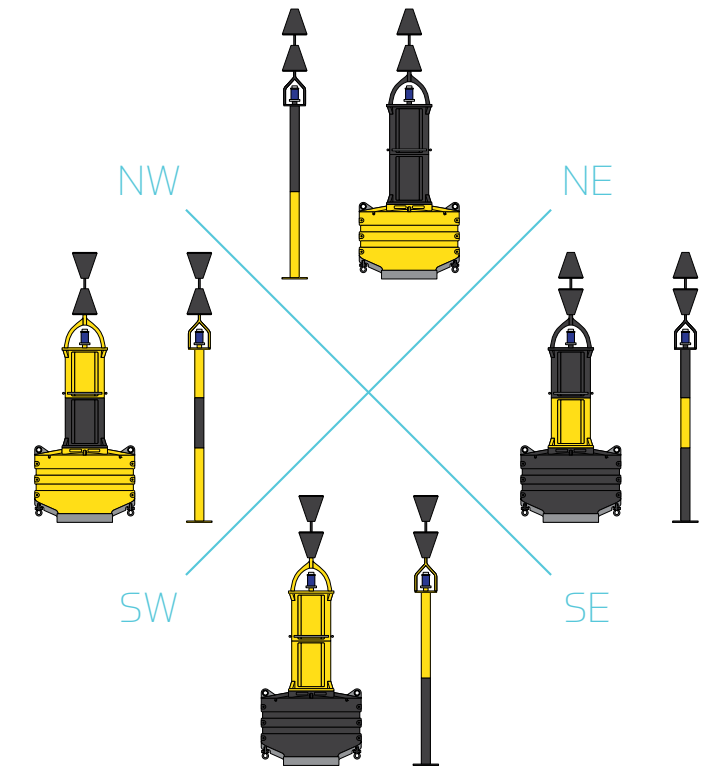
**Preferred Channel to Port – Region B**

Colour	Green with 1 Broad Red Horizontal Band	Red with 1 Broad Green Horizontal Band
Buoy Shape	Cylindrical (Can) - <i>pillar or spar</i>	Conical - <i>pillar or spar</i>
Topmark	Single Green Cylinder (Can)	Single Red Cone - <i>point upwards</i>
Light Colour	Green	Red
Light Rhythm	Composite group flashing (2+1)	

## Cardinal Marks

### Cardinal Quadrants & Marks

The four quadrants (North, South, East & West) are bounded by the true bearings NW-NE, NE-SE, SE-SW, and SW-NW, taken from the point of interest. A cardinal mark is named after the quadrant in which it is placed. The name indicates that it should be passed to the named side of the mark. The cardinal marks in Region A and Region B, and their use, are the same.



### Use of Cardinal Marks

Cardinal marks can be used to show:

- The deepest water or area on the named side of the mark.
- The safe side on which to pass a danger.
- To draw attention to a feature in a channel such as a bend junction or end of a shoal.

**North Cardinal Mark - Region A & B**

Colour	Black above Yellow
Buoy Shape	Pillar or Spar
Topmark	2 Black Cones - <i>one above the other, points upward</i>
Light Colour	White
Light Rhythm	VQ or Q

**East Cardinal Mark - Region A & B**

Colour	Black with single broad horizontal yellow band
Buoy Shape	Pillar or Spar
Topmark	2 Black Cones - <i>one above the other, base to base</i>
Light Colour	White
Light Rhythm	VQ (3) every 5 seconds or Q (3) every 10 seconds

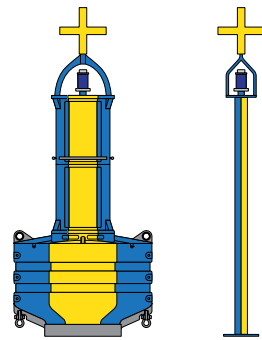
**South Cardinal Mark - Region A & B**

Colour	Yellow above Black
Buoy Shape	Pillar or Spar
Topmark	2 Black Cones <i>one above the other, points downward</i>
Light Colour	White
Light Rhythm	VQ (6) + Long flash every 10 seconds or Q (6) + Long flash every 15 seconds

**West Cardinal Mark - Region A & B**

Colour	Yellow with single broad horizontal yellow band
Buoy Shape	Pillar or Spar
Topmark	2 Black Cones - <i>one above the other, point to point</i>
Light Colour	White
Light Rhythm	VQ (9) every 10 seconds or Q (9) every 15 seconds

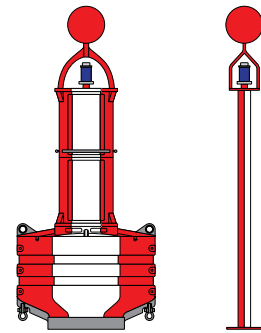




### New Dangers / Wreck Mark - Region A & B

New Dangers should be appropriately marked using Lateral, Cardinal, Isolated Danger Marks or by using the Emergency Wreck Marking.

