

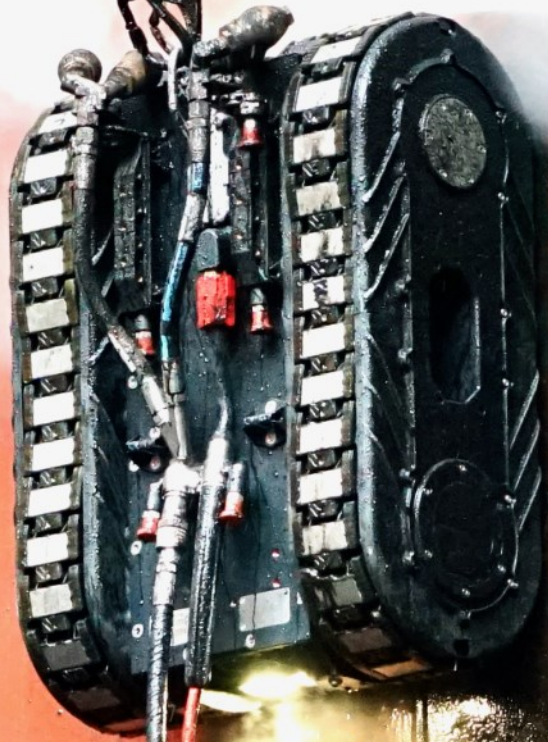
SIMPLE

SAFE

SUSTAINABLE

With its modular design and customizable features, CLIIN Robotics offers flexibility and adaptability to various cleaning tasks, maximizing efficiency and cost-effectiveness.





CLIIN Robots

...a triple win!

Deploying CLIIN robot technology presents a triple win: a win for the environment, a win for improving working conditions, and a win for enhancing the profitability of businesses.

By thoroughly understanding the cleaning challenges in key industries such as shipping and oil & gas, CLIIN Robotics has collaborated with leading companies to develop a robot that can navigate effortlessly on all ferromagnetic surfaces. The magnetic robot is available in a variety of configurations, making it versatile in its applications.

In addition to reducing environmental impact, the CLIIN robot's cleaning process is faster, requires less manual labor, and offers a significantly more efficient cleaning solution. This, in turn, provides businesses with the opportunity for increased productivity and reduced costs. Depending on the operational context, companies can anticipate a return on investment in less than a year.

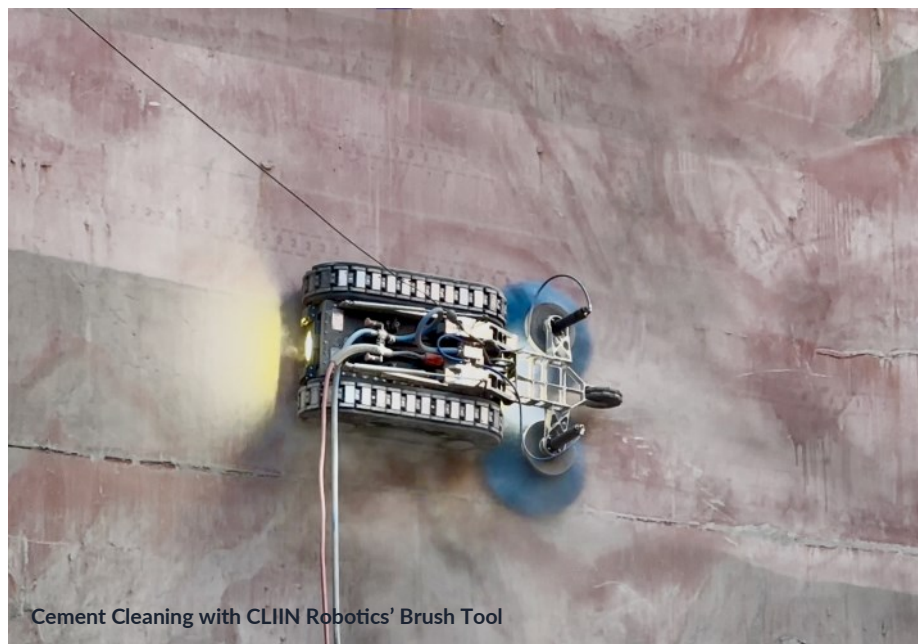
SIMPLE • SAFE • SUSTAINABLE





Cargo Hold Cleaning with High-Pressure Water

Robotic Cargo Hold Cleaning



Cement Cleaning with CLIIN Robotics' Brush Tool



Chemical-Free Cargo Hold Cleaning

The CLIN Cargo Hold Robot (CHR) transforms cargo hold cleaning for shipping companies, ship owners, and service providers.

