

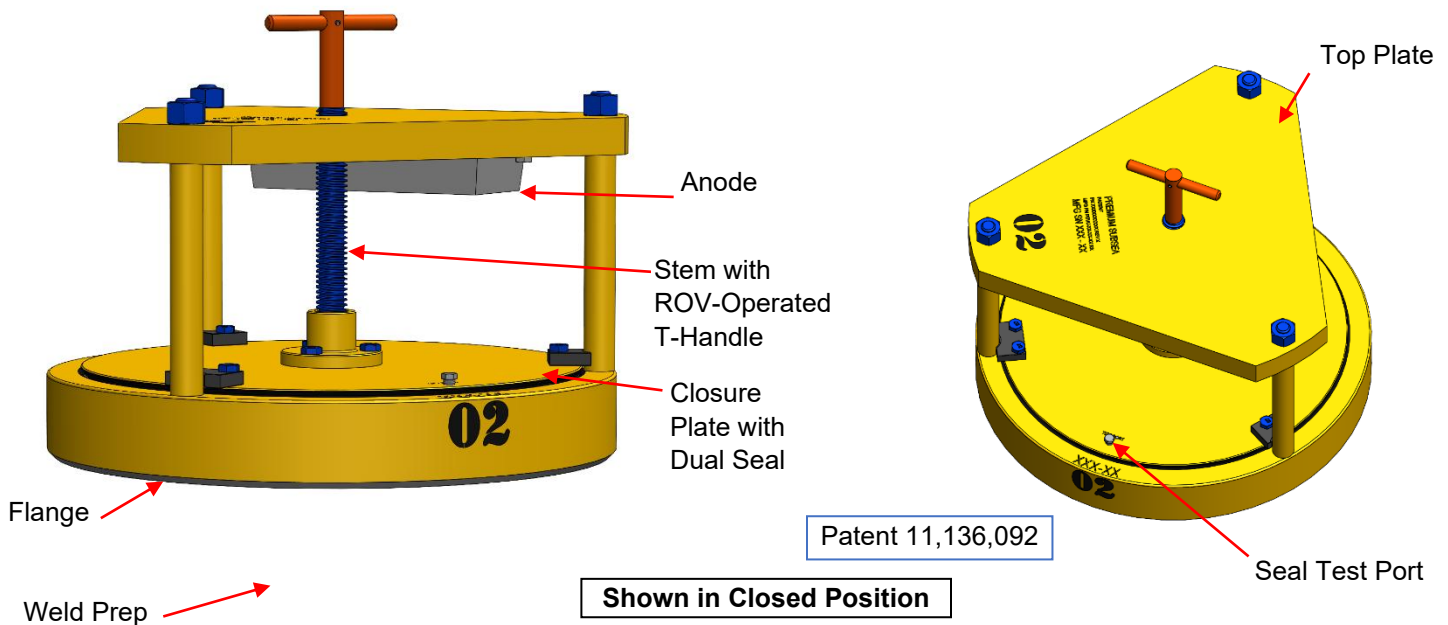
## PD-24 Vent Cap Specifications

Premium Subsea revolutionized Vent Cap technology over a decade ago, by introducing a new class of “Hatch Covers” specifically designed for suction piles used in foundation, mooring, and hold-down applications. With over 1,800 Vent Systems delivered globally and zero failures, our track record speaks for itself.

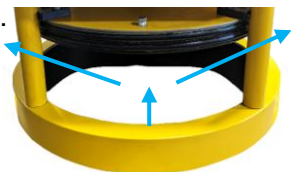
The PD-Vent Cap combines the proven reliability of our PS Series Triple-Seal with a compact, dual-seal configuration. Its bi-directional sealing enables pressure testing at any stage—whether in the yard, on the dock, or aboard the installation vessel. The design is simple and efficient, requiring no special ROV tooling, and operates with a single-action closure.

Each PD Series Vent Cap is factory-assembled with the top plate and closure pre-installed on the flange, allowing welding to the suction pile while in the fully closed position. All units are factory-tested to standard specifications or customized requirements upon request. A wide range of specialty trims, coatings, materials, and configurations is available to suit project-specific needs.

