

# PROCESS & CLEANING TECHNOLOGY

Building a Solid Future Together Solid Innovations I Solid Technologies I Solid Solutions

# **CORPORATE PROFILE**

# **ABOUT US**

**BULOX CORPORATION** - a holding company for a diversified and growing range of business which focuses on key infrastructure and engineering solutions to various industries. The Group's businesses encompass design & engineering, as well as sales and marketing of a complementary range of products and services utilizing proven technologies in the market.

**CYCLOSYSTEM PTE LTD** - one of the leading providers of Industrial Process and Cleaning equipment in the region. We design and manufacture both standard and customized industrial cleaning machines and other process-related equipment for a wide variety of industrial applications. The technologies involved in these cleaning and process equipment include high pressure jet spraying, chemical immersion agitation, ultrasonic cleaning and/ or a combination of these technologies. For other non-standard cleaning or more sophisticated cleaning requirements, we are able help configure a customized system to suit client requirements.

We also provide a suite of complementary products to help meet our Clients' cleaning requirements. This includes environmental-friendly cleaning solvent and/ or bio-degradable detergents, Vacuum/ Stoving Ovens, Waste-Water Treatment Plants, etc.





Defence & Military



partners has allowed us to provide continuous innovation and deliver to challenging customised and turnkey project requirements. This also enables us to be flexible and respond effectively to client's requirements while continuously leveraging on the industry's latest technology.

Our in-house design capability and close collaboration with our OEM

With more than 30 years of experience, we continue to provide robust and dependable quality products in a timely and cost-effective manner. The cumulative experiences we have gained from applications in various industries help us to understand your business better and provide effective and practical solutions.





CYCLOSYSTEM business focuses on the Manufacturing, Automotive, Aerospace & Defence MRO business with the following standard products offerings:



**CYCLOJET** a complete range of Component Spray Cleaners



**CYCLOSONIC** Ultrasonic Cleaning Equipment



**CYCLO-DIP** Immersion Cleaning Systems



**CYCLOBLAST** Automatic/ Manual Surface Blasting Machines



**CYCLOHEAT** Vacuum / Drying Ovens



**CYCLOCLEAN** Environmental-Friendly Cleaning Solvent/ Biodegradable Detergent



**CYCLOTREAT** Compact Waste-Water Treatment Plant



Multi-Purpose Cleaning Booths Wet or Dry Type



Manual / Auto Fluorescent Penetrant Inspection (FPI) System



Other Customized Cleaning Systems

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# Building a Solid Future Together

# **Our Vision**

A Solid Platform that attracts talents for the creation of innovative and sustainable solutions for the development of modern infrastructure.

### **Our Mission**

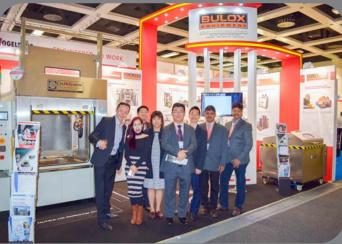
We offer a Solid Solution that exceeds our Clients' expectations in the design, manufacture and distribution of equipment and services for the infrastructure industry.



# COMPANY CULTURE

At **Bulox Corporation**, we create a SOLID place to work where our employees can excel. We believe in Diversity, Equity and Inclusion (DEI). Our basic company culture is guided by our Founder's values as follows:

- **D** EDICATED TO EXCELLENCE
- A CT WITH INTEGRITY
- R ELIABILITY IS KEY
- MBRACE AGILITY
- L EVERAGING ON RESOURCES
- L EADERS IN OUR FIELD
- K NOWLEDGE HUB
- RGANISED STRUCTURE
- H ONOUR OUR COMMITMENT





# SERVICE EXCELLENCE

Cyclosystem recognizes the importance of not just meeting but exceeding our Clients' expectations. This means we need to provide good products and services that set us apart from our competition. We believe all our employees must communicate well, have the right attitude, and provide the best possible services to our Clients to attain a long-lasting partnership.

Aligned with this desire to provide excellent service, we have adopted the **Bulox ARM System** – a proprietary developed 24/7 Condition Monitoring System to automatically monitor all critical components and performance of the equipment supplied. The **Bulox ARM (Automated Remote Monitoring) System** not only provides critical information on the equipment performance but is also able to forewarn any potential equipment failure, provides need-based maintenance - as well as keeps proper digital records on the equipment performance and maintenance regime automatically. The **Bulox ARM System** is Industry 4.0 compliant.

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**INITIATIVES** 

# QUALITY ASSURANCE

At **Cyclosystem**, we strive to achieve the highest guarantee of quality by adopting and implementing the relevant International Quality Standards and best practices available in the industry – both in our equipment as well as in all our documentation. We are committed to helping protect our environment by using sustainable resources in the most effective way as well as minimize all wastages.