Whether permanently installed on board or deployed from port facilities or at anchorage, the CHR streamlines operations by replacing the traditional four-step cleaning process involving chemicals with a single-step freshwater method, thereby reducing environmental impact. Equipped with customized cleaning tools and magnetic belts, the CHR ensures thorough cleaning, even on frames and the topside tanks, enhancing compliance with industry standards.

Operable remotely from ground level, the CHR prioritizes crew safety by eliminating the need for workers to navigate heights during cleaning. Its efficient operation, requiring a small team of 2-3 members, reduces labor intensity and enhances overall efficiency. This innovative solution optimizes vessel turnaround times, increases cargo intake, and presents a compelling value proposition for the industry stakeholders.



Faster Cleaning –
Faster turnaround of
vessels



Easy to Control –
Makes cleaning a
two-man job



**Superior Cleaning
Standard –**
Enhanced chance of
approval



**Environment
Friendly – No**
chemicals needed



Extensive Reach –
Cleans frames and
topside as well



Less Cleaning Water
– Less waste water



Safety of the crew –
Can be operated
from the tank top



Cement Cleaning –
Specialized brushes,
tackle even the
toughest residues

Effortless Tank Cleaning

CLIIN Robotics Tank Cleaning Robot (TCR) is an innovative solution designed to address the needs of professionals in the field of storage tank maintenance. With a seamless setup the TCR offers a streamlined, one-step freshwater cleaning process, eliminating the time-consuming task of setting up scaffolding. Equipped with magnetic belts, the robot ensures efficient access to all areas of the tank, both internally and externally, while being remotely controlled by an operator.

Unlike traditional methods, the TCR completes cleaning tasks within days instead of weeks, providing direct access to challenging areas. The system utilizes pure freshwater, eliminating the use of chemicals and reducing water consumption. Operated remotely from a safe distance, only 1-2 operators are required for the entire cleaning process, eliminating the need for chemical suits and extensive cleaning gear. This groundbreaking technology not only enhances efficiency but also prioritizes safety, minimizing the risks associated with working at heights and potential falls in tank cleaning operations.



Faster Cleaning –
Faster turnaround of
tanks



Easy to Control –
Makes cleaning a
one- or two-person
job



**Superior Cleaning
Standard –**
Enhanced probability
of approval



**Environmentally
Friendly – No**
chemicals needed



**No Scaffolding
Needed – Improved**
efficiency



Less Cleaning Water
– Less sludge



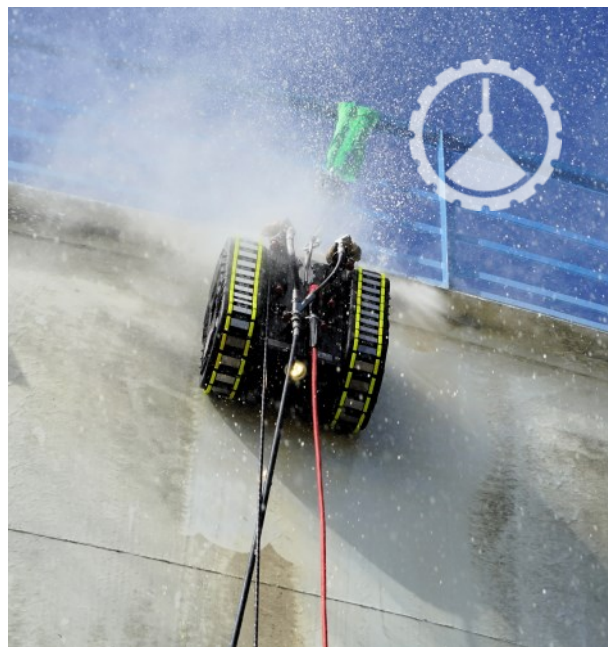
**Can be Operated
from the Ground –**
Safety of crew



