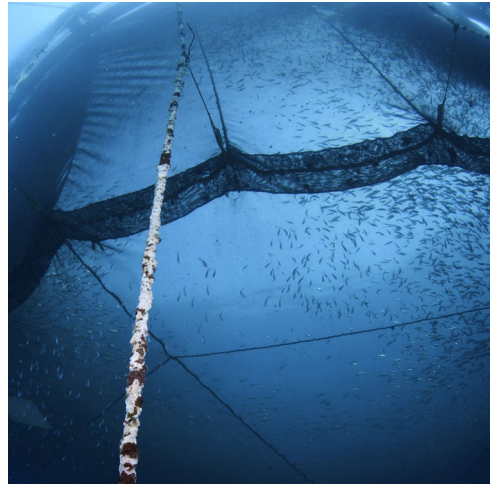




AQUACULTURE ANCHORING

MAXIMUM SECURITY WITH MINIMAL MARINE DISTURBANCE



The helix anchor was first used in the marine environment to secure oil pipelines to the ocean floor. This successful and cost-effective use of helix anchors in high-load situations then led to the use of these anchors for mooring boats and docks. More recently, aquaculture industry pioneers have recognized the helix anchor's advantages for protecting their investments in equipment and stock.

Various square shaft and round shaft anchors are available to ensure you get the suitable product for the load you need to secure. Anchors can serve not only as corner posts to resist tension loads created by wind and water, but will also simultaneously provide compression support to keep equipment from resting on the beach.

Helical anchors have many advantages over concrete (read about some in the Key Benefits section). In one salmon farm application, nine of our anchors replaced 14 concrete blocks (5,000 lb. each) to secure an ice barrier protecting a surface salmon cage. The concrete blocks had been sliding under the load of the ice pressing against the barrier.

APPLICATIONS

- Long-line grow-out systems
- Open water, submersible fish cages
- Ice barrier protection
- Growing equipment
- Growing drums
- Trident cages

KEY BENEFITS:

- Minimal marine disturbance
- Quick and easy installation using standard hydraulic equipment
- Maximum achievable tension capacities
- Immediate loading - no waiting for concrete to cure
- Can eliminate concrete entirely
- Can resist axial/lateral/moment loading
- Remove and reuse the foundation with minimal disturbance.
- Load capacity based on torque correlation
- Instant torque-to-capacity feedback for production control
- Installs in most weather conditions, even below freezing
- No excavation or spoil removal
- No vibration



SIMPLE INSTALLATION PROCEDURES

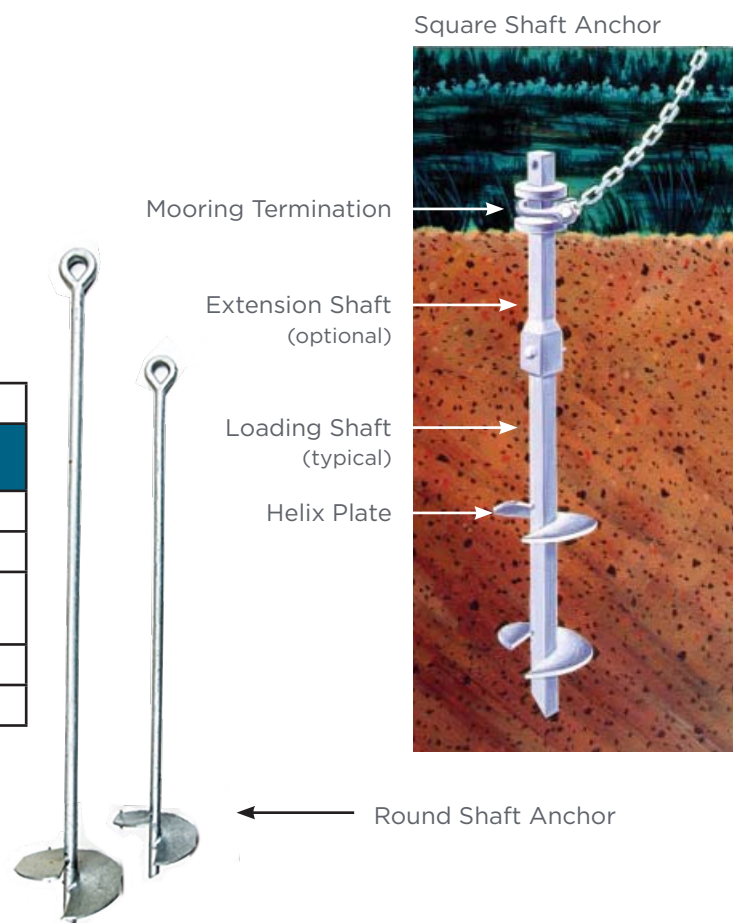
Square shaft anchors are installed with a torque motor taken below and operated by a driver. These installations may be in depths exceeding 100 feet. In shallower waters, the motor can be mounted on a small barge. With the use of drive tools, the entire installation can be managed from the surface.

Round Shaft anchors can be installed by hand with the mechanical advantage of a pipe or other turning bar. Although our low-load option, these anchors can deliver significant holding capacity in competent soils as demonstrated in the example at Marshall, California. These anchors are available with a single 6-, 8- or 10-inch- diameter helix on a 5 1/2 - foot-long shaft.

Vineyard Haven, Pull Test Results		
Mooring Type	Bottom Condition	Breakout Force
350-lb Mushroom	5 ft. deep in mud	2,000 lb
500-lb Mushroom	In sand bottom	1,700 lb
3000-lb Concrete USCG block	Set in mud	2,100 lb
6000-lb cement block	On sand bottom	3,200 lb
8/10 Helix	Soft clay mud	20,800+ lb

“We have been using a helix mooring system for both suspended and bottom culture of scallops and oysters for the last two years with excellent results. The overall performance with respect to economics, reliability, and ease of installation have proven to be superior to existing alternatives for our operations on Nantucket.”

- Frank Dutra, Director of Aquaculture



CHANCE® The Certified Helical Pile™

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