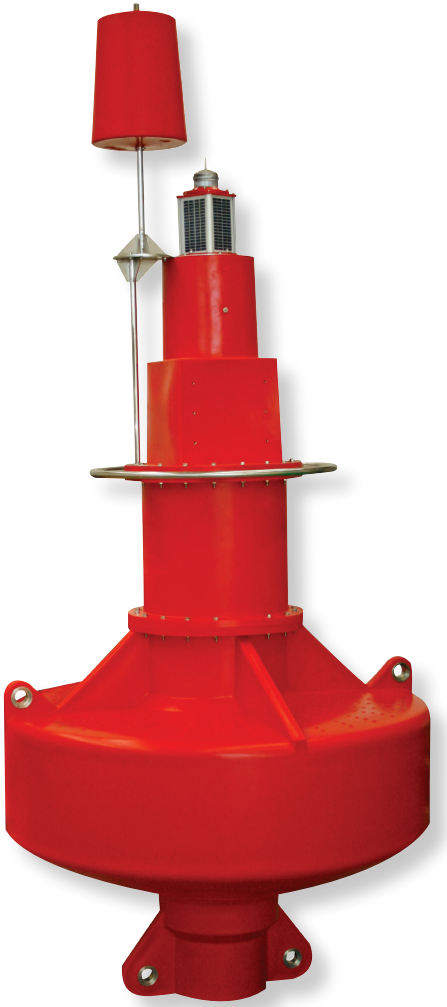
Sealite®
www.sealite.com



# POSEIDON-1750

## Ocean Buoy

## Installation & Service Manual

Version 1.6

| Version No. | Description | Date | Approved |
|---|---|---|---|
| 1.0 | Manual Launch | July 2009 | K. Paton |
| 1.1 | Individual Manual | Nov 2009 | A. Dixon |
| 1.2 | Logo and Warranty Update | July 2010 | K. Paton |
| 1.3 | Update: Spec Table | May 2012 | J. Dore |
| 1.4 | Breather Unit | Sept 2013 | P. Rainey |
| 1.5 | Delete back page, spec change | Dec 2018 | |
| 1.6 | Update to Technical Drawings | April 2019 | G. Percy |

## Table of Contents

## Introduction

**Congratulations! By choosing to purchase a Sealite Buoy, you have become the owner of one of the most advanced rotationally-moulded polyethylene marine buoys in the world.**

Sealite Pty Ltd has been manufacturing buoys for over 25 years, and particular care has been taken to ensure your buoy gives years of service.

As a commitment to producing the highest quality products for our customers, Sealite has been independently certified as complying with the requirements of ISO9001:2008 quality management system.

By taking a few moments to browse through this booklet, you will become familiar with the versatility of your buoy, and be able to maximise its operating function.

## Sealite Buoy Division

Sealite marine buoys are manufactured on-site from rotationally-moulded UV-stabilised polyethylene, and are designed to offer a low-maintenance, high visibility solution to marine navigation.

The Sealite buoy division provides turn-key production of navigation buoys. From tooling development, raw materials selection, and production, to final testing and inspection, Sealite guarantees superior quality and fast turn-around times.

Sealite's buoy products are available in a wide range of configurations and sizes, and can be economically shipped worldwide.

## Why Choose Polyethylene Buoys?

- No painting
- Inhibits growth
- Increased interval between servicing
- Routine maintenance on location
- Easily repaired in the unlikely event of damage
- Lightweight for ease of deployment and maintenance
- Environmentally friendly – no use of toxic antifouling paint

## Mooring Requirements & Regulations

Please contact your local authority for any specific requirements regarding the deployment of buoys.

IALA also has guidelines and recommendations that should be followed.

All information given in this manual is advisory only. Please consult with your local authority before deploying your buoy products.