Internal Cleaning –
Robot handles both
tank interiors and
exteriors



Internal Tank Cleaning of Oil with CLIN Robotics



Robotic Tank Cleaning

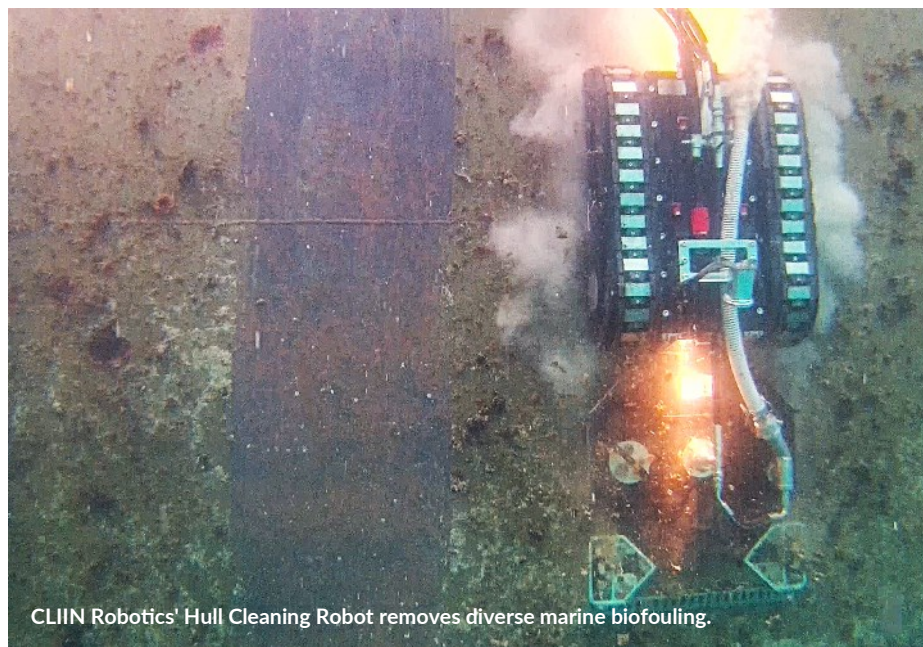


External Tank Cleaning with High-Pressure Water



CLIIN Robotics' Hull Cleaning Robot is equipped with a Cavitation Tool and operates both above and below the water surface.

Robotic Antifouling



CLIIN Robotics' Hull Cleaning Robot removes diverse marine biofouling.

Revolutionary Hull Cleaning

CLIN Robotics' Antifouling System is a groundbreaking operational solution for hull grooming (proactive) and cleaning (reactive), enhancing sustainability and efficiency in vessel operations. As both an on- and offshore solution, it's accessible for repeated usage on board. Designed to navigate seamlessly through strong currents both above and below the waterline, the Hull Cleaning Robot (HCR) ensures thorough grooming/cleaning without disrupting operations.

Versatile and effective, our system targets various levels of marine biofouling, ranging from light slime to heavy animal fouling, optimizing hull performance across diverse conditions. By utilizing proven cavitation technology, our solution is not only environmentally friendly but also cost-effective. Proactive maintenance, such as keeping hull surfaces smooth, has been proven to reduce fuel consumption, resulting in lower greenhouse gas emissions and minimizing the transfer of invasive species.

Accessible anytime, anywhere, our on-demand cleaning capabilities are operated remotely with ease and safety, for smooth and user-friendly operations.



Flexible Cleaning Solution - Fewer restrictions on when and where



Efficiency through proactive cleaning - Reducing Fuel Consumption and GHG emissions



Versatile Fouling Removal - Effectively targets light slime to heavy animal fouling