# **CYCLOJET CLEANING MACHINES**

A complete range of Component Spray Cleaners

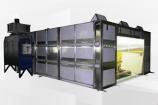
The Cyclojet Cleaning Machine is a range of standard and customized industrial cleaner that is designed and manufactured by Cyclosystem Pte Ltd – a division of Bulox Corporation which fully focused on Process and Cleaning industries – including Waste-Water Treatment Plants. They are specially designed and developed to meet the challenges of replacing the conventional way of cleaning industrial components / parts with hazardous and ozone-depleting cleaning solvents which are not only harmful to the users but also harmful to the environment. The Cyclojet Cleaning Machine is typically an aqueous based cleaner which uses biodegradable detergent and / or other environmental-friendly cleaning solvent to clean the washparts effectively. The wash solution is automatically filtered and recycled regularly.

The Cyclojet Cleaning Machines are grouped into the following main category:





CYCLOJET MULTI-PURPOSE CLEANING BOOTHS (DRY TYPE)



CYCLOJET MULTI-PURPOSE CLEANING BOOTHS (WET TYPE)



### CYCLOJET MANU-CLEANERS (Standard Sizes : Small/Medium/Large)

The **Cyclojet Manu-Cleaner** is a very simple & competitively priced cleaning machine among the Cyclojet range of industrial component cleaners.

It is typically used to clean small mechanical parts with a flow-thru cleaning brush and the cleaning solvent is automatically filtered and recycled.

The machine comes in 3 standard sizes and has several optional "Adds-On" which can help enhance cleaning efficiency.

It is very simple to use and simple to maintain.



Note : For more detail technical specification, please refer to our Cyclojet Product Brochures or visit our websit **www.cyclosystem.com** 

CYCLOJET INEX SERIES (Standard Sizes : Small/Medium/Large)

The Cyclojet INEX Series is one of the more popular ranges of automatic top-loading compact cleaners among the Cyclojet Cleaning Machines.

As the name implies, "INEX" stands for "INEXpensive" as the Cleaners are competitively priced to help cater for the mass market.

It is used to clean small to medium size mechanical parts automatically - using hot water & biodegrable detergent which are automatically filtered and recycled.

The washparts are placed on a stainless-steel rotating basket and high pressure sprays jets are directed onto it from all angles.

The Cyclojet INEX series comes in 3 standard sizes and there are many "Adds-On" options which makes the whole machine very versatile and effective.









Note : For more detail technical specification, please refer to our Cyclojet Product Brochures or visit our websit **www.cyclosystem.com** 



### CYCLOJET INEX-PLUS SERIES (Standard Sizes : Small/Medium/Large)

The **Cyclojet INEX-Plus Series** aims to complement the popular Cyclojet INEX series - by including additional immersion cleaning to cover a wider spectrum of cleaning.

The machine uses both high-pressure oscillating spray jets as well as immersion cleaning technology to reach those areas where spray jets cannot be reached to clean the parts effectively.

It is also an aqueous based cleaner using hot water and biodegradable detergent as its cleaning medium which are automatically filtered and recycled.

However, instead of rotating wash basket as in the INEX Series Cleaners, the INEX-Plus Machines uses vertical oscillation movement to achieve its cleaning operation.

The INEX-Plus Series comes in 3 standard sizes and also have many "Adds-On" Options to suit different cleaning requirements.



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Note : For more detail technical specification, please refer to our Cyclojet Product Brochures or visit our website: www.cyclosystem.com

### CYCLOJET HEAVY-DUTY SERIES (Standard Sizes: Small / Medium / Large / X-Large)

The Cyclojet HD Series is another range of popular automatic Front-Loading Multistage Cleaner which is used for cleaning medium to large sized parts automatically.

It is an aqueous-based heavy duty multistage cleaner using hot water and biodegradable cleaning detergent to clean the wash parts effectively with automatic filter recycling.

The wash parts are placed onto a stationary stainless-steel heavy-duty wash platform directly and the high-pressure spray cleaning jets rotates around in all directions – instead of vice-versa.

The Cyclojet HD Series is modularly designed and comes in several standard sizes - but can also be customized to suit each customer requirements.

The machines have many "Adds-On" option to suit all cleaning requirements and needs. It is truly a workhorse in the MRO industries.





Note : For more detail technical specification, please refer to our Cyclojet Product Brochures or visit our website www.cyclosystem.com



### CYCLOJET CONVEYORIZED CLEANERS (Standard Sizes : Small/Medium/Large)

The **Cyclojet Conveyorized Cleaner** is a multistage spray jet cleaner that is designed to clean small common mechanical parts in a production line.

Cleaning is by a series of stages of integrated jet spray cleaning, rinsing and hot air-drying stages - in a continuous flow through process.

The machine is modularly designed and constructed with options to include ultrasonic immersion cleaning.

The Cyclojet Conveyorized Cleaner comes in 3 standard sizes – typically measured by the conveyor width and parts weight – but can also be customized.

### CYCLOJET ULTIMATE CLEANERS (Standard Sizes : Small/Medium/Large)

The **Cyclojet Ultimate Cleaner** is the latest development from Cyclosystem and aims to solve all the different component cleaning needs and challenges the industry faced – one-and for all.

It is a compact multistage cleaner which utilized all the cleaning technologies available – high pressure spray jets & immersion cleaning with controlled basket rotation - to achieve its cleaning efficiency.

Complicated parts such as mass machines parts with blind holes or special bearings with deep crevices, etc can be easily and thoroughly cleaned using the Cyclojet Ultimate Cleaners.

The machine is modularly designed and comes in 3 standard sizes with many "Adds-On" options to make it a truly "Ultimate" cleaner.



Note : For more detail technical specification, please refer to our Cyclojet Product Brochures or visit our website: www.cyclosystem.com

### CYCLOJET MULTIPURPOSE CLEANING BOOTH WET / DRY TYPE (Standard Sizes: Small / Medium / Large)

**The Cyclojet MultiPurpose Cleaning Booth** aims to cater to those cleaning requirements for relatively large parts - where automatic cleaning cannot be achieved and/ or too costly to implement.

The Cleaning Booth is modularly designed for easy transportation and set-up at site and encompasses all the necessary internal lighting and ventilation/ exhaust filters system – suitable for either Wet or Dry Cleaning.

Auxiliary support equipment such as high-pressure cleaners, air blast spray guns, parts turntable and/ or trolleys, etc are normally offered as option.

The Cyclojet Multipurpose Cleaning Booth comes in three standard sizes, but other non-standard sizes can also be customized to suit the customer requirements.



**DRY TYPE** 



WET TYPE

Note : For more detail technical specification, please refer to our Cyclojet Product Brochures or visit our website **www.cyclosystem.com** 

# **ULTRASONIC CLEANING EQUIPMENT**

**Cyclosystem** designs and manufactures a wide range of Standard and Customized Cyclosonic Cleaning Machines. These **Cyclosonic Cleaning machines** are typically used for precision and fine cleaning of wash parts whereby Spray Jet Cleaning Technologies are not suitable or practical.

The Cyclosonic Cleaning machines can be Standalone Transducerized Tank or a series of Transducerized Tanks, Immersion Rinse Tanks + Spray Tanks to complete the whole Cyclosonic Cleaning System.

The basic cleaning technology used for cleaning the parts are based on ultrasonic cleaning with different frequencies for different cleaning applications.

The Cyclosonic Cleaning System also includes Vapor Degreasing, and all the equipment can be designed for both manual and fully automatic operations.

The following are some of the basic category for **Cyclosonic Cleaning System**:

- CYCLOSONIC CLEANING TANKS
- CYCLOSONIC VAPOR DEGREASER
- CYCLOSONIC MODULON SERIES
- CYCLOSONIC CUSTOMIZED
  CLEANING SYSTEM



### CYCLOSONIC TANKS (Standard Sizes : Small/ Medium/ Large / X-Large)

The Cyclosonic Tank is a standard Standalone ultrasonic tank used for either cleaning and/ or rinsing of small mechanical parts placed inside a stainless-steel wash basket.

The immersible ultrasonic transducers are either placed at bottom and/ or side of the tanks in strategic position that provides the best cleaning effectiveness.

The recommended ultrasonic cleaning frequency is around 40kHZ but can be changed to meet the specific cleaning requirements and is controlled by a separate Ultrasonic Generator.

The tanks are thermally insulated and comes with standard cover, drain valves and options for heating & filter recycling and can be combined together to form a complete cleaning line.

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Note : For more detail technical specification, please refer to our Cyclosonic Product Brochures or visit our websit www.cyclosystem.com

# CYCLOSONIC

### CYCLOSONIC MODULON SERIES

As the name implies, the **Cyclosonic Modulon Series** is a standard Ultrasonic cleaning system which is modularly designed to cater for the general precision cleaning requirements.

The typical cleaning configuration include Ultrasonic Clean with Detergent > Freshwater Rinse > Hot Air Drying but can be expanded or modified to suit each cