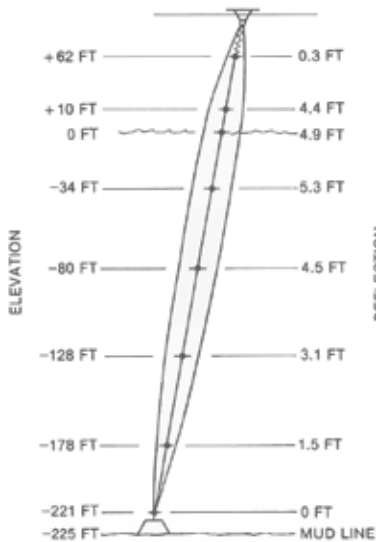


# Galvotec-Lockheed Vertical Tensioned Anode Systems



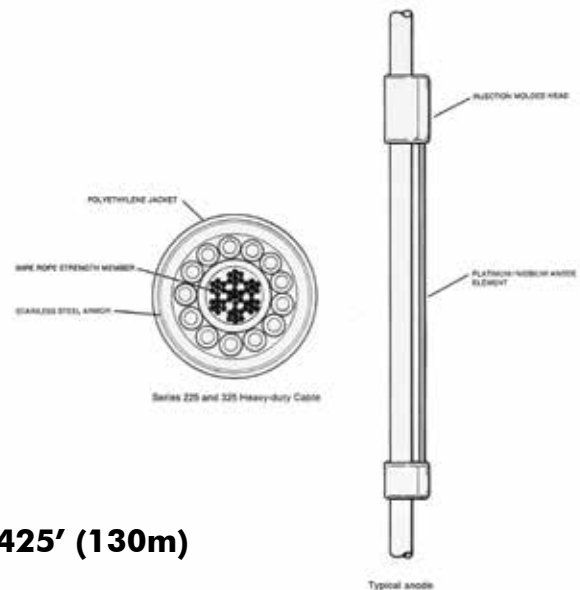
Since 1997, Galvotec has been the exclusive distributor of Lockheed's marine cathodic protection systems to the oil and gas industry. The Galvotec-Lockheed Vertical Tension Anode (VTA) system is the only proven cathodic protection system installed without the use of divers and their costly support vessels and equipment. This system has been successfully installed in water depths to 425' (130m) from the surface and with ROV assistance to depths greater than 800 feet. Large savings in installation costs are realized and many systems with 20 year lives have been installed and met their design life requirements.

In the 1970's Lockheed developed the Vertical Tensioned Anode system as a cathodic protection retrofit technique for offshore platform jackets that are generating on-site power. The generators power the rectifiers that provide current to this anode system. The system incorporates a custom manufactured armored tension cable containing multiple anodes molded on and anchored on the sea floor via a concrete weight. This vertical anode string is tensioned off to a point above the water line therefore restricting its lateral movement to a small deflection envelope. Topside termination allows the individual anode power cables to be tied into the rectifier(s) to facilitate individual anode monitoring and control.

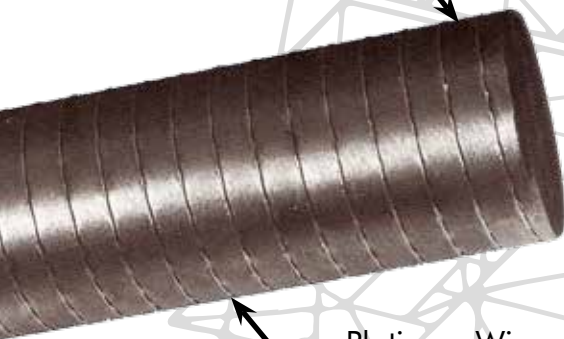


# Galvotec-Lockheed Vertical Tensioned Anodes

- Over 40+ Years of Offshore Use
- Extends CP Life up to 30+ Years
- Anodes Individually Powered
- Anodes Can Be Individually Monitored
- Anodes Designed for Equal Output
- Installed Within Structure Jacket
- Best Current Distribution at All Depths
- No Interference with Work-Over Rigs
- System Deployed from Topside
- Lowest Power Requirement
- No Divers/ROV Required for Installations to 425' (130m)



Niobium Substrate



*For more information and pricing, please contact:*

**GCS Galvotec**<sup>®</sup>  
CORROSION SERVICES, LLC

300 Bark Drive • Harvey, LA 70058 • [www.galvoteccorrosion.com](http://www.galvoteccorrosion.com)  
Phone.: (504) 362-7373 • Fax: (504) 362-7331 • Email: [service@galvoteccorrosion.com](mailto:service@galvoteccorrosion.com)