Easy to Control - Streamlined operations



Environmentally Friendly - Reduces transportation of invasive species



Extended Reach - Robot cleans above and below the waterline

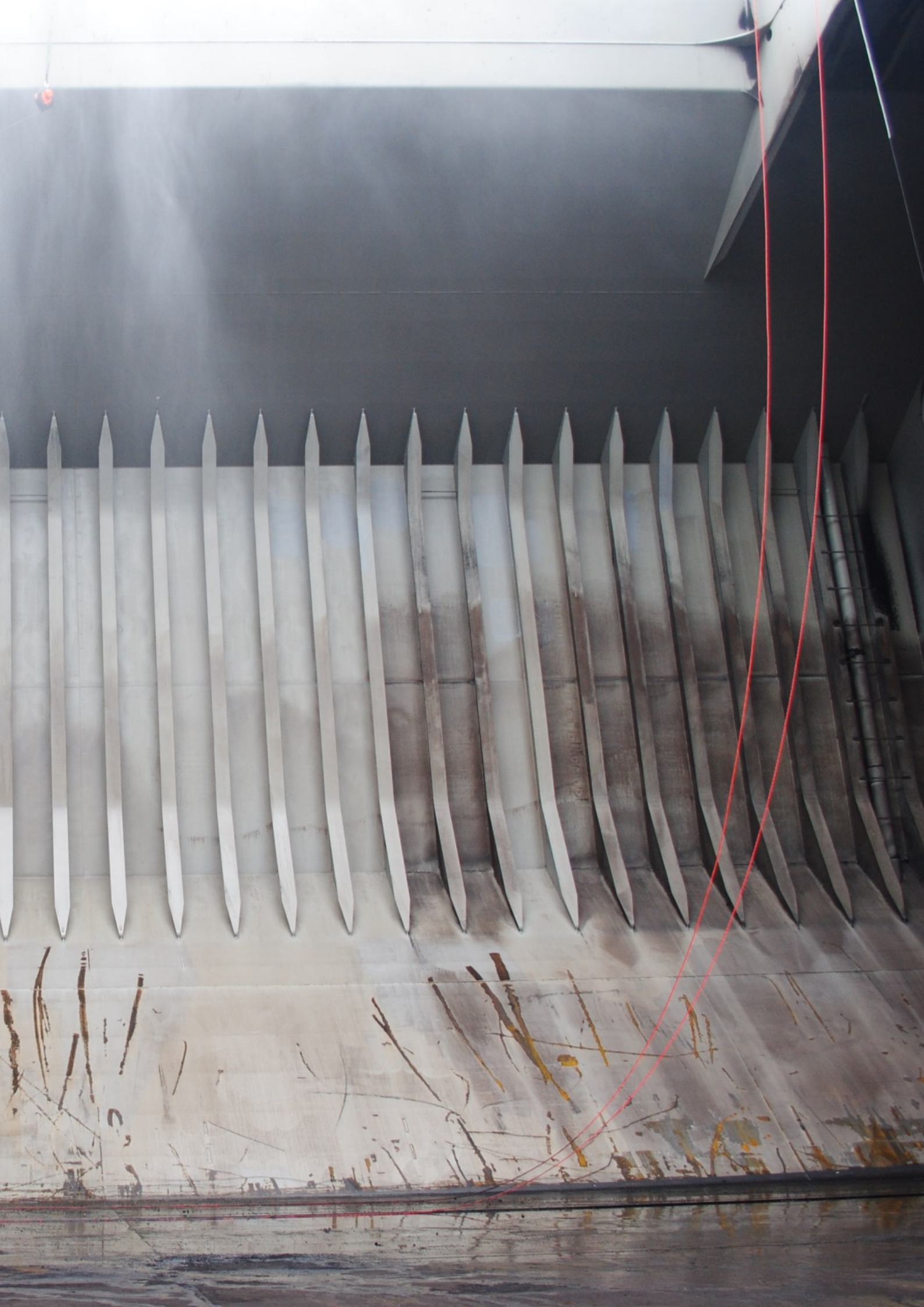


Gentle on Antifouling - Utilizes non-damaging technology for cleaning



Accessible Anytime, Anywhere - Onboard cleaning capabilities





Magnetic Universal Crawler

Our Magnetic Universal Crawler (MUC) is equipped with a versatile tooling plate featuring simple click-technology. This innovative design allows users to effortlessly customize their own applications by attaching various tools, maximizing efficiency and adaptability across industrial tasks.

With strong magnets ensuring adhesion and a payload capacity of up to 250 kg, the MUC is suitable for a myriad of applications, including industrial cleaning, inspection, and maintenance tasks requiring work at heights and passing angles up to 90 degrees. Its compact size, no larger than a standard check-in suitcase, enables easy access to hard-to-reach areas while improving safety and reducing manpower.

By leveraging customized tools, users can streamline workflows, minimize downtime, and address diverse challenges in industrial settings, making the MUC an invaluable asset for optimizing productivity and enhancing operational flexibility.



