

Capac® The Corrosion Protection System Leading Boat Manufacturers Install

the Capac® System

The 90W12D Capac® system is a completely automatic, impressed current cathodic protection system for steel hulled boats up to 65 feet (20 m) and wood or fiberglass hulls to at least 100 feet (30 m). It will prevent corrosion or rusting of all underwater exposed metals.

The system includes a fully automated controller, one or more platinum surfaced anodes, a silver control electrode (reference electrode) and a panel meter which confirms corrosion control. The anode is fixed to the hull as a through-hull fitting. The protective current originates from this anode and flows via the water into the submerged metal parts, always in the optimum intensity to eliminate corrosion regardless of water temperature, speed or the condition of the paint system. The Capac® system operates from a power source of 12V DC (negative ground). The system will operate from shore based power (110/120 VAC) if a power converter is installed (110/120 VAC to 12 VDC). An optional feature allowing operation from a 24 VDC power source is available from Siemens Water Technologies at an extra cost.

Capac® systems are available for all sizes and types of craft, as well as for fixed structures.

How The Capac® System Works

Corrosion or rust is the result of chemical action associated with, and inseparable from, the flow of electricity. This phenomenon is fundamentally the same whether it is classified as galvanic corrosion, electrolysis or electrolytic corrosion. Different metals, and even various areas of the same metal, exhibit high and low potential areas when placed in water. When electrical continuity exists between these metal surfaces, electricity will leave the points of higher potential, flow through the water and enter the areas of lower potential. In areas where the current leaves the metal (anodic areas) corrosion takes place; but where sufficient current re-enters, no corrosion takes place.



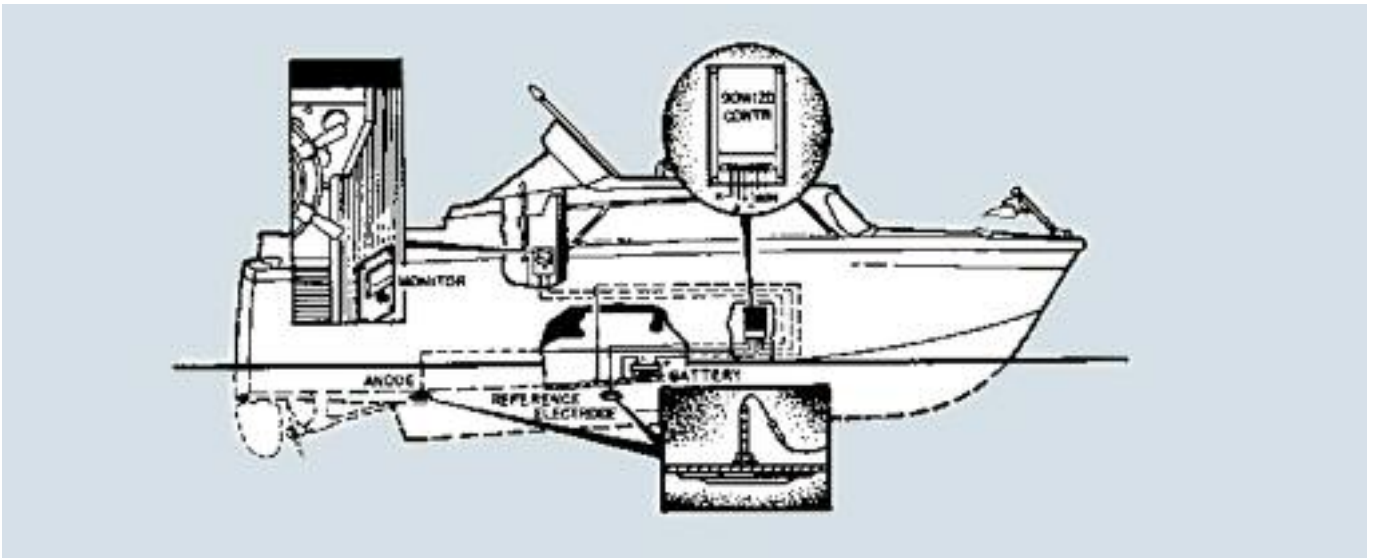
The function of this system is to supply current from an anode(s) so that current is forced to flow through the water into all submerged metal surfaces and shield them from corrosion. Platinum is unique among metals since it will not dissolve when current leaves its surface, hence the anode surface is platinum coated. To ensure that the optimum amount of current is supplied on demand, a special silver sensor element (known as a reference anode) monitors the degree of protection provided and guides the solid state controller power supply to impress the proper voltage on the anode(s) to counter corrosion as the circumstances require.

Key Benefits

- 90W12D Capac® system is completely automatic
- Prevents corrosion or rusting of all underwater exposed metals
- Capac® systems are available in a wide variety of sizes suitable for all types of craft, as well as for fixed structures
- The Capac® system operates from a power source of 12V DC (negative ground)
- The Capac® system will operate from shore based power (110/120 VAC) if a power converter is installed (110/120 VAC to 12 VDC)
- An optional feature allowing operation from a 24 VDC power source is also available for purchase

CAPAC® System Specifications

90W12D Controller- Model 37810	For bulkhead mounting: Dimensions – 9" H x 6" W x 5 1/2" D (229 mm H x 152 mm W x 140 mm D) Input Voltage – 12 volts DC, negative ground Max. Ambient Temperature – 1200°F (349°C) Weight – 3.5 lbs. (1.6 Kg)
Monitor- Model 50030	For helm mounting: Dimensions – 4" W x 5 3/4" H (102 mm W x 146 mm H) Projects 1" (25 mm) from helm
Anode- Model 37792	Platinized Titanium disc: Rating Factor – 10 Current – 2.5 amp. Design, 5.0 ampere maximum Dimensions – 8" (203 mm) diameter with 1/2" (13 mm) gland Suitable for hulls up to 3" (76 mm) thick, but may be adapted for greater hull thickness.
Reference Electrode- Model 37800	Silver chloride disc: Dimensions – 8" (203) diameter with 1/2" (13 mm) gland Suitable for hulls up to 3" (76 mm) thick, but may be adapted for greater hull thickness.
Capastic Kit- Model 37020	One kit required for each anode except on plastic hulls.
Number of Anodes Required for Steel Hulled Boats	
1 Anode	Boats with 200 ft. sq. (19 m sq.) of wetted area (approx. 30 feet (9 m) long)
2 Anodes	Boats with 400 ft. sq. (37 m sq.) of wetted area (approx. 31-45 feet (9–14 m) long)
3 Anodes	Boats with 600 ft. sq. (56 m sq.) of wetted are (approx. 46-55 feet (14–17 m) long)
4 Anodes	Boats with 800 ft. sq. (74 m sq.) of wetted area (approx. 56-65 feet (17–20 m) long)
Number of Anodes Required for Plastic (FRP/Fiberglass) or Wood Hulled Boats	
Many underwater metal appendages on these crafts are made of bronze, brass, stainless steel, etc. In such instances the anode should be spaced at a generous distance from any particular appendage, but all of these appendages must electrically be tied together. Generally one anode will suffice, but where keel-coolers or other large appendages are installed two anodes may be necessary.	



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