



Green Marine
& Industrial Equipment Co., Inc.

PIRANHAVAC ACID INJECTION UNIT

**MAINTENANCE EQUIPMENT
FOR VACUUM TOILET SYSTEMS**

**Piranha Vac
Standard
& Mini Variants**



Innovative Designs

GREEN MARINE has a range of innovative maintenance equipment specifically designed to enhance the operation of Marine Vacuum Sanitary Systems as installed on a wide variety of vessels and offshore installations operating worldwide.

The PiranhaVac Acid Injection Unit is an innovative maintenance tool, which has been specifically designed to effectively de-scale the internal bore of vacuum mains without causing disruption to the operation of the vacuum sanitary system.

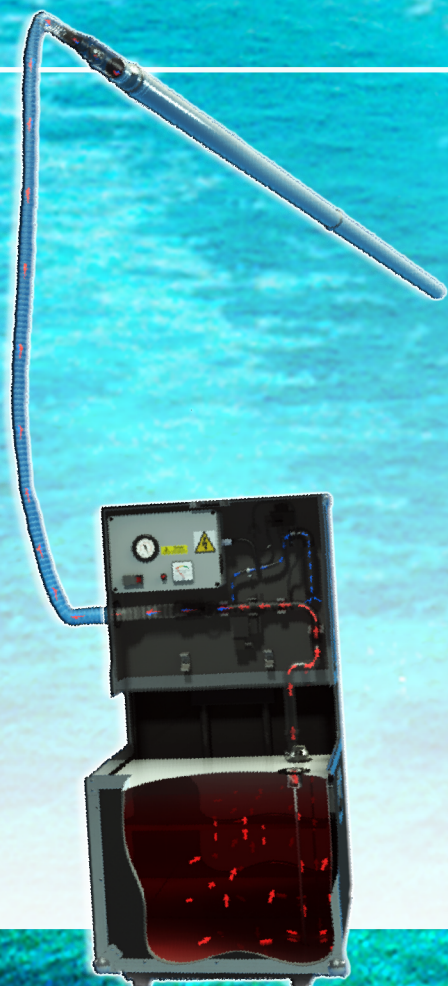
How It Works

The PiranhaVac Acid Injection Unit is connected to the vacuum system via the extreme end of each line. Each unit comprises a Solenoid Valve, Electron Timer, Battery Power Supply (Rechargeable), Chemical Tank and Interface Hose Connection.

The Chemical Solution is usually delivered to the vacuum mains by a 1" PVC Hose, which is connected to the line using a 1" Quick Release Camlock Connection and Ball Valve Arrangement.

The integral holding tank is filled with a chemical solution comprising 5 parts water to 1 part Orthophosphoric Acid (note: can be variable depending on strength required).

The prepared solution is introduced into the sanitary system vacuum main by pressure differential, which is created by periodically opening the vacuum main (via the preset solenoid valve arrangement) which, in turn, allows ambient air to be inducted into the manifold creating a venture effect. The chemical solution is drawn up the manifold where it is mixed with air and forced into the vacuum main in a spiral action where it coats and dissolves the calcinates and effectively removes the linkage from the internal bore.



PIRANHAVAC

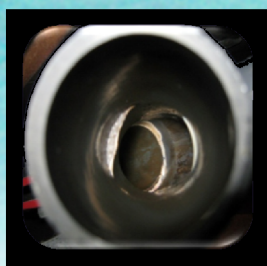
ACID INJECTION UNIT

BENEFITS

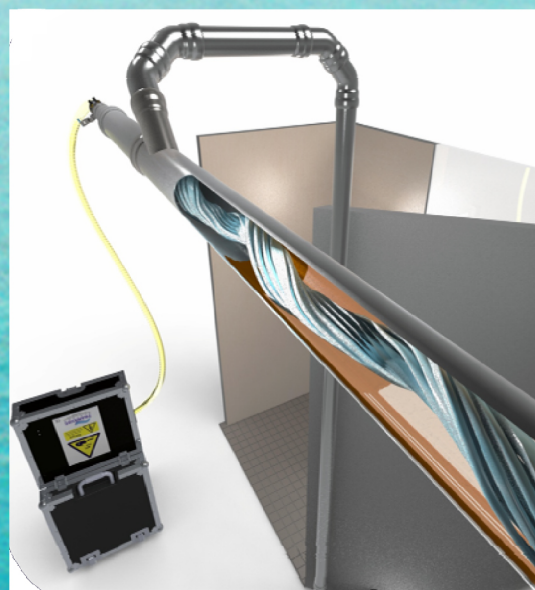
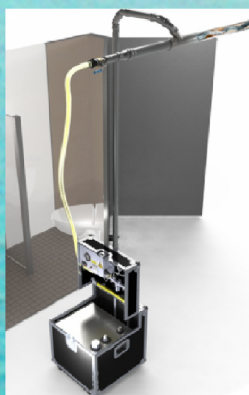
The PiranhaVac Acid Injection Unit is a “cleaning tool” which can be used easily and effectively by the operator to remove the buildup of calcination (on an annual basis) as an onboard maintenance task. In effect, the Operator / Owner will not require specialist companies to attend the vessel during drylock or emergency periods in order to clean and remove calcinations and will gain considerable savings towards maintenance / running costs.



BEFORE



AFTER



DESIGN FEATURES

per unit

- Unit is self-contained in its own heavy duty shipping case, which includes an integral wheel set and retractable handle to aid mobility.
- Integral control panel provides automatic operation. The control panel includes a battery gauge and vacuum gauge to monitor the status of the re-chargeable battery and the availability of operational vacuum.
- Integral re-chargeable battery powers the control panel and timer unit. There is no requirement to access power supplies; thereby enabling the user to site and operate the in the tightest of spaces. (note: A reduced height unit—PiranhaVac Mini—is also available for use onboard smaller specialist vessels and yachts)
- Unit contains a 25 Litre chemical tank manufactured in an AISI 316 Stainless Steel complete with an air vent and 1” Quick Release Coupling and Ball Valve Arrangement.
- Included is a solenoid air-valve arrangement, complete with silencer, which allows chemical to be automatically administered during quiet hours.
- Quick Release—1” flexible hose and coupler to interface vacuum pipework is also included.



For more information

CONTACT

Green Marine

& Industrial Equipment Co., Inc.

sales@greenmarine.com

www.GreenMarine.com

New Orleans Office:

1111 Central Ave.

Metairie, LA 70001

504.833.7386

Houston Office:

340 Garden Oaks Blvd.

Houston, TX 77018

713.242.9114