Magnetic Mobility –
Unmatched vertical climbing



Tool Versatility –
Using simple click-technology



Robust Capacity –
Up to 250 kg payload



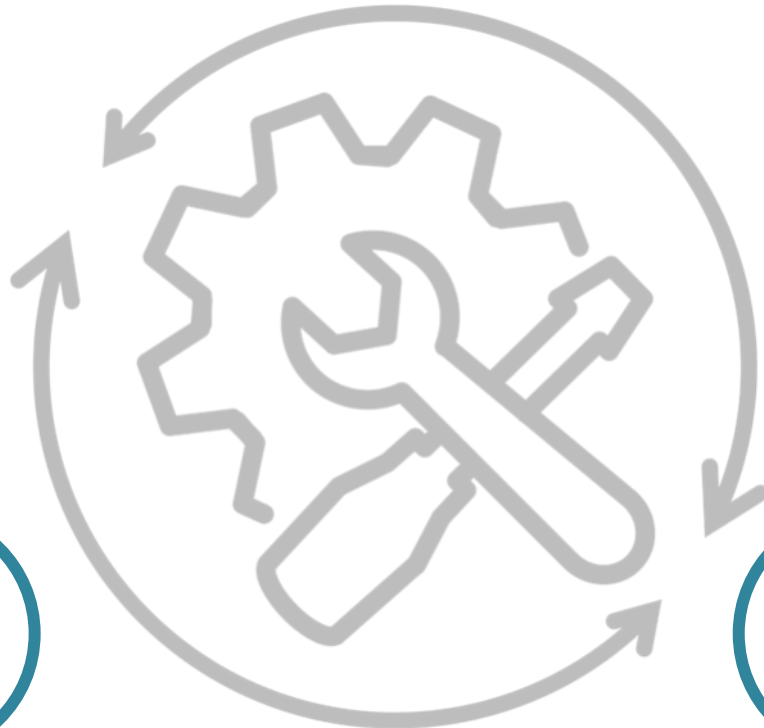
No Scaffolding Needed – Improved efficiency



Intuitive Operation – Streamlined user experience



Controlled from the Ground – Safety of crew





The CLIIN Robot



Key Features

- **Versatile Robot:** Designed for multifunctional tasks, it can handle angles up to 90 degrees, even upside down.
- **Easy Conversion:** Effortlessly switch tools on-site with intuitive click technology.
- **Adjustable Magnetic System:** Equipped with customizable magnetic force for increased versatility and adjustability.
- **Proven Performance:** Over 10,000 hours of operation in demanding industries with end-users.
- **Decade of Development:** Refined over 8 years for optimal performance and reliability.
- **User-Friendly Interface:** Simple operation enhances safety and efficiency.
- **Low Maintenance:** Streamlined upkeep ensures uninterrupted performance.
- **Customizable Tools:** Easily incorporate tailored attachments.
- **Eco-Friendly Operation:** Minimizes chemical usage by relying on water for cleaning tasks.
- **ATEX Zone 2 Version:** Available for environments requiring intrinsic safety.

Technical Data

- **Cleaning Capacity:** Covers 100-800 m²/h depending on the configuration.
- **Weight:** 89 kg.
- **Dimensions:** L747 mm x W562 mm x H310 mm.
- **Power Requirements:** Operates on 220-240 V, 13 A+ at 50-60 Hz.
- **Pressure Resistance:** Successfully passed submersion tests up to 60 meters in repeated cycles, crash testing at depths exceeding 100 meters, and IP69K high-pressure steam washing.
- **Submersible Endurance:** Proven reliability with over 4,000 hours of continuous underwater operation.
- **Vertical Lifting Capacity:** Capable of lifting up to 250 kg vertically.
- **Impressive Torque:** Boasts a peak torque of +1,800 Nm, surpassing that of modern electric cars.
- **Durable Construction:** Crafted in Denmark from advanced, non-corrosive materials including duplex stainless steel, titanium, carbon glass, reinforced polymers, ensuring long-lasting performance and resistance to chemicals.
- **Impact Testing:** Achieved IK10 rating. Tested with a 1,000 g mass dropped from 400 mm onto light-transmitting parts, and from 700 mm onto connectors.
- **Extreme Temperatures:** The robot was tested for 672 hours at 80°C and for 24 hours at -25°C.
- **System Endurance:** Underwent 5,000 hours of continuous comprehensive stress testing of internal electronics.