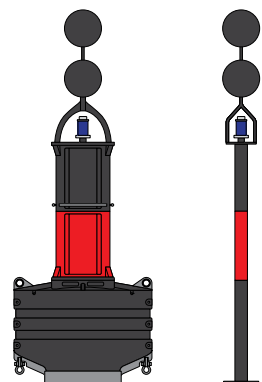
Colour	Blue / Yellow vertical stripes in equal number (Min 4 Stripes, Maximum 8)
Buoy Shape	Pillar or Spar
Topmark	Vertical / Perpendicular Yellow Cross
Light Colour	Yellow / Blue alternating
Light Rhythm	1 second of blue light & 1 second of yellow light with 0.5 sec of darkness between



### Safe Water Mark - Region A & B

Serve to indicate that there is navigable water all-round the mark. These include centre line marks and mid-channel marks. Such a mark may also be used to indicate channel entrance, port or estuary approach, or landfall. The light rhythm may also be used to indicate best point of passage under bridges.

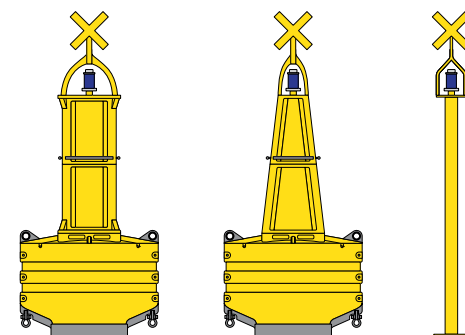
Colour	Red & White Vertical Stripes
Buoy Shape	Spherical - <i>pillar or spar with spherical topmark</i>
Topmark	Single Red Sphere
Light Colour	White
Light Rhythm	Isophase, occulting, 1 long flash every 10 seconds or morse "A"



### Isolated Danger Mark - Region A & B

An isolated danger mark is a mark erected on, or moored on or above, an isolated danger which has navigable water all around it.

Colour	Black with 1 more broad horizontal Red bands
Buoy Shape	Optional not conflicting with Lateral Marks - <i>pillar or spar preferred</i>
Topmark	2 Black spheres, one above the other
Light Colour	White
Light Rhythm	Group flashing (2)
Pictogram	



### Special Mark - Region A & B

Special Marks used to indicate a special area or feature whose nature may be apparent from reference to a chart or other nautical publication. They are not generally intended to mark channels or obstructions where other marks are more suitable.

Colour	Yellow
Buoy Shape	Optional not conflicting with Navigational Marks
Topmark	Single Yellow "X" shape
Light Colour	Yellow
Light Rhythm	Any other than those described in cardinal, isolated danger & safe water marks
Pictogram	The use of pictograms is authorized - <i>as defined by a competent authority</i>

## Aids to Navigation Lanterns

### Self-Contained Lanterns

Self contained solutions are becoming increasingly popular with the constant development of LEDs, solar panels and battery technologies. For the operator an integrated light and solar power supply lantern is ideal. Easy to handle, self-contained lanterns offer simple installation. We supply a range of Self-Contained Lanterns available from 1 - 10nm.



### LED Sector Lanterns

We supply a range of omni-directional LED Sector lights for the marine aids to navigation industry. Compact in design with accurate sector borders, they are equipped with a replaceable LED optical unit. Range of LED sector lanterns available from 6 - 10nm (depending on colour and flash character).

### LED Marine Lanterns

We supply a range of LED lanterns for the marine aids to navigation industry. They are appreciated for their luminous performance, reliability, modularity and functionality. Customers have the ability to choose features suited to their specific needs so they can operate their aids to navigation efficiently and at a lower lifetime cost range of LED marine lanterns available from 1 - 15nm.



# Moorings Support Structures

We supply a complete range of mooring solutions from the initial design through to supply of a complete mooring system. This includes bridles for buoys, ground chains cut to required lengths and a range of green pin safety bow shackles and swivels. Various sinkers can be supplied in cast iron or concrete materials depending on the preferred solution. Our in house developed mooring calculator has been designed to take the sea state conditions into consideration along with our full range of buoys to produce a recommended mooring system.



