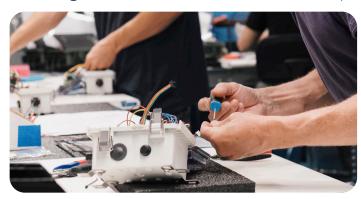
# PRESSURIZED HYDRO INJECTION BRINE EVACUATION REMEDIATION

Freshwater Flushing.... at the touch of a button! **PHIBER Systems** 

Flushing solutions evolved for the 21st Century



Proudly Engineered & Manufactured at our ISO-9001 Certified Facility in Saint Augustine, Florida USA

PHIBER Systems are compatible with marine inboard and outboard engines, generators, vessel stabilization systems, and more... If it uses seawater, a PHIBER System can flush it!



## PEACE OF MIND FOR ALL YOUR VOYAGES AHEAD

### Visit our Website for More Info

- @ sales@PHIBERSystems.com
- ⊕ www.PHIBERSystems.com
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BENEATH THE SURFACE...
Are You Protected?

INOVATION **AWARDS** 





## Revolutionizing Seawater Systems for the 21st Century

Since the dawn of mechanized propulsion, abundant seawater is used to control operational temperatures within critical marine systems. "Raw water" is pulled in, pushed through hot equipment, and dumped overboard. Yet, despite 100 years of advancements in marine system design, the consequences of using seawater in Raw Water Cooling Networks remain:



rrosion Biofoul



Scale

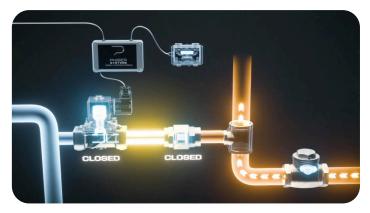
In 2020, a new course was charted... a radical design evolved out of frustration, challenging 75 years of status quo for raw water network design, and how they are maintained.



Scan to Watch "PHIBER Revolutionizing Seawater Networks"







PHIBER Systems offer precision *Freshwater Flushing (FWF)* maintenance, <u>at the touch of a button</u>... eliminating the burdens of routine flushing... and the hassle of the garden hose!

The intelligent **Control Module** is programmed to execute optimal flushing under specific conditions, promoting safety, efficiency, and eco-friendly processes.

The innovative **Inboard FWF Manifold** enables "hands free" injection of fresh water into a raw water network by eliminating the need for manual opening or closing of valves when performing a flush. The Manifold also protects the vital function of the raw water network by guaranteeing cooling water flow to the raw water pump under any condition, protecting critical components from overheating.

The **Hydrostatic Lock** complies with ABYC standards and guarantees seawater NEVER contaminates the freshwater network.

## The PHIBER System

Routine flushing with simple fresh water is prescribed by OEMs as the most important "preventative maintenance" in mitigating the effects of seawater in marine systems, HOWEVER, performing a freshwater flush at the end of every duty-cycle imposes significant labor investment, timewexpenditure, and water waste burdens.

Patent-pending, award winning PHIBER Systems are the FIRST and ONLY *full-automated*, universal Freshwater Flush solution, complementing ANY marine systems that depend on raw water cooling, including both outboard and inboard engines.



Scan to Watch
"PHIBER Functional Overview"

### **CONTROL MODULE**

The Control Module was developed over 3 years of testing and incorporates the experience and feedback from a wide range of marine professionals and recreational operators. It embodies both real world operating conditions and a wide range of application in its design and software. It is universally used with any PHIBER FWF Manifold.

The Control Module constantly monitors operating conditions of a network, and only executes flushing when programmed conditions are met, engaging the Manifold's function.

#### **FWF MANIFOLDS**

The PHIBER FWF Inboard Manifold is a proprietary plumbing configuration that transforms a raw water network to include safe and correct freshwater flushing as an intrinsic function. It uses only physics to operate, responding to changes in line pressure on both the freshwater and raw water circuits.



PHIBER demo boat Covert Mission 58' Viking with Twin MAN and ONAN generator FWF Manifold





There are two variations of the FWF Manifold:



### "INBOARD" FWF Manifold

• For complex or "wet" raw water networks on Inboard Propulsion Engines and Generators that must be flushed *while they are active* and the raw water pump is operating, preserving (pickling) the circuit.



### "OVERBOARD" FWF Manifold

For simple or "dry" raw water circuits on Outboard Engines, Vessel Gyroscopic Stabilization, desalination, refrigeration and climate control systems that must be flushed *while they are inactive* and the raw water pump is off.