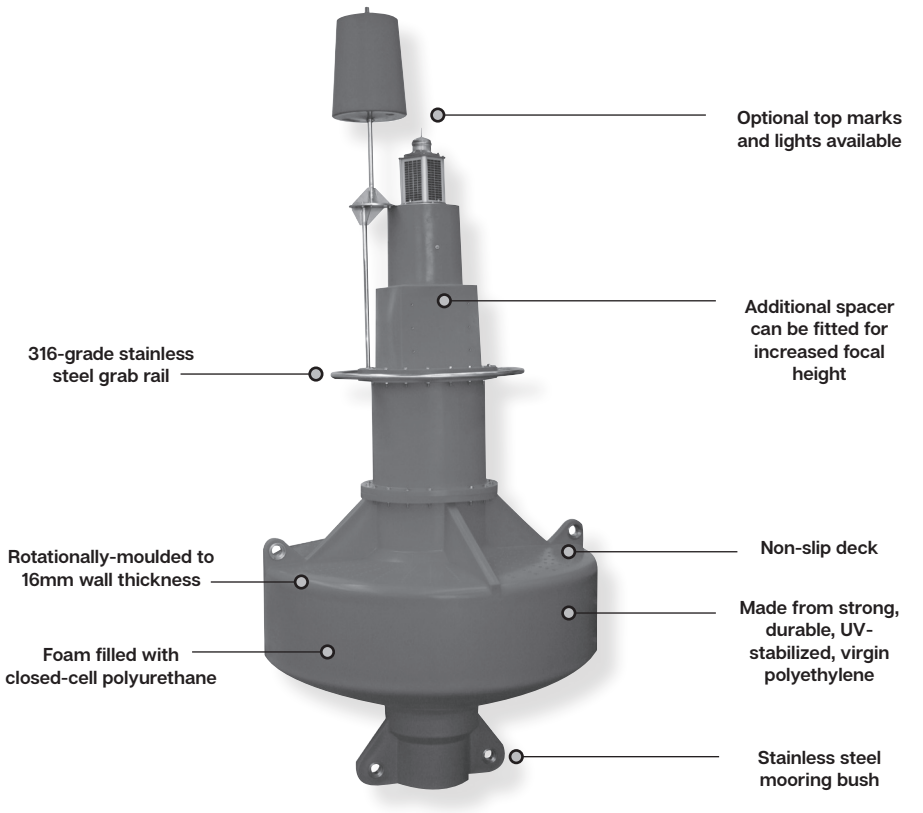
Local conditions that need to be considered include:-

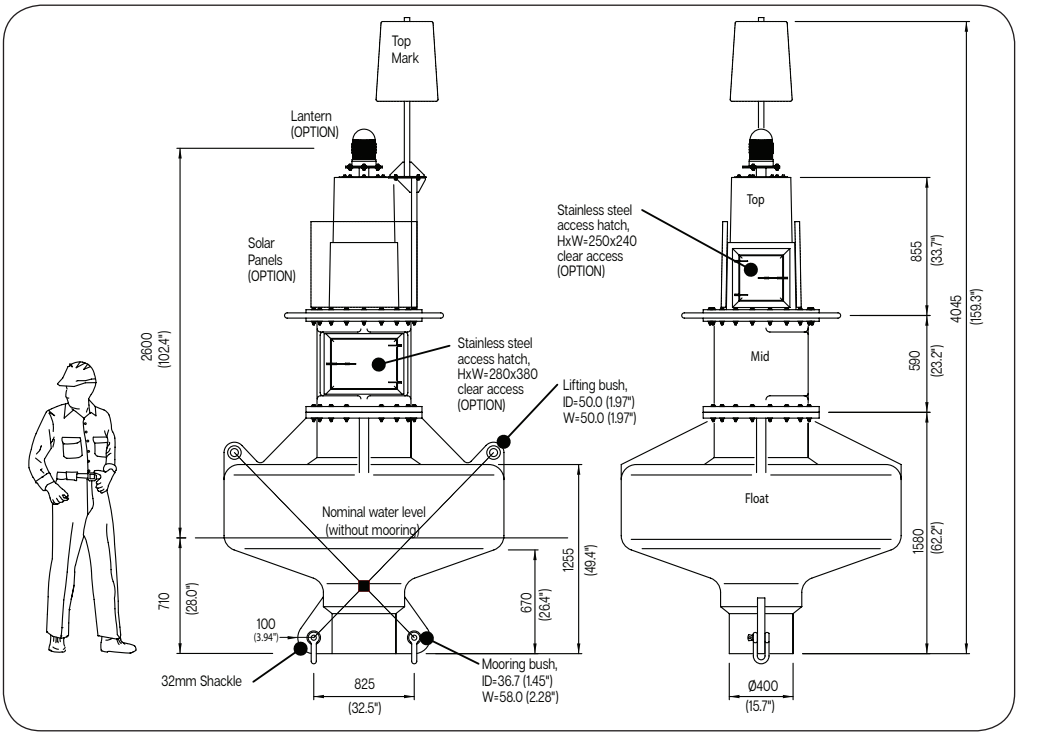
- Water depth
- Maximum currents
- Maximum wind speeds
- Sinker size and weight

