

## RetroClamp™

### Diver & ROV Friendly Tie-Back Clamping System



Standard RetroClamp used for pipelines and small diameter tubulars



Customized wellhead RetroClamp



#### Product Overview

RetroClamp provides fast reliable electro-mechanical tieback for subsea cathodic protection systems. Originally designed for pipeline CP retrofit applications, the RetroClamp is now widely used in a variety of subsea retrofit projects.

The standard RetroClamp for tubulars is pictured left, but the clamp is routinely customized for application to wellheads, vessels, and large-diameter members. Successive iterations have significantly improved the product.

Hundreds of these clamps are now in service in the Gulf of Mexico, and many have been installed by ROV. The installation efficiency of the RetroClamp has saved our customers hundreds of thousands of dollars.

RetroClamp has also been modified to allow subsea attachment of a wide variety of equipment including cable runs and monitoring instruments.

The customized wellhead RetroClamp (pictured left) facilitates rapid attachment to a subsea pipe flange, via diver or ROV.

Deepwater Corrosion Services is a recognized leader in offshore cathodic protection retrofit innovation.

#### Main Benefits

- Rapid installation even over concrete weight coatings.
- Requires only partial excavation (120 degrees) of buried pipelines for attachment.
- Constant tension provides long-term reliability through vibration or thermal expansions.
- Hollow ground tip contact (for pipelines) eliminates stress-raisers and replaces expensive friction welding. Conventional cone tip available for structural connections.
- Open-base design ensures clamp will pull loose if snagged, preventing any damage to pipeline.
- Easily handled by ROV's.
- Available in all sizes 4" – 60", most sizes are in stock ready for immediate delivery.



The RetroClamp Tie-Back in situ. No failures have ever been reported.

### RetroClamp™ Tie-Back

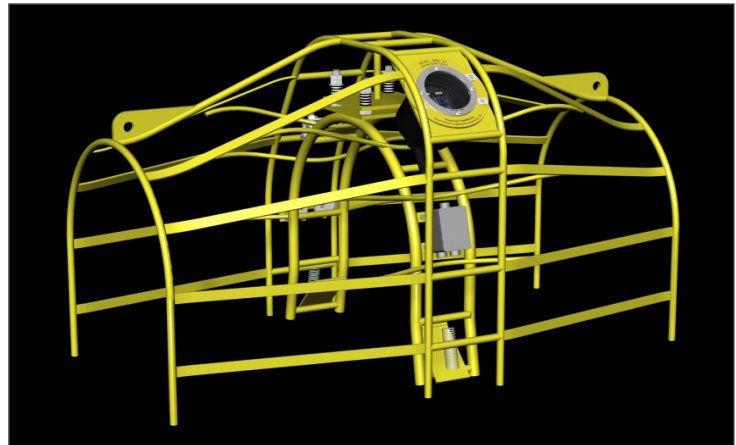
Each RetroPod™, RetroSled™, SmartPod™, and CP Mat™ is shipped with one or more standard tubular RetroClamps; typical tie-back cables are 2 x 25 feet #4/0 AWG heavy duty flex cables. The tubular installed standard RetroClamp is pictured left.

RetroClamps are also used to carry reference cells for retrofitted CP monitoring systems. Any of Deepwater's Polatrak® CP Monitoring sensors can be fitted to a RetroClamp.

The RetroClamp can be further customized for many other unique applications. If you think our RetroClamp system might be applicable to a new problem, let us know. We can design a tie back solution for almost any situation. For more information about the RetroClamp, visit our website: [www.stoprust.com](http://www.stoprust.com) or email [sales@stoprust.com](mailto:sales@stoprust.com).



RetroClamp fitted with a V-String™ reference electrode.



This illustration shows the over-trawlable RetroClamp with a SunStation CP monitor installed



RetroClamp cable supports for large members

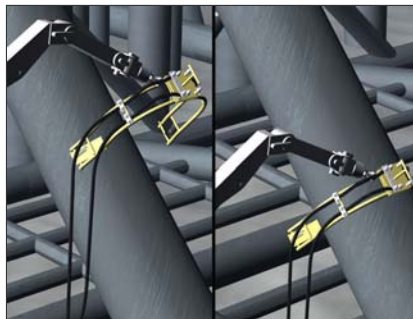


Illustration of an Installation via ROV



Installed through a concrete weight coat.