



*Aries* Series

# Product Introduction

Nanjing TVX Cleaning Equipment Co., Ltd

✉ market@tvxlean.com    🌐 www.tvxcleaning.com    ☎ 400-025-9339

📍 121-64, Baihe Road, Pukou Economic Development Zone, Pukou District, Nanjing, P.R.China 211806



# DEVELOPMENT COURSE

## Products Overview

Aries 



The new generation of TVX ride-on floor scrubber is named after the "Aries," symbolizing the passion and vitality associated with the Aries zodiac sign.

Aries is known for its enthusiasm and pioneering spirit, which aligns perfectly with the high-efficiency cleaning capabilities of the new floor scrubber. Its intelligent digital control system is designed for simple and convenient operation, much like the decisiveness and efficiency of Aries. The new floor scrubber features flexible maneuverability and anti-collision design, adapting to various complex environments and ensuring safe use. Aries is brave and fearless, and the new floor scrubber has powerful suction capability and anti-overflow design for the recovery tank, easily tackling various cleaning challenges.

As the first sign of the zodiac, Aries represents a new beginning. The Aries series floor scrubber not only excels in performance but also integrates the vitality and courage of Aries, injecting new energy into cleaning tasks.

The Aries series floor scrubber is optimized for various scenarios, including property management, new energy factories, commercial areas, hospitals, and schools. Its robust cleaning performance can quickly and easily handle complex cleaning challenges.



01

### Aries Series Ride-on Floor Scrubber

Aries550/700/860/1000/1400/1400Plus



02

### Taurus Series Walk Behind Floor Scrubber

Taurus500/660/860



03

### Leo Series Ride-on Sweeper

Leo30/60/75



04

### Gemini Series Cleaning Robot

Gemini35



\*Naming Rules:

Floor Scrubber: Defined by cleaning width (unit: mm)

Sweeper: Defined by cleaning width (unit: inch, 1 mm = 0.0394 inch)





01

## Innovative Product Design

- The Aries series floor scrubber features a recovery tank with a water-air separation design, meeting users' requirements for efficient, hygienic, and easy maintenance cleaning equipment, and providing a cleaner and healthier working environment.
- The Aries series floor scrubber introduces a new Ultra quiet module design, controlling the noise level within 60 dB. Additionally, the entire series is equipped with an ECO function to solve issues such as high energy consumption, short battery running time, and frequent charging that affect work efficiency during the use of floor scrubbers.
- The Aries series floor scrubber is designed with a hypochlorous acid ion water system, aiming to enhance cleaning effects, reduce chemical residues, and meet users' demands for high-standard cleaning and disinfection through more efficient and environmentally friendly disinfection technology.
- The Aries series floor scrubber incorporates a cleaning agent dosing system, which aims to improve cleaning efficiency, reduce waste, and meet the cleaning needs of different scenarios by precisely controlling the amount of cleaning agent used.



02

## Humanized Design

- Humanized Design: Increased water tank capacity to enhance cleaning efficiency.
- Cup Holder Design: Convenient placement of water bottles or other items, improving comfort experience.
- Common Tools: Meet for the requirements of daily installation and removal of consumables parts.
- Quick Shut-off Valve: Automatically cut off the water supply when full, effectively preventing water waste.
- External Hanging Rack (optional) : Convenient for hanging of cleaning tools, improving overall cleaning efficiency.
- Storage Basket: Easy for tools storage and use, saving time and effort in large-area cleaning scenarios.
- External Drainage Pipe: Enlarged Pipe Diameter greatly reduce the risk of blockage, improving working efficiency.
- Spraying Gun: Convenient for quick cleaning, preventing bacterial growth, and improving cleaning quality.
- Inductive Liquid Level Switch: To monitor the recovery tank's liquid level in real-time and alert users through the intelligent control system.





03

## Safety Design

- Comprehensive Bumper System Design: A significant upgrade in safety and stability, introducing an innovative three-in-one (brush disc guide wheel, anti-rollover bracket and front bumper [optional]).
- Slope Descent & Hill-climbing Parking System Design: Intelligent sensing system, electronic brake assistance and anti-slip design.
- Beeper Design: The beeper function is optimized. The device emits a beep when starting, stopping, or encountering a fault. During reverse, it produces a high-pitched beep and flashing LED indicators to enhance safety.
- EU Work Blue Light Design: The work blue light is available as an option, featuring high brightness and automatic on/off, in compliance with EU safety standards.
- Emergency Stop System Design: The emergency stop button and seat pressure switch ensure the device can be stopped quickly in emergencies.
- Speed Reduction When Turning: The device automatically reduces speed when turning, thanks to an intelligent sensing system and electronic speed control technology, enhancing operational safety.



04

## Environmentally Friendly Design

- Environmentally Friendly Material Application on Water Tanks (Optional): GRS certified materials are used to enhance the durability and environmental performance of the water tanks, reducing the impact on the environment.