# POSEIDON-1750 Ocean Buoy

***The Sealite POSEIDON-1750 Buoy is rotationally-moulded from UV-stabilised virgin polyethylene and has been specifically designed to withstand the harsh marine environment and operate reliably with minimal maintenance. Constructed from 3 parts; a floatation section, mid-section, and top section, individual colouring of each component enables the POSEIDON to be configured to suite a range of IALA recommendations and guidelines.***

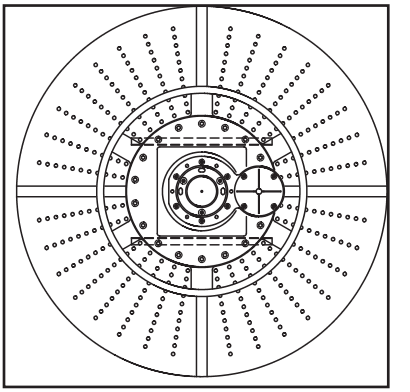
## Product Features & Technical Specifications

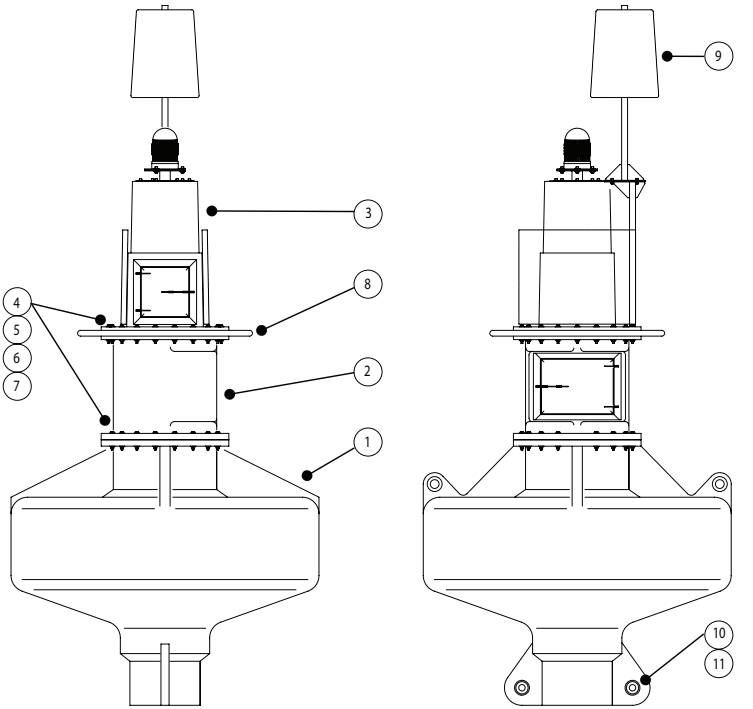



Top
Mark
Lantern
(OPTION)
Solar
Panels
(OPTION)
2600
(102.4")
Stainless steel
access hatch,
HxW=280x380
clear access
(OPTION)
Lifting bush,
ID=50.0 (1.97")
W=50.0 (1.97")
Nominal water level
(without mooring)
710
(28.0")
100
(3.94")
32mm Shackle
825
(32.5")
670
(26.4")
1255
(49.4")
Mooring bush,
ID=36.7 (1.45")
W=58.0 (2.28")
Stainless steel
access hatch,
HxW=250x240
clear access
(OPTION)
Top
Mid
Float
855
(33.7")
590
(23.2")
1580
(62.2")
4045
(159.3")
Ø400
(15.7")

## POSEIDON-1750 Product Components

| No | Description | Qty |
|---|---|---|
| **1** | POSEIDON Float Section | 1 |
| **2** | POSEIDON Mid Section (Cotton Reel) | 1 |
| **3** | POSEIDON Top Section | 1 |
| **4** | G316 S/S Bolt. M10x90mm Long | 34 |
| **5** | G316 S/S Flat Washer | 68 |
| **6** | G316 S/S Spring or Locking Washer | 34 |
| **7** | G316 S/S Plain Nut | 34 |
| **8** | Handrail | 1 |
| **9** | Top Mark | 1 |
| **10** | POSEIDON Lug Bushes | 4 |
| **11** | Galvanised Grade M Shackle Ø32mm with 35mm OD pin inside widtgh 60mm x 114mm | 2 |
| G316 S/S = Grade 316 Stainless Steel | | |





# Assembly Instructions

## Check Components

- Unload all components from crate or container.
- Check all components are complete and correct.
- Position the POSEIDON Float Section (1) on flat level ground.