### Structure and Function



As suction pile is lowered to sea floor, valve is **open**. Water flows upwards through the pile and out the sides of the opened Vent Cap.



When the pile has self-penetrated into the ocean floor to stability, an ROV rotates the Stem to move the Closure Plate into the Flange, perfecting the seal.

With the Vent Cap is **closed**, water is pumped from inside of the pile through a Suction Port, lowering the pile to the required depth.

## Features

<b>Vent Hatch Type:</b>	<b>PD-24 Vent Cap</b> - Premium Subsea proprietary design (Subsea Hatch) US Patent 11,136,092
<b>Function:</b>	Allow seawater venting through suction pile during self-penetration. Once the pile completes self-penetration, the Vent Cap is closed, and the pile is sucked to final depth.
<b>Operating Interface:</b>	T-Handle. Operated by ROV manipulator.
<b>Turning Direction</b>	Open: Counter-clockwise; Close: Clockwise
<b>Vent Hatch Orientation:</b>	Installable and operated in any orientation.
<b>Stem Position Indication:</b>	Visual: Position determined from ROV camera. Also, hard stop in both open and shut position.
<b>Actuator type for Closing Mechanism:</b>	Direct drive with T-handle interface.
<b>Locking Mechanism:</b>	Threaded Stem; tightened by ROV.
<b>Field Testing:</b>	Test port allows seal testing any time prior to use.
<b>Operating Torque:</b>	75 ft-lb [102 N-m] (max torque capability of ROV arm)
<b>Number of turns from fully open to closed:</b>	32 approximate
<b>Welding:</b>	Flange is welded to pile top in pile manufacturing facility.

## Dimensions

<b>Max. Height:</b>	27.31 in [69.4 cm] Closed --- 29.00 in [73.7 cm] Open
<b>Max. Outside Diameter:</b>	28.50 in [72.39 cm]
<b>Internal Diameter:</b>	24.00 in [30.96 cm] (Flange bore diameter)
<b>Weight:</b>	625 lb. [234 kg]

## Standard Product PD-24 Vent Cap Specifications

NOTE: The specifications shown on the following tables correspond to Premium Subsea's Standard PD-24 product. Changes in Design Requirements, Design Operating Conditions, Materials, Coating or Testing are available to meet customer requests.

### Design Requirements

<b>Type Service:</b>	Untreated seawater and low-density concentrations of fine seabed clay.
<b>Design Pressure:</b>	145 psi [10 bar] - Internal and external (other design pressures optional)
<b>Design Life:</b>	30 years
<b>Water Depth Range:</b>	Up to 9850 ft [3000 m]

### Design Operating Conditions

<b>Max. Ambient Temperature:</b>	75°C [167°F]
<b>Min. Ambient Temperature:</b>	-29°C [-20°F]

### Materials

For detailed material information see applicable Bill of Material.

<b>Plate:</b>	ASTM A572-50
<b>Stem:</b>	ASTM A193 B7 - Coated Xylan
<b>Flange Bolting:</b>	ASTM A193 B7 - Coated Xylan
<b>Flange:</b>	ASTM A350 LF2 CL1
<b>Seals:</b>	Buna (2-O-ring seal arrangement)

### Coating

For detailed material information see applicable Coating Procedure.

<b>General Coating System:</b>	Norsok 7B 2-Layer Cycloaliphatic Amine Epoxy (Other systems optional)
<b>Supplier Paint Reference:</b>	Carboline Carboguard 890
<b>Bolting Coating:</b>	Xylan 1010

### Testing - Factory Acceptance Test (FAT)

FAT is performed on 100% of completed product.

<b>Operation (Function) Test</b>	Operate complete cycle: open and close.
	Running torque below 75 ft-lb [102 N-m]
<b>Seal Test</b>	145 psi [10 bar]
	Duration: 5-minute (minimum)
<b>Electrical Continuity Test</b>	Verify continuity between Vent Cap components and Anodes