# Aries 860

TVX





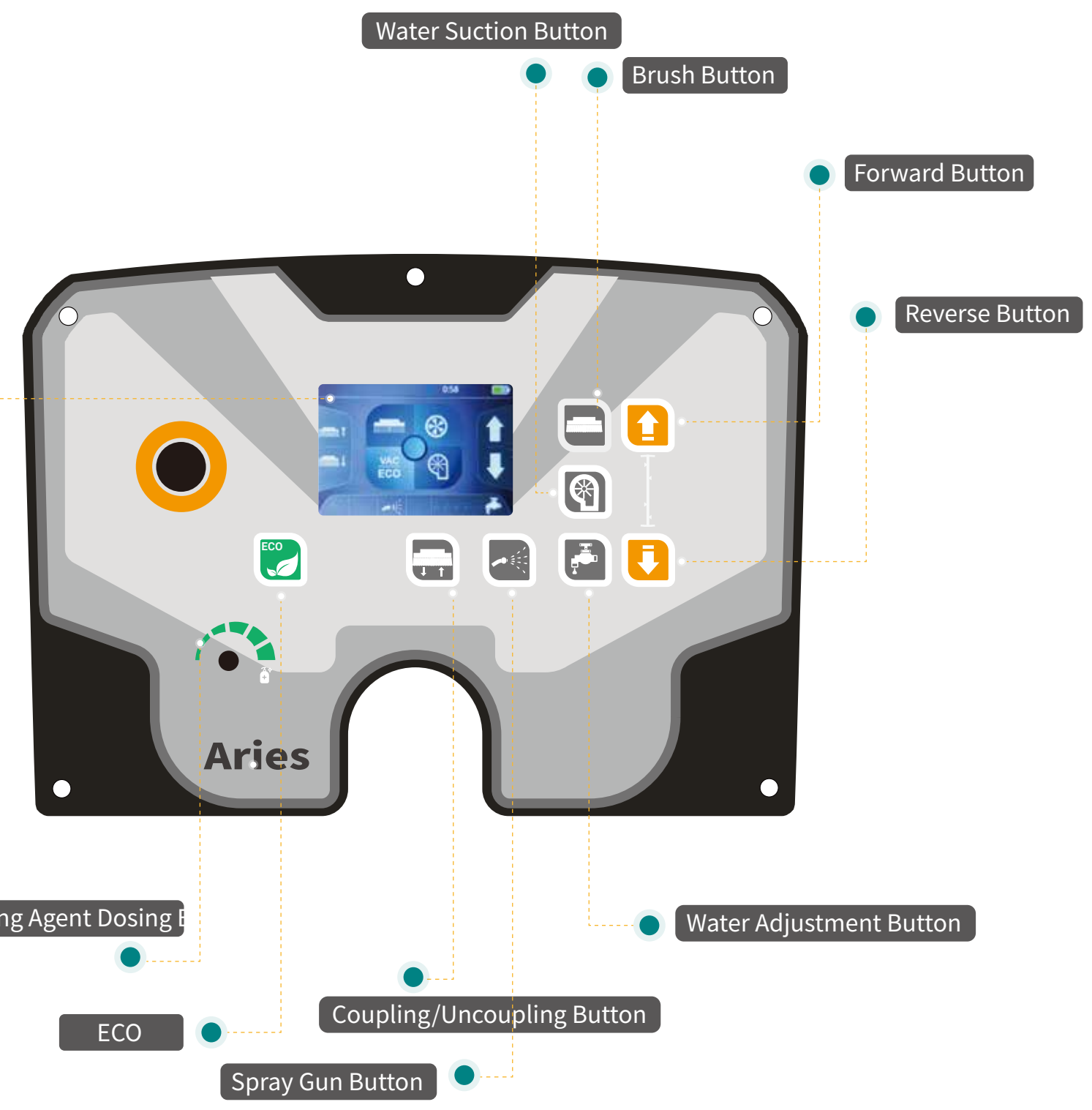


01

# New Product Design



Intelligent Operation    Corresponding Function Icons    Status Mode Clearly Displayed    **LCD Display Panel**



# Hospitals



## Water-Air Separation Design

For Aries series floor scrubbers, a water-air separation design in the recovery tank is used to prevent water entering into the suction motor which leads to the reduced suction power, solving the problems of odor diffusion, and bacterial growth caused by the mix of sewage water and air in traditional floor scrubbers. It meets users' requirements for efficient, hygienic, and low-maintenance cleaning equipment, providing a cleaner and healthier working environment.



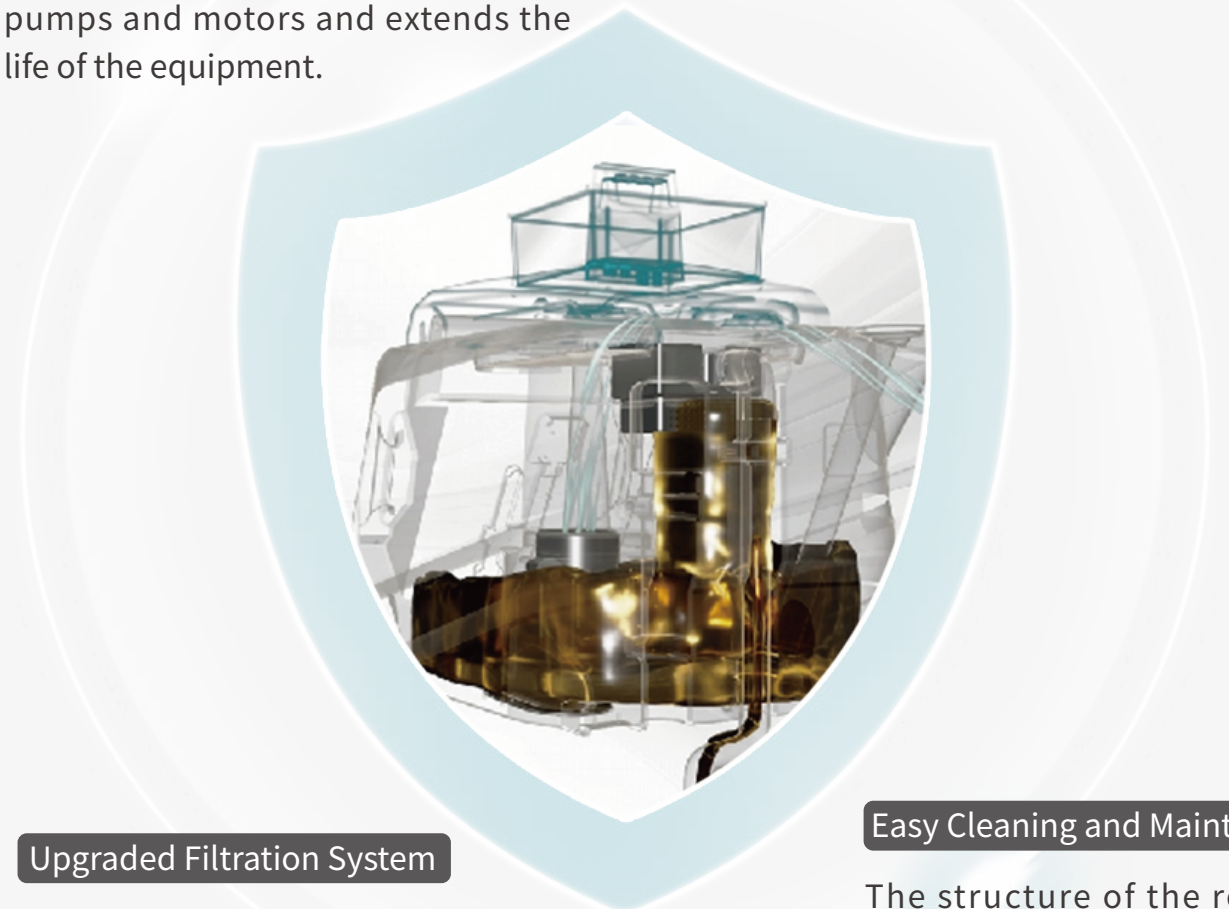
### Water-Air Separation Technology

A build-in water-air isolation chamber is designed to discharge air from sewage water, avoid suction reduce and odor diffusion caused by water-air mixing. It protects water pumps and motors and extends the life of the equipment.



### Recovering Tank Sealing Enhancement

High-quality elastic seals are used to ensure the sealing of the recovery tank, preventing water leakage and odor overflow.



### Upgraded Filtration System

A standard medium-efficiency M-grade filter or an optional high-efficiency H-grade HEPA filter is to further reduce the spread of impurities in the sewage water through the air, meeting the needs of medical-grade users.

### Easy Cleaning and Maintenance

The structure of the recovery tank is optimized for easy disassembly and cleaning, reducing bacterial growth and enhancing the overall hygiene performance of the device.

115<sub>L</sub>

Solution Tank

130<sub>L</sub>

Recovery Tank

500<sub>W</sub>

Vacuum Motor



# Warehouses



## Efficient Cleaning

Users need to quickly and efficiently finish large-area cleaning tasks while ensuring cleaning quality.