## Prepare Tower Section

- *Optional:* Position the Lantern on the Tower section. For details on Lantern see Lantern Installation Manual.

  ***Note:*** Check for correct Lantern operation before fitting to the tower section.

- *Optional:* Position the Top Mark to the Mounting Plate and secure using 4 x M8 Socket Head Cap Screws, washers and Nuts.

## Connect Tower & Mid Sections

- Position the POSEIDON Tower (3) on top of the Hand Rail (8) and Mid Section (2).
    - Secure the Tower to the Mid Section.
        - If Tower Section is fitted with Solar Panels, it will require 14 x M10 Stainless Steel Bolts, Nuts and Washers.
        - If Tower Section is not fitted with Solar Panels then 18 x M10 Stainless Steel Bolts, Nuts and Washers are required.
    - Place a flat washer onto the bolt
    - Insert bolt into hole through Tower and Float Section
    - Secure a second Flat Washer, a Spring Washer and a Nut on to the Bolt
    - Tighten the Nut

## Connect Tower/Mid Section to Float Section

- Position the POSEIDON Tower and Mid Section Assembly to the Float Section (1)
    - Secure the Tower and Mid Section assembly to the Float Section using 16 x M10 Stainless Steel Bolts, Nuts and Washers are required.
    - Place a flat washer onto the bolt
    - Insert bolt into hole through Tower and Float Section
    - Secure a second Flat Washer, a Spring Washer and a Nut on to the Bolt
    - Tighten the Nut
- Source and fit 2 x Ø25mm Shackles to the Lifting Eyes on the Float Section. Note: Shackles are not supplied.
- Lift Buoy up to access the Lug Bushes at the base of the Buoy.
- The buoy is now ready for the Mooring Assembly to be fitted.

## Sealite Breather Unit

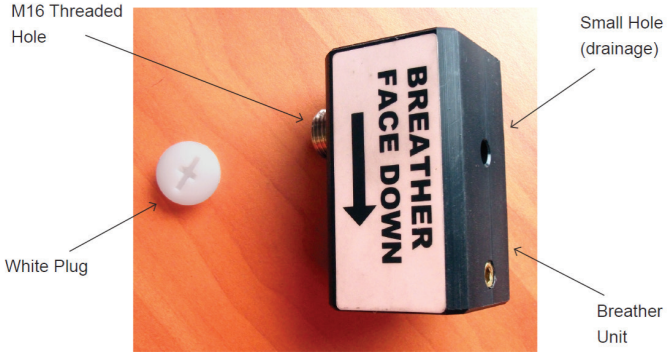
**How it Works**

Inside the breather unit, is an air channel which forms in the shape of an S-Bend which runs from the M16 threaded hole to a small hole located on the other side.

This channel, fills with water and spills out through the small hole, allowing the water to effectively drain from the buoy and at the same time, preventing water from entering into the buoy through the small hole.

**Installation Instructions for Breather Units (For Products which Contain Sealite's Power Packs)**

1. Unscrew the white plug located at the side/base of the buoy
2. Apply a small amount of marine grade silicon adhesive to the thread of the breather valve
3. Carefully screw in the breather unit ensuring that the arrow's direction is pointing down.




# Mooring Assembly Instructions

## Check Components

- Unpack all Mooring and check all components are complete and correct.

  Use POSEIDON-1750 Mooring Diagram on following page for details.

## Prepare & Attach Chain

- Cut 2 x lengths of chain approximately 600 – 750mm long. Each length must have an odd number of links to allow for proper connection between the buoy and the Bridal Plate.

  Note: Please use the guides below to determine the correct chain size and length.
- Secure the chain to the upper two holes in the Bridal Plate using 2 x Ø25mm Shackles with Ø29mm Pin. Note: All Shackles must be positively locked. For example use 3mm Stainless Steel wire to lock the pin eye, or use a use a shackle pin with nut and split pin.
- Fit and secure 1 x Ø25mm Shackles with Ø29mm Pin and 1 x Ø25mm (or larger) Swivel Eye and Eye to the lower hole in the Bridal Plate.
- Fit and secure the Bridal Plate and Chain assembly to the POSEIDON. Connect the chain lengths using 2 x Ø25mm Shackles with Ø29mm Pins.
- Secure the required length of chain to the Swivel Eye using 1 x Ø25mm Shackles with Ø29mm Pin

## Attach Mooring Block

- Fit and secure the Chain to the Mooring Block.
- The Buoy is now ready for deployment.

# Mooring Assembly Instructions

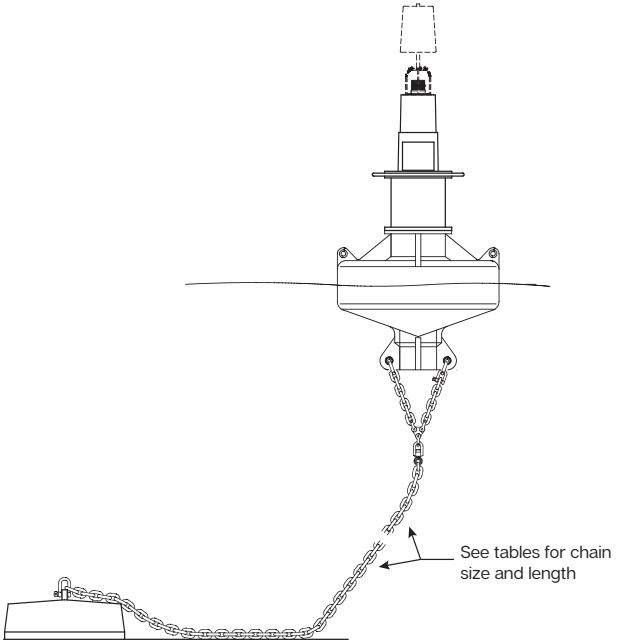
## Chain Size Guide

| Water Depth | | Recommended Chain Size (from swivel to mooring block) |
|---|---|---|
| Metres | Feet | |
| 6 to 14 | 20 to 46 | 28mm |
| 14 to 22 | 46 to 72 | 24mm |
| 22 to 32 | 72 to 105 | 22mm |
| 32 to 50 | 105 to 164 | 20mm |
| 50 to 75 | 164 to 246 | 16mm |

## Chain Length Guide

| | Recommended Length of Chain | Maximum Water Depth |
|---|---|---|
| Best Practice (Up to 6kts current) | 3 x Water Depth | 30m |
| For Reduced Water Circle (Current 2kts to 4kts) | 2.5 x Water Depth | 36m |
| For Minimum Water Circle (use only where current <2kts) | 2 x Water Depth | 45m |

# POSEIDON-1750 Mooring Diagram



## Marine Buoy Maintenance

Sealite Marine Buoys are designed to require very little maintenance. We recommend the buoy be inspected annually. Inspection may need to increase depending on the local conditions and the position of the buoy.

IALA Recommendation AISM E-107 suggests moorings are inspected annually.

### Marine Buoy – Annual Maintenance

- Visually inspect buoy for damage
- Inspect the top mark for any damage. Repair any broken or damaged section.
- Clean buoy of animal debris

### Mooring – Annual Maintenance

- Check and clear the tail and ride chains from shells and algae.
- Check for wear on any shackle axis and check the tapered pins. Any worn shackles must be replaced.
- Check the free movement of each swivel around its head. If any swivel head sticks it must be replaced.
- Check every link of the thrash length of the chain. Check the diameter of the nips and sides and also inspect the welds on every link.
- If depth allows, a worn riding chain may be reversed.
- Change a chain when any link shows excessive wear.
- Chain must be replaced if any link wears to less than 3/5 of the original diameter.

### Mooring – Biannual Maintenance

- Inspect the ground chain and sinker.

### Lanterns – Maintenance

- Please refer to the Installation Manual for the specific Marine Lantern fitted to the Buoy.

## Sealite Buoy Warranty V2.2

**Refer to the Sealite website for warranty details - www.sealite.com**

Sealite®

We believe technology improves navigation™

sealite.com info@sealite.com

**Sealite Pty Lty**
Australia
+61 (0)3 5977 6128

**Sealite Asia Pte Ltd**
Singapore
+65 6908 2917

**Sealite United Kingdom Ltd**
UK
+44 (0) 1502 588026

**Sealite USA LLC**
USA
+1 (603) 737 1311