## Moorings Chains

- We supply U2 grade long link mooring chain
- Size range available from 16mm up to 40mm
- Purpose built mooring bridles available
- All welded assemblies are available



## Sinkers

- We supply a range of mooring sinkers
- Available in cast iron or concrete
- Sizes range from 500kg to 3000kg
- Supplied with a heavy chain mooring or mooring eyes if preferred



## Shackles

- We supply shackles ranging from 4.5t up to 17t and 25t

# Support Structures

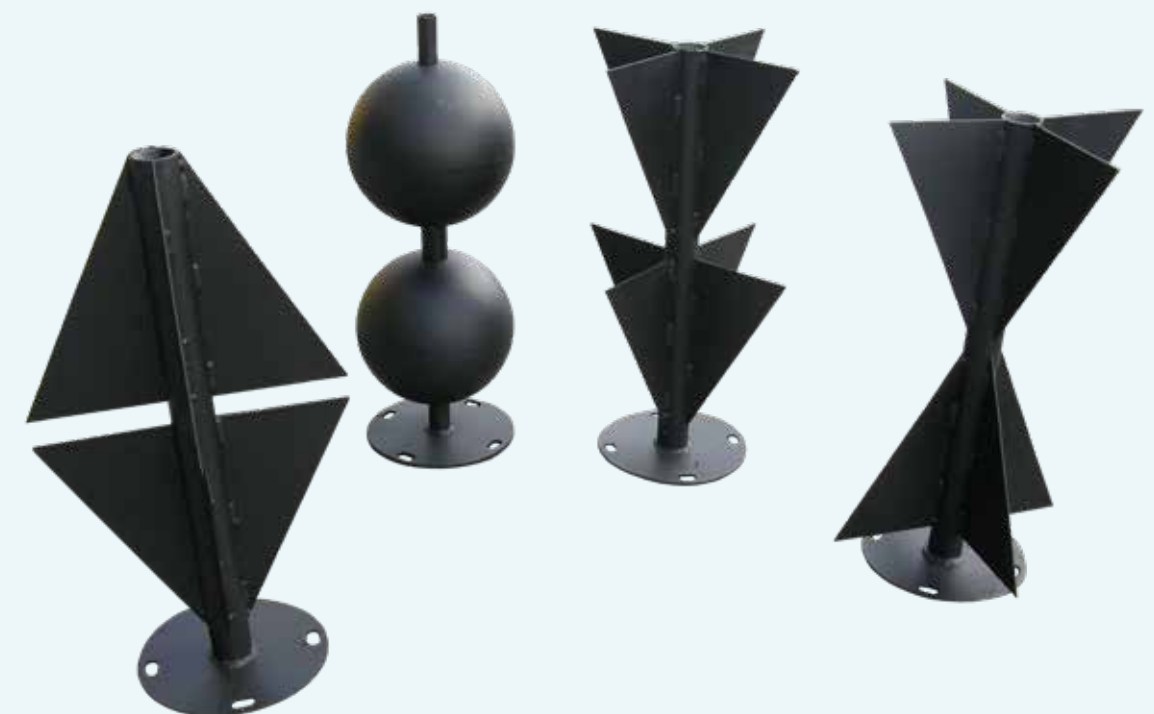
We design and manufacture a wide range of beacon support structures. These structures are manufactured using structural steel, 316 stainless steel or marine grade aluminium. In addition to the beacon structures we supply a wide range of top marks available in polyethylene or steel material. All structures and top marks are manufactured in accordance with IALA Maritime Buoyage System guidelines.



# Top Marks

We fabricate a wide range of Top Marks for existing posts, with a stainless-steel or galvanised finish mounting structure and a polyethylene navigational mark. These top marks can be used on existing channel buoys, data buoy and beacon towers structures etc.

- Available painted or plastic coated if required
- Designed to reduce solar shadowing and increase lantern visibility at night
- Available in a range of sizes
- Manufactured in accordance with IALA Maritime Buoyage system



# Beacon Tower Sleeves

We manufacture polyethylene protection marker sleeves for your beacon structures. The sleeves increase the visibility of your steel beacon structure without the painting maintenance cost.

- Suitable for beacon structures up to external Ø60mm.
- The sleeves have a standard lantern flange built-in so there is no further fabrication to your steel post is required
- Available in range of colours with a range of top marks as per IALA Maritime Buoyage System guidelines







MARINE



International Harbour  
Masters Association

It is believed that the information given in this publication is correct, however products marketed by JFC MARINE are subject to continuous development and the company therefore reserve the right to alter information without notice.  
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