## Electric Lifting Function

Equipped with an electric lifting system, operators can adjust the height of the brush and squeegee with a single button on the control panel. This reduces the hassle of manual adjustment and allows for quick adaptation to different cleaning requirements, improving operational convenience and cleaning results.

## Brush Multi-link Structure

Adopting a multi-link structure design, the brush can better conform to the ground, adapting to different terrains. The brush maintains the optimal contact angle with the ground during cleaning, enhancing cleaning performance, especially on edges and uneven surfaces.

## Offset Brush Design

The brush is designed with an offset arrangement. The two brushes work together in rotation to better remove dirt from the ground, reducing the need for repeated cleaning and improving cleaning efficiency, particularly for stubborn stains.

## Electric lifting Squeegee

The multi-link electric squeegee can automatically adjust the angle and pressure of the squeegee according to the ground conditions. It adapts to ground undulations, improving suction efficiency and reducing residual sewage water, making it particularly suitable for large-area cleaning scenarios such as factories, workshops and commercial plazas.

Squeegee Width

1100mm

Cleaning Width

860 mm

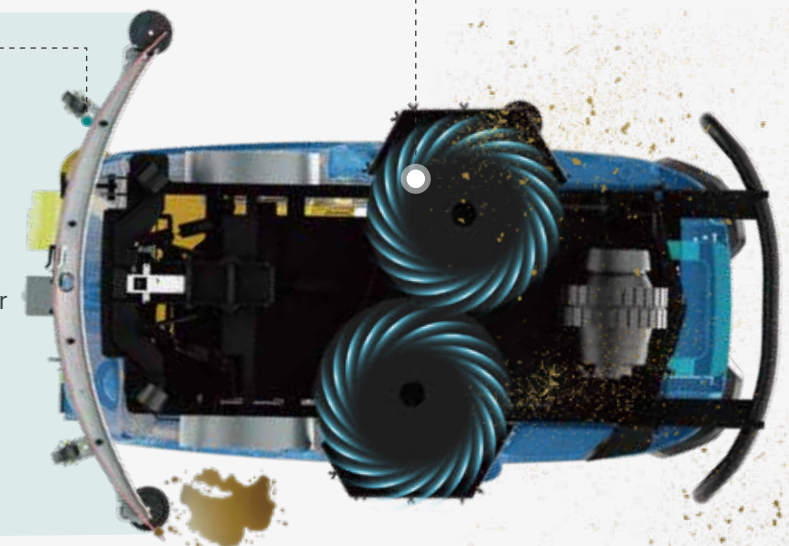
## New Brush/Squeegee System Design

Traditional floor scrubbers often suffer from insufficient cleaning coverage, inadequate edge cleaning, and inconvenient operation, especially in complex environments. To solve these issues, the new Aries floor scrubber has undergone a comprehensive upgrade of the brush and squeegee system to enhance cleaning efficiency and user experience.

760<sub>w</sub>  
Drive Motor

400<sub>w</sub>\*2  
Brush Motor

2060<sub>w</sub>  
Rated Total Power





# Library



Patent Application Number:: 2025100921796

## New Ultra-quiet Module Design

Traditional floor scrubbers are often noisy during cleaning, typically exceeding 70 decibels. This not only affects the comfort of operators but also interferes with the surrounding environment, especially in places with high quietness requirements such as hospitals, schools, and libraries. To address this issue, the new Aries floor scrubber introduces a new Ultra-quiet Module design, controlling noise levels within 60 decibels. Additionally, the entire series is equipped with an ECO function to address issues such as high energy consumption, short battery life, and frequent charging that affect work efficiency during the use of floor scrubbers.

### ECO

#### ECO Mode Selection

ECO mode is available allowing users to select based on cleaning scenarios to extend running time.

#### Suitable for Multiple Scenarios

Meets the cleaning needs of places with high quietness requirements, such as hospitals, schools, and libraries, reducing noise interference.

#### Suction Motor Ultra-quiet System

Suction motor Ultra-quiet technology ensures that the noise level is minimized while with efficient suction.

#### Optimized Fan Design

By optimizing the fan structure and air duct design, the noise generated by airflow friction is reduced, and the overall noise level of the machine is controlled below 60 decibels.

#### Low-Noise Motor

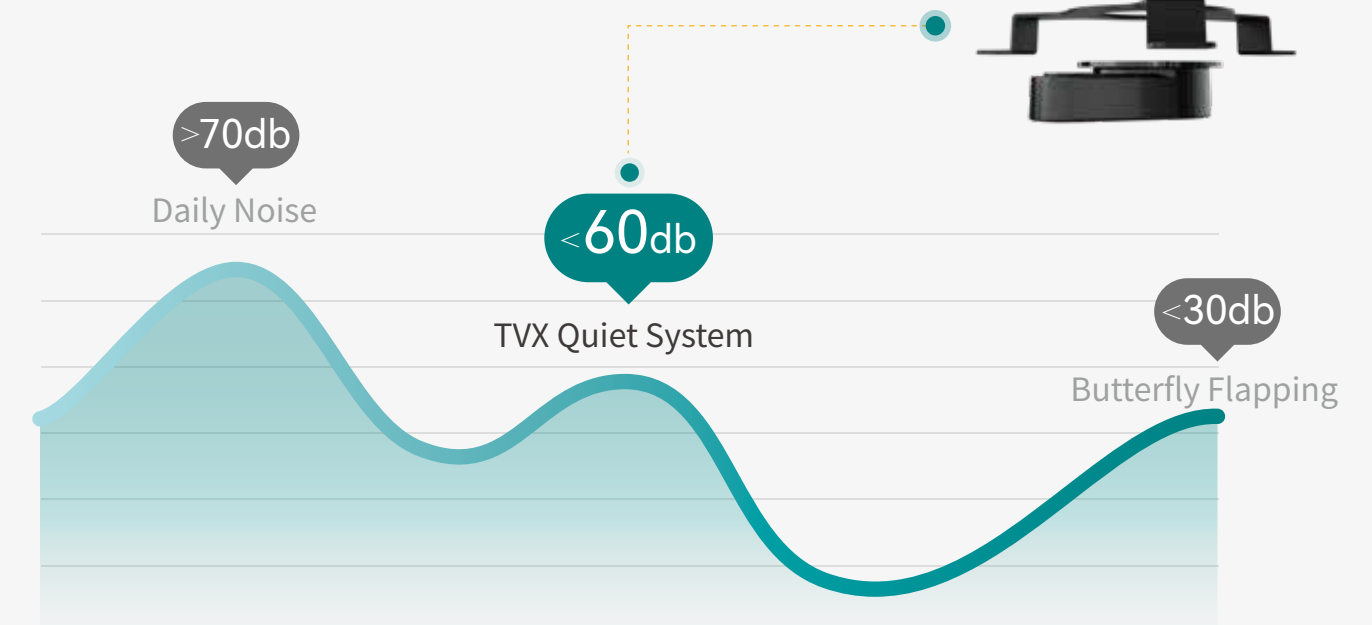
Equipped with a low-noise motor, the mechanical noise during operation is reduced, enhancing the overall noise reduction effect.

