



GAMAJET[®]

part of the Alfa Laval Group


IT'S A TANK CLEANING REVOLUTION

80% Decrease in Water and Chemical Usage

85% Decrease in Time Spent Cleaning

100% Decrease in Manual Cleaning

100% Cleaning Effectiveness



Oilfield Services: Oil & Gas Industry

TANK CLEANING IN THE OILFIELD SERVICES INDUSTRY

Over 50 years ago, Gamajet's original rotary impingement cleaning machine was designed specifically to clean large holding tanks of barges and tankers, and since then we have built on that legacy, cleaning everything from mud tanks, frac tanks, 400 Bbl tanks, storage tanks, vac trucks, totes, and everything in between. Working hand-in-hand with numerous companies in the oil and gas industry, Gamajet has developed a full line of tank cleaning equipment that covers a vast spectrum of applications, from drilling on land to offshore, from the equator to the arctic. Every machine is tailored to meet our customers' specific needs.

WHY CLEAN THE GAMAJET WAY?

Every Gamajet tank cleaning machine is automated, completely eliminating the need for hazardous confined space entry. Improve your plant maintenance practices by implementing these safe and efficient machines. Additionally, our machines will reduce excessive water usage, reduce time spent cleaning, and clean more effectively than manual scrubbing. The products outlined in this brochure are the best in the industry. Give us your most difficult tank to clean, and we're up to the challenge!



TANK TYPES

IF YOU HAVE A TANK TO CLEAN, WE HAVE A WAY TO DO IT

Production Tanks	Shale Bins
Storage Tanks	Mixing Tanks
Transfer Tanks	Water Tanks
Frac Tanks and Trailers	Flowback Tanks
Vacuum Trailers	Water Storage Tanks
Mud Tanks	Vacuum Boxes
Totes and IBCs	Weir Tanks
Cutting Boxes	400 Bbl Tanks
Sludge	Drilling Fluids and Chemicals
Mud	Synthetics
Brine	Sediment
Crude Oil	Crude-based Mud

RESIDUES

NO SOIL IS TOO DIFFICULT FOR A GAMAJET



EMPLOYEE OF THE YEAR:

GAMAJET!

**NO SICK TIME
NO INJURIES**

Just 24/7 cleaning.
100% of the tank.
Every time.

GAMAJET IV POWERFUL CLEANING FOR TOUGH RESIDUES

Up to 85lbs of cleaning force at 25' capable of breaking up heavily built up residues

GAMAJET VIII MOST VERSATILE AND COMPACT LARGE CLEANER

Clean nearly all of your oilfield tanks with this one machine. Typically configured between 50-80 GPM at 120-250 PSI with a 12-15 minute cleaning cycle.

GAMAJET V or IX MID-SIZED TANK CLEANER

Perfect for cleaning any totes, cutting boxes or compartmentalized trailers.

DIRECTIONAL UNITS

PUT THE POWER WHERE THE SLUDGE IS
180° configurations are available for the Gamajet IV, VIII, and IX, allowing you to direct the cleaning fluid only where needed. Perfect for open-top vessels.

Alfa Laval Torftejorg TJ 67 HIGH-IMPACT TANK CLEANER

Well-suited for portable applications where high impact cleaning is required.



THE CLEANING POWER OF G



The images above demonstrate the power of a Gamajet. The Gamajet IV was used in a trailer, cleaning drilling mud. You can see the scouring effect after only 30 minutes. **No manual entry was required.**

BENEFITS

to employing tank and cleaning equipment from the most extensive line in the industry:

- ✓ Reduce Tank Downtime
- ✓ Use Less Natural Resources
- ✓ Eliminate Confined Space Entry
- ✓ Cost-effective Automated Cleaning



NEVER ENTER A TANK FOR CLEANING PURPOSES AGAIN!

Gamajets are designed for versatility. Whether you need a permanent or portable solution, we have a machine that works for you.

PROVIDING REAL SOLUTIONS

ELIMINATING CONFINED SPACE ENTRY

PROBLEM

Under contract with a major oil company, a rig service company was required to minimize confined space entry, reduce tank downtime, and maximize safety, pertaining to the cleaning of the mud tank on the rig.

SOLUTION

360° and directional Gamajet Vllls were added to the mud tanks, operating with their existing pumps at 80 GPM and 80-100 PSI with a 11-12 minute wash cycle time. Most machines were used portably on lances, flexible hoses, or tripods; while others were permanently installed in difficult to reach locations.