The CLIIN Robot Packages



High pressure system

- Start / stop waterflow from control box (water reduction)
- 400 l buffer tank (cavitation prevention)
- Stainless steel aisi 316
- Seawater resistant HPS available at additional cost
- IP67 rating

MUC: ●
CHR: ●
TCR: ●
HCR: ●



In-line heater

- Enables cleaning of difficult products
- Stainless steel AISI 316

MUC: ●
CHR: ●
TCR: ●
HCR: ○



Load arrestors (2x)

- Safety brake, fall prevention

MUC: ●
CHR: ●
TCR: ●
HCR: ●



High pressure tool 9

- Compact spray pattern for removing dirty cargoes
- Can be selected as included tool in basic solution

MUC: ●
CHR: ●
TCR: ●
HCR: ○



High pressure tool 10

- Extended rig for inaccessible areas
- Can be selected as included tool in basic solution

MUC: ●
CHR: ●
TCR: ●
HCR: ○

● Recommended Items

● Additional Tool Options

○ Not Intended



High pressure tool 12

- 6-nozzle tool for faster cleaning between frames.
- Cover bulkhead + frames in one go (up + down)

MUC: ●
CHR: ●
TCR: ○
HCR: ○



High pressure tool 16

- Designed for heavy-duty oil tank cleaning.
- Positions nozzles closer to the surface compared to HPT0009 for maximum effectiveness.
(Note: This results in a narrower spray pattern.)

MUC: ●
CHR: ●
TCR: ●
HCR: ○



Air-Driven Brush Tool

- For cleaning of cement and other dry cargoes
- Including 4 brushes, air hose, and pressure reduction valve

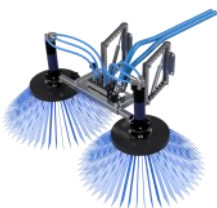
MUC: ●
CHR: ●
TCR: ○
HCR: ○



Hull Cleaning Cavitation Tool

- For cleaning heavy animal fouling on the exterior of vessels
- Cleans both below and above the waterline
- Utilizes proven cavitation technology

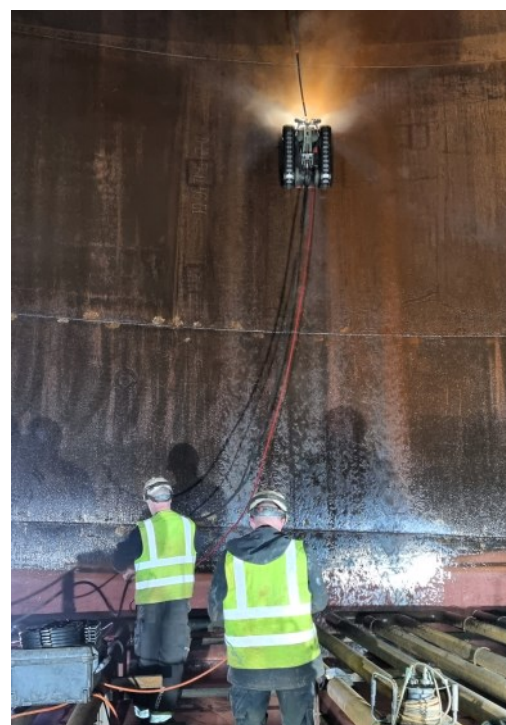
MUC: ●
CHR: ○
TCR: ○
HCR: ●



Hull Cleaning Brush Tool

- Designed for cleaning light slime and grooming the exterior of vessels
- Cleans both below and above the waterline
- Utilizes specialized brushes

MUC: ●
CHR: ○
TCR: ○
HCR: ●



Our Services

At CLIIN Robotics, we are committed to your success and satisfaction. Explore our services and embrace the future of safety, efficiency, and sustainability with us. We provide comprehensive services to ensure the seamless integration and operation of our cutting-edge magnetic robots. Our range of services facilitates the initial setup and utilization of our technology, with additional options available for extended support and peace of mind.

Demo

Experience the power and capabilities of our magnetic robots firsthand with a demonstration tailored to your needs. Witness how our technology can transform your operations and enhance safety and sustainability.

Instruction on site

Our experts provide on-site instruction to ensure that your team is proficient in operating our magnetic robots efficiently and safely. We empower you to harness the full potential of our technology from day one.

Extended Warranty

Protect your investment and gain added assurance with our extended warranty options. Extend the standard six-month warranty for your magnetic crawler, control cabinet, and control box with a flexible monthly subscription plan. Rest easy knowing that your equipment is covered for optimal performance.

CLIIN Technician

Access the expertise of CLIIN technicians for comprehensive training or repair services. Whether you require on-site assistance or support at our workshop, our technicians are dedicated to ensuring the smooth operation of your magnetic robots throughout their lifecycle.

Spare parts & consumables

Stay prepared for any eventuality with our spare parts and consumables service. Choose from a range of options, including direct shipment from our workshop or the establishment of a local stock tailored to your specific needs. Contact us to discuss terms and pricing that align with your requirements,



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