#### Extended Battery Running Time

By optimizing energy consumption, the single-use time of the device is extended, reducing the frequency of charging.

#### Reduced Operating Costs

Reducing power consumption lowers long-term operational costs and enhances the economic efficiency of the device.





# Food Factories



Patent:CN108784551A A Type of Ozone Water Floor Scrubber

Optional

## Hypochlorous Acid Ion Water System Design

Traditional floor scrubbers have issues such as noticeable odors and bacterial growth during cleaning, which fail to meet the stringent hygiene requirements of hospitals, schools, food processing, and other high-standard scenarios. The Aries series floor scrubber features a hypochlorous acid ion water system, aiming to provide more efficient and environmentally friendly disinfection technology to improve cleaning effectiveness, reduce chemical residues, and meet users' needs for high-standard cleaning and disinfection.



### High-Efficiency Disinfection

The hypochlorous acid ion water system can quickly break down dirt and release active oxygen to achieve high-efficiency disinfection, with a sterilization rate up to 99.9%. It reduces the use of traditional chemical disinfectants, lowers chemical residues and odors, and is more environmentally friendly and healthy.

### Intelligent Control

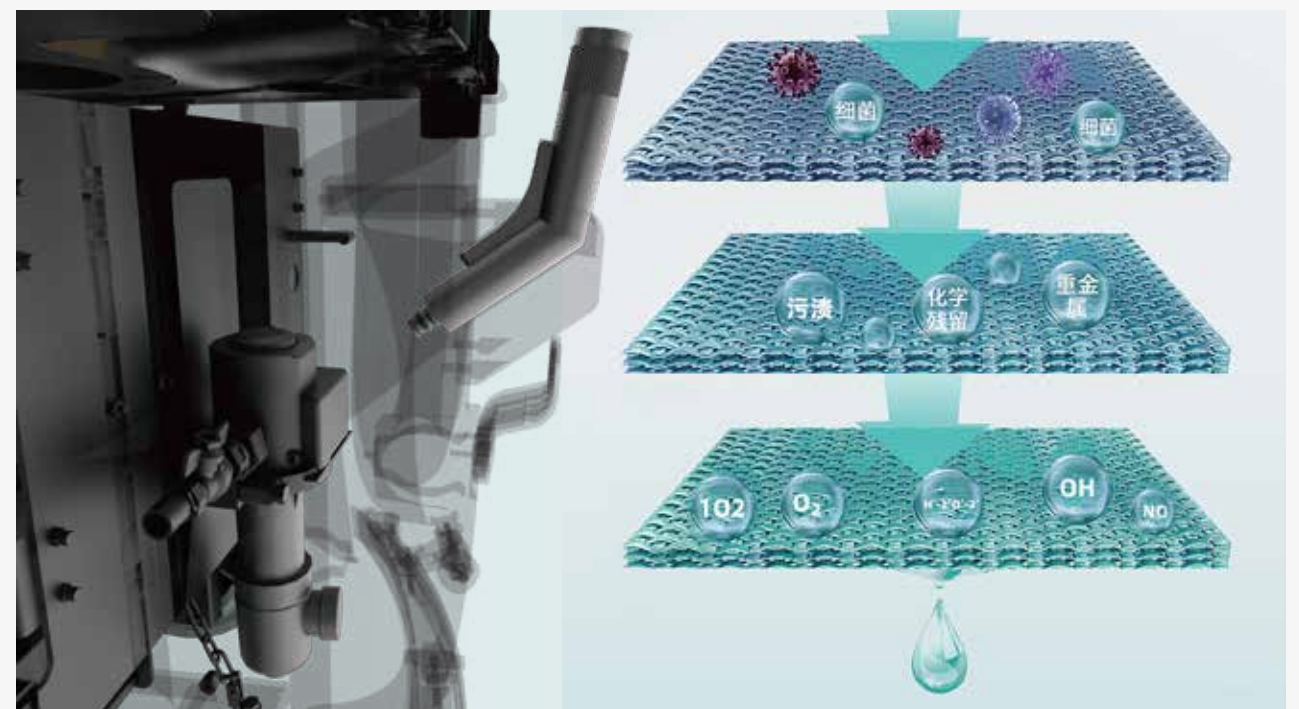
The built-in intelligent system automatically adjusts the concentration of hypochlorous acid to ensure stable disinfection effectiveness. The ion water system design has the same lifespan as the equipment, requiring no maintenance during its use.

### Instant Generation Technology

By adopting instant generation of hypochlorous acid, it avoids the storage and evaporation issues of traditional disinfectants, ensuring the freshness and effectiveness of the disinfectant.

### Integrated Design

The hypochlorous acid ion water system is integrated with the floor scrubber, reducing the dependence on external devices and enhancing the overall and portability of the equipment.





# Schools



Optional

## Cleaning Agent Dosing System Design

The traditional floor scrubbers have problems such as inaccurate cleaning agent dosing, severe waste, and unstable cleaning effectiveness. To address these issues, the new Aries floor scrubber introduces a cleaning agent dosing system, aiming to precisely control the dosing of cleaning agents to improve cleaning efficiency, reduce cost, and meet the cleaning needs of different scenarios.



### Cost Reduction

Reducing the use of cleaning agents lowers costs and extends the service life of cleaning agents.

### Environmentally Friendly

Reducing the overuse of chemicals minimizes environmental impact.

### Easy Operation

Simplifying the operation process and reducing manual intervention to adapt to the usage habits of different operators.

### Intelligent Dosing Control

Using advanced sensor technology to automatically detect and precisely allocate cleaning agent, ensuring consistent usage each time.

### Multi-Scenario Adaptation

Pre-setting multiple cleaning modes according to different cleaning scenarios (such as hospitals, schools, factories, etc.) to automatically adjust cleaning agent concentration.

### Visual Operation Interface

Equipped with an intelligent display screen to show real-time cleaning agent dosage, remaining amount, and cleaning mode, facilitating monitoring and adjustment by operators.

### Low Residue Design

Optimizing the spraying system to reduce cleaning agent residue, avoiding corrosion of the floor and equipment, and minimizing odors.







02

# Humanized Design





## Storage Basket



To facilitate the storage and use of commonly used cleaning tools, Aries has specially designed a storage basket, solving the problem of inconvenient tools storage and retrieval. This is especially time-saving and energy-efficient in large-area cleaning scenarios such as property management.

## Cup Holder Design



Considering the needs of long-duration operations, Aries has specially designed a cup holder to conveniently place water cups or other items, providing convenience for operators and enhancing work comfort.

## Common Tools Box



To facilitate quick maintenance by operators, Aries is equipped with a common tools box, making daily consumables installation and disassembly easy. Common tools are within easy reach, facilitating consumable replacement and improving work efficiency.



## External Hanging Rack (Optional)

To meet the temporary storage needs of cleaning tools, Aries has designed an external hanging rack to conveniently hang cleaning tools and keep the equipment tidy. The external hanging rack ensures orderly tool storage and enhances the overall user experience.



## Quick Water Stop Valve

To prevent water overflow during filling, Aries is equipped with a quick water stop valve that automatically cuts off the water source when full. The quick water stop valve effectively prevents water waste and protects the equipment and floor from water stains.





## Large Water Tank Design

For large-area cleaning scenarios, Aries has optimized the design by increasing the water tank capacity to improve cleaning efficiency. For example, the Aries 860 features a 130L recovery tank, reducing the need for frequent refills and meeting the demands of long-duration continuous cleaning.



• 130L Recovery Tank

• 115L Solution Tank

## External Drainage Pipe



To facilitate sewage water discharge, Aries has designed a larger-diameter external sewage discharge pipe. Operators do not need to open the wastewater tank cover and can directly discharge wastewater through the external pipe. This solves the problem of wastewater overflow, simplifies the discharge process, and reduces odor diffusion.

## Squeegee Hanger



To facilitate the storage and fix of the squeegee, preventing it from being randomly placed and causing damage or loss, Aries has designed a squeegee hanger. After cleaning, the squeegee can be dried on the hanger, enhancing the overall tidiness of the equipment.



## Inductive Liquid Level Switch

The inductive liquid level switch technology can monitor the liquid level status of the recovery tank in real-time and alert users through the intelligent control system. This ensures that the equipment operates in the best condition, avoiding wear issues associated with traditional mechanical liquid level switches and improving the reliability and lifespan of the equipment.



## Spray Gun

To meet the cleaning needs for stubborn stains in the recovery tank, Aries has designed a high-pressure water spray gun for quick cleaning. This solves the problem of poor cleaning effectiveness for stubborn stains in traditional floor scrubbers, prevents bacterial growth, and improves cleaning quality.







ARIES

03

# Safety Design

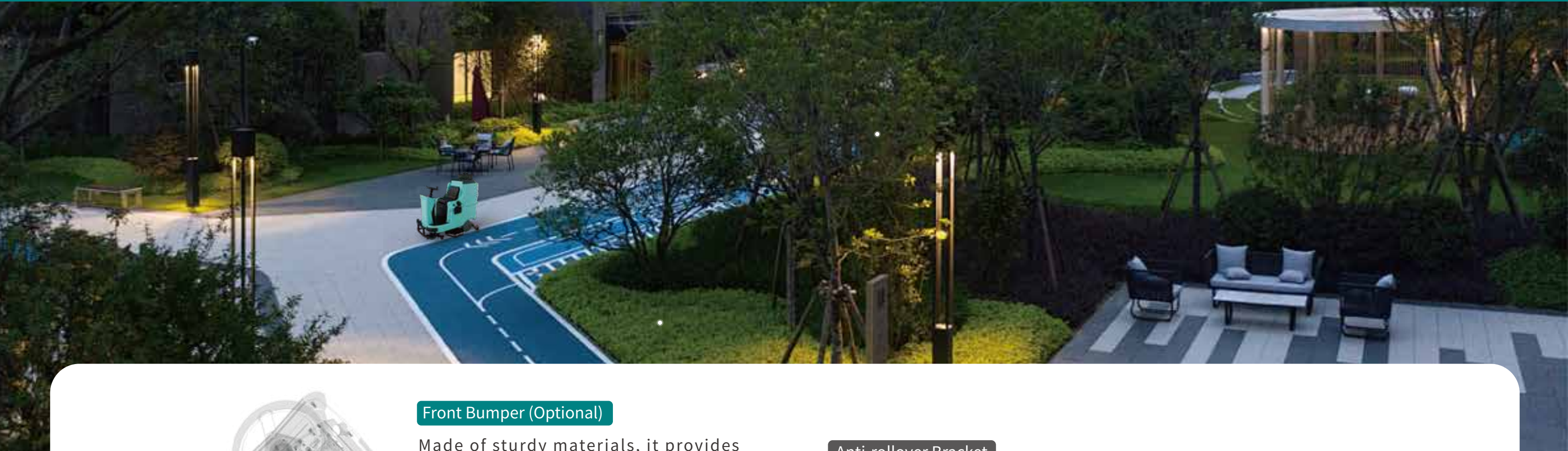




## Safety Design - Comprehensive Bumper System



The new Aries floor scrubber has undergone significant upgrades in safety and stability, introducing an innovative three-in-one bumper function to comprehensively ensure the safety of the equipment and operators.



### Front Bumper (Optional)

Made of sturdy materials, it provides cushioning protection during collisions, reducing damage to the equipment and surrounding objects. It meets users' needs for equipment safety when operating in complex environments.



### Anti-rollover Bracket

This design prevents the equipment from tipping over due to improper operation, ensuring operator safety and reducing the risk of accidents and equipment damage.

### Brush Bumper

Designed to protect the brush, preventing damage or deformation caused by accidental collisions with obstacles during cleaning without affecting the cleaning effectiveness of the brush.

Front Collision Protection 100%

Side Collision Protection 100%

Anti-rollover Collision Protection 100%



## Safety Design - Slope Descent & Hill-climbing Parking System

The new Aries floor scrubber introduces a slope descent function to ensure that the equipment can decelerate smoothly and safely when going downhill, avoiding loss of control and accidents caused by gravity. For scenarios such as underground parking lots and factory slopes, Aries has strong hill-climbing capabilities (exceeding 15% slope), ensuring safety and stability during hill climbing and parking.

### Hill-climbing Parking

Electromagnetic Brakes + Slope Descent

### Easy Hill Climbing

> 15%

15%  
10%  
5%



### Intelligent Sensing System

The controller is equipped with an intelligent gyroscope sensor that automatically identifies the slope angle and decelerates according to the gradient, ensuring stable and controllable downhill speed.

### Electronic Brake Assistance

Combined with the electronic braking system, it provides additional braking support, maintaining a stable downhill speed even on steep slopes and reducing operator anxiety.

### Anti-Slip Design

The tires feature anti-slip tread patterns, increasing friction with the ground and further enhancing safety during downhill travel.

### Emergency Stop System Design

In emergency situations, quickly stopping the equipment is crucial to ensuring the safety of operators and surrounding personnel. The new Aries floor scrubber is equipped with an emergency stop function to rapidly halt equipment operation in unexpected scenarios.

- **Emergency Stop Button:** An emergency stop button is prominently placed on the equipment, allowing operators to quickly press the button to immediately stop the equipment in emergencies.
- **Seat Pressure Switch:** Combined with a seat pressure switch, the equipment automatically enters an emergency stop state when the operator leaves the seat, preventing the equipment from moving unexpectedly when unattended.





## Beeper Design

The new Aries floor scrubber optimizes the beeper horn function to enhance the interactivity and safety of the equipment, reducing accidental collisions and operational errors.

- When the equipment starts, stops, or encounters a malfunction: It emits a beeper sound to alert the operator to the equipment's status.
- When the equipment is reversing: It emits a high-volume beeper sound and flashing LED indicator lights to remind the operator and surrounding personnel of the reversing action, ensuring the safety of the reversing process.





### EU Blue Light Design for Operation

The EU safety standards require the use of warning lights during cleaning operations to alert surrounding personnel to the equipment's operation and prevent accidental collisions. The new generation of Aries scrubbers is equipped with blue operation lights that meet EU safety regulations and enhance operational safety.

- High-Brightness LED Blue Light: To ensure clear visibility under various lighting conditions, alerting surrounding personnel to the equipment's operation.
- Automatic On/Off: The blue lights are linked to the equipment's start and stop functions, turning on automatically when the equipment is in operation and off when it stops, eliminating the need for manual operation.

### Turning Deceleration Design

During the use of ride-on floor scrubbers, excessive speed during turns can lead to loss of control by the operator and even cause collisions and other safety accidents. The new generation of Aries scrubbers introduces a turning deceleration function to automatically reduce speed during turns, enhancing operational safety.

- Intelligent Sensing System: It automatically detects turning actions and trigger deceleration mechanisms to ensure stable and controllable speed during turns.
- Electronic Speed Control Technology: The motor speed is automatically adjusted to reduce travel speed during turns, minimizing the risk of tipping over due to excessive speed.







04

Environmentally  
Friendly Design



# GRS





## Environmentally Friendly Design Deep Cycle AGM Free of Maintenance Battery



**High Energy Density:** The use of high performance AGM free of maintenance batteries increase the energy by over 30% compared to traditional lead-acid batteries.

**Longer Cycle Life:** The Deep Cycle AGM batteries have a life of over 750 cycles, 1.5 times longer than traditional lead-acid batteries.

**750<sup>+</sup>**  
Battery Cycles up to

**1.5** Times  
Battery Life Increased



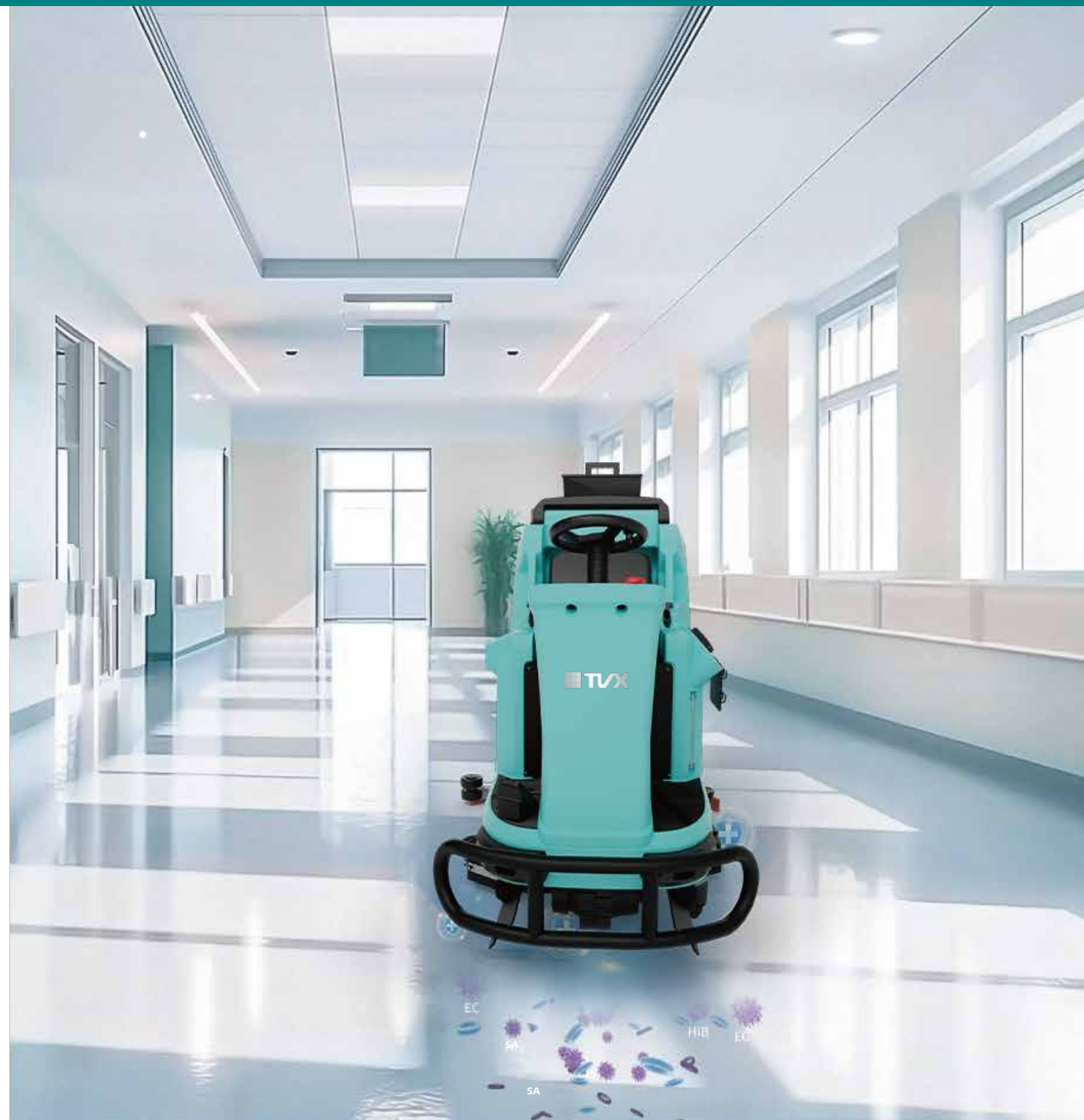


# Environmentally Friendly Design Sterilization and Disinfection Applications

Aries SWS version, by loading a hypochlorous acid generator, electrolyzes a chloride-containing aqueous solution to produce hypochlorous acid water, which disinfects and sterilizes while cleaning the contaminated ground.。

The sterilization principle of the Aries hypochlorous acid generator is mainly: through the neutral small molecules of hypochlorous acid (HClO), it penetrates the cell membrane, enters the microbial cell, and undergoes oxidation reactions with nucleic acids, proteins, and enzymes, destroying their structure and function, thereby killing pathogenic microorganisms.

The hypochlorous acid device installed in the TVX floor scrubber has passed the SGS-CSTC sterilization process verification report. The sterilization rate of the equipment for Escherichia coli is 99.9%, and the killing rate for Staphylococcus aureus is 90%, which is at the international leading level.



## Sterilization process validation project report

Patent: 2020206498539  
A hypochlorous acid water generation system for a floor scrubber (optional)



# Environmentally friendly Design

## Water Tank Material Application **Optional**

Traditional water tank materials are often made of new PE plastic. The new generation of Aries scrubbers can use GRS-certified environmentally friendly materials to enhance the durability and environmental performance of the water tank, reducing the impact on environment.

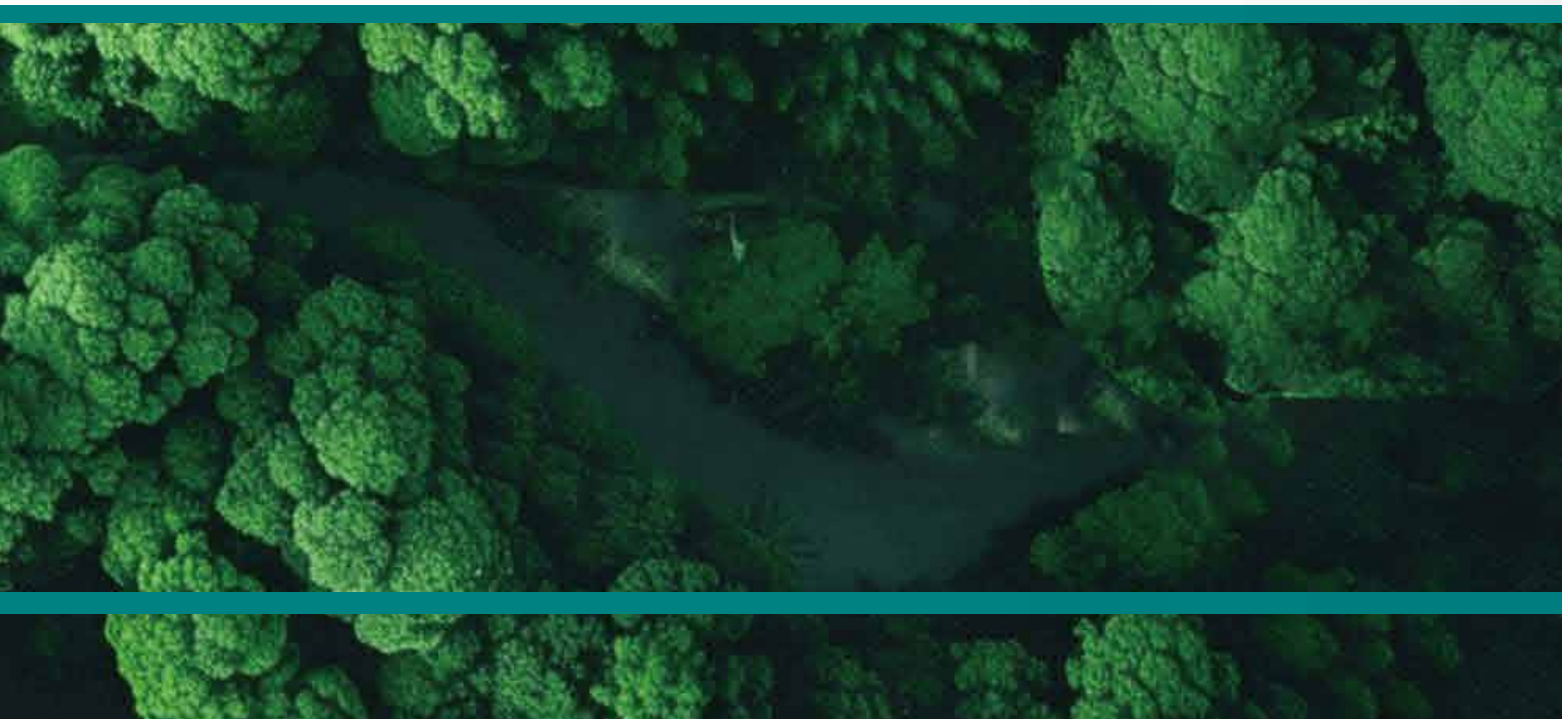
Environmentally Friendly and Sustainability: With raw materials certified by the Global Recycled Standard (GRS), have over 30% recycled content, meeting environmental standards and reducing dependence on natural resources. Our material supply chain is also GRS-certified for traceability.



Raw materials are GRS-certified

**>30%**

Water tank plastic particles are produced by PCR





Aries 860	
Cleaning Width	860mm
Squeegee Width	1100mm
Maximum Speed	6.5km/h
Climbing Gradient	15%
Disc Brushes (Diameter * Quantity)	430mm*2
Voltage	DC24
Rated Total Power	2060W
Drive Motor	24V/760W
Brush Motor	24V/400W*2
Vacuum Motor	24V/500W
Solution Tank	115L
Recovery Tank	130L
Net Weight	234kg
Machine Dimensions	1523*1130*1420mm
Maximum Cleaning Efficiency	5590 m <sup>2</sup> /h
Battery Weight (Maximum)	33kg*4

Item	LdB Version	Dosing Version	SWS Version
Ultra-quiet	√	√	√
Hypochlorous Acid System	X	Cleaning Agent Dosing Module	Hypochlorous acid
Bumper	Optional	Optional	Optional
Blue Light	Optional	Optional	X
Filter M Version Filter H Version	√ M	√ M	√ H 版
Charger	500W	500W	500W
Brush	16” Lock Water Brush 16” Brush PP0.28 16” Brush PP0.6 (Standard)	16” Lock Water Brush 16” Brush PP0.28 16” Brush PP0.6 (Standard)	16” Lock Water Brush 16” Brush PP0.28 16” Brush PP0.6 (Standard)
Pad Holder	16” Pad Holder	16” Pad Holder	16” Pad Holder
Batteries	24V 220Ah C5	24V 220Ah C5	24V 220Ah C5





**Logistics Centers**



**Campuses**



**Factories and Workshops**



**Shopping Malls and Supermarkets**



**Hospitals**



**Transportation Hubs**



## Machine Storage

- Store in a dry indoor environment.
- Ensure that the brushes and squeegee are in the raised position.
- Drain all water from the solution and recovery tanks, especially when storing in cold environments.
- Before performing any maintenance, ensure that the power is turned off or the battery is disconnected.
- Repairs must be carried out by authorized service centers. Any repairs performed by unauthorized personnel will void the warranty.

## Monthly Maintenance

- Rinse the solution tank with clean water.
- Remove the filter cap and filter, and rinse with clean water.
- Remove the butterfly bolts and clean rubber skirts.
- Check the motor every 250 hours to ensure proper operation..

## Squeegee Rubber Replacement

- Remove the squeegee assembly from the machine.
- Loosen the stainless-steel clips and remove the rubber blade.
- Replace with a new rubber blade and reassemble the squeegee assembly.

## Daily Maintenance

- Wipe the entire machine with a clean/damp cloth.
- Empty the clean water tank through the drainage hose (plug)
- Empty and rinse the recovery tank with clean water.
- Remove and clean the filter.
- Remove the brush & squeegee assembly and rinse with clean water.
- Check the battery level and charge in time.





# Error Codes



Error Codes	Error Description	Troubleshooting	First Line Display Content	Second Line Display Content
F01	Emergency stop signal trigger	1. Release the emergency stop switch and restart the controller.	"F1:Emerg"	"Stop"
F02	EEPROM faulty 1	1. Rewrite the configuration parameters and then power on again.	"F2:EEP"	"Error"
F03	Low battery voltage	"1. Charge the battery and restart the controller; 2. Replace the controller."	"F3:Batt"	"Low"
F04	High battery voltage	1. The battery voltage is higher than the parameter setting voltage. Wait for the voltage to recover and restart the controller.	"F4:Batt"	"High"
F05	Precharge fault 1	"1. Check the drive motor/electromagnetic brake short circuit elimiated; 2. Replace the controller."	"F5:PreC"	"Error1"
F06	Key switch voltage failure	1. Eliminate wiring problems.	"F6:KeyV"	"Error"
F07	Controller self-test error	1. Replace the controller.	"F7:MCU"	"Error"
F10	Walking motor MOS tube failure	"1. Eliminate water ingress problems such as brakes, and re-energize; 2. Eliminate drive motor circuit connection problems (whether the positive and negative circuits are short-circuited with the battery); 3. Replace the controller."	"F10:TMOS"	"Error"
F11	Roller brush motor MOS tube failure	"1. Eliminate roller brush motor circuit connection problems (whether the positive and negative circuits are short-circuited with the battery); 2. Replace the controller."	"F11:RMOS"	"Error"
F12	Suction motor MOS tube failure	"1. Eliminate suction motor circuit connection problems (whether the positive and negative circuits are short-circuited with the battery); 2. Replace the controller."	"F12:VMOS"	"Error"
F13	Faulty MOS tube of dust-vibrating motor	"1. Eliminate suction motor circuit connection problems (whether the positive and negative circuits are short-circuited with the battery); 2. Replace the controller."	"F13:SMOS"	"Error"
F14	Side brush motor MOS tube failure	"1. Check the dust-vibrating motor circuit connection problems (whether the positive and negative circuits are short-circuited with the battery); 2. Replace the controller."	"F14:BMOS"	"Error"
F16	Travel motor short circuit fault	"1. Check the drive motor circuit; 2. Replace the controller."	"F16:Trac"	"Error"
F18	Roller brush motor short circuit fault	"1. Check the roller brush motor circuit; 2. Replace the controller."	"F18:Roll"	"Error"
F19	Suction motor short circuit fault	"1. Check the suction motor circuit; 2. Replace the controller."	"F19:Vacu"	"Error"
F20	Dust-vibrating motor short circuit fault	"1. Check the dust-vibrating motor circuit; 2. Replace the controller."	"F20:Shac"	"Error"
F21	Side brush motor short circuit fault	1. Check the side brush motor circuit; 2. Replace the controller.	"F21:Brus"	"Error"
F22	Host CAN offline fault	1. Check whether the CAN communication line is connected properly.	"F22:MCU"	"Can"
F23	Pedal connection failure	1. Check the pedal circuit; 2. Replace the pedal; 3. Replace the controller.	"F23:Acc"	"Error"
F24	High Pedal Inhibit Fault	1. Check the pedal circuit; 2. Release the pedal to start the machine; 3. Replace the pedal.	"F24:HAcc"	"Error"
F26	Temperature sensor failure	1. The controller temperature is too high or too low; 2. Replace the controller.	"F26:Temp"	"Error"
F29	Roller brush motor open circuit fault	1. Check the roller motor circuit and restart the controller.	"F29:Roll"	"Open"
F30	Suction motor open circuit fault	1. Check the suction motor circuit and restart the controller.	"F30:Vacu"	"Open"
F33	Drive motor overload fault	1. Eliminate motor jams and other problems.	"F33:Trac"	"OverLoad"
F34	Roller brush motor overload failure	1. Eliminate motor jams and other problems.	"F34:Roll"	"OverLoad"

Error Codes	Error Description	Troubleshooting	First Line Display Content	Second Line Display Content
F35	Suction motor overload failure	1. Eliminate motor jams and other conditions.	"F35:Vacu"	"OverLoad"
F36	Dust-vibrating motor overload failure	1. Eliminate motor jams and other conditions.	"F36:Shac"	"OverLoad"
F37	Side brush motor overload failure	1. Eliminate motor jams and other conditions.	"F37:Brus"	"OverLoad"
F52	Controller over temperature alarm	1. The controller temperature is too high, check the load.	"F52:MCU"	"HighT"
F55	No clear water warning	"1. Add clean water; 2. Check the liquid level switch circuit; 3. Replace the liquid level switch."	"F55:W_C"	"Null"
F56	Full Sewage Warning	"1. Drain sewage; 2. Check the liquid level switch circuit; 3. Replace the liquid level switch."	"F56:W_D"	"Full"
F57	Seat switch not sitting down warning	1. Check the seat switch circuit and restart the controller.	"F57:Seat"	"Null"
F82	Electromagnetic brake open circuit fault	1. Check the brake circuit and restart the controller;	"F82:Bk_E"	"Open"
F83	Electromagnetic brake short circuit fault	"1. Check the electromagnetic brake circuit 2. Replace the electromagnetic brake"	"F83:Bk_E"	"Error"
F84	Precharge fault 2	"1. Check the brush/suction/brush lifting/squeegee lifting motor circuit; 2. Check the warning light/drain solenoid valve/detergent pump/universal output speaker circuit and power on again."	"F84:PreC"	"Error2"
F86	Buzzer open circuit warning	1. Check the buzzer circuit.	"F86:Beep"	"Open"
F87	Buzzer output short circuit fault	"1. Check the buzzer circuit; 2. Replace the buzzer."	"F87:Beep"	"Error"
F92	Warning light open road warning	1. Check the warning light circuit.	"F92:L_W"	"Open"
F93	Warning light short circuit fault	"1. Check the warning light circuit; 2. Replace the warning light."	"F93:L_W"	"Error"
F94	Solenoid valve open circuit alarm	1. Check the solenoid valve circuit;	"F94:Valv"	"Open"
F95	Solenoid valve short circuit fault	"1. Check the solenoid valve circuit; 2. Replace the solenoid valve."	"F95:Valv"	"Error"
F100	Headlight open road warning	1 Check the headlight circuit;	"F100:L_C"	"Open"
F101	Headlight short circuit fault	"1. Check the headlight circuit; 2. The headlight drive circuit is faulty."	"F101:L_C"	"Error"
F104	SWS open circuit warning	"1. Check the SWS module circuit; 2. Check whether the water circuit is working properly."	"F104:HO"	"Open"
F105	SWS short circuit fault	1. Check the SWS module circuit;	"F105:HO"	"Error"
F112	Controller low temperature alarm	1. Wait for the controller to return to temperature and restart the controller.	"F112:MCU"	"LowT"
F115	IoT connection failure	1. Connect the Internet of Things module.	"F115:IOT"	"Error"
F116	SWS module usage timeout alarm	1. Replace the SWS module and manually clear the SWS running time	"F116:HO"	"Overtime"
F117	Lock alarm	Please contact the manufacturer or dealer	"F117:Lk"	"Locked"
F118	Lithium battery CAN disconnection failure	Please check whether the lithium battery CAN line is connected	"F118:CLi"	"Open"
F119	Lithium battery failure	Lithium battery internal fault, please check whether the lithium battery is discharged	"F119:CLi"	"Error"