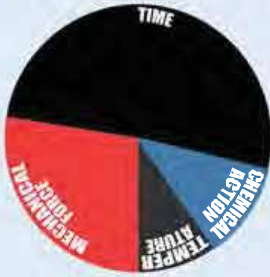
RESULT

The implementation of Gamajet machines exceeded both the service company and oil company's expectations. Confined space entry, pertaining to tank cleaning, was eliminated and the tanks were completely cleaned thanks to Gamajet's rotary impingement machines.

THE FOUR FACTORS OF CLEANING

Dr. Herbert Sinner, a former chemical engineer for Henkel, first summarized the basic principles of cleaning in 1959. His summary, now referred to as the Sinner's Circle, describes the four factors that can be manipulated in any cleaning scenario: **Temperature**, **Chemical Reaction**, **Time**, and **Mechanical Force**. When the effectiveness of any factor is reduced, it must be compensated with the increase of one or multiple other factors. Gamajet utilizes the Mechanical Action to its maximum benefit, resulting in a drastic reduction of the three remaining factors: time, chemical reaction, and temperature (as shown below).

MANUAL SCRUBBING



ROTARY WETTING



GAMAJET IMPINGEMENT



WHAT IS ROTARY IMPINGEMENT TANK CLEANING?

Gamajet's rotary impingement tank cleaning machines combine pressure and flow to create high impact cleaning jets. Cleaning occurs at the point the concentrated stream impacts the surface. It is this impact and the resulting tangential force that radiates from that point that **blasts contaminants from the surface**, scouring 100% of the tank interior.

WHY USE GAMAJET'S ROTARY IMPINGEMENT TECHNOLOGY?

Gamajet machines deliver the impingement force in a precise, repeatable and reliable 360° pattern. This full-coverage, indexing pattern ensures the entire tank interior is cleaned, every time. Combining impingement with a controlled cleaning process results in an economic ideal. **The Gamajet greatly reduces time spent cleaning, chemicals and water usage.** A ROI will quickly show that Gamajet's impingement process positively impacts the ultimate scorecard: your bottom line.

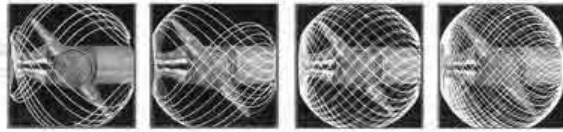
NO PUMP? NO PROBLEM!

Clean any tank, any where, at any time. Keep your crew out of your tanks.

GOBYJET

PORTABLE TANK CLEANING SYSTEM

An affordable, diesel powered, all-in-one tank cleaning system with an operating range capable of powering a Gamajet(s)!



BEST-IN-CLASS SERVICE & REPAIR PROGRAM

TANK CLEANING SERVICE CENTER

24 Hour Turnaround on All Service and Repairs!

For an extended shelf-life of your Gamajet or Alfa Laval Toftejorg machine, preventive maintenance every 800-1000 hours is advised. For maximum results, send your tank cleaning device to our Gamajet facility for expert servicing. We GUARANTEE a 24-hour turnaround on all service and repairs so you don't have to worry about excessive tank downtime. Take advantage of our Best-in-Class Service and Repair Program today and receive a renewed 1-year warranty!

Each machine is field-serviceable and sold with an Owner's Manual so our customers can repair their own machines, on site, with a Gamajet technician just a phone call away. Spare parts and support are available at all times.



About Alfa Laval

Alfa Laval is a leading global provider of specialized products and engineering solutions, based on its key technologies of heat transfer, separation and fluid handling.

Gamajet was acquired by Alfa Laval in 2012. The combined portfolio of Gamajet and Alfa Laval Toftejorg tank cleaning machines provides the wine industry with the widest offering of tank cleaning options for any size or application.

Customize your GAMAJET with a variety of options:

Inlet Connections

- Tri-Clamp
- Female NPT
- Camlock
- R-Clip* Only Available with Select Machines

Seals and Bearings:

- EPDM
- Viton®
- Kalrez®
- Stator and Nozzle Sizes: Based on operating conditions for optimal performance.



Watch Videos and Learn More at www.GAMAJET.COM

©2013 Alfa Laval Tank Equipment Inc.
Printed in the U.S.A.

604 Jeffers Circle, Exton, PA 19341
Phone: (610) 408-9940
Fax: (610) 408-9945
Toll Free: 1(877)-GAMAJET
sales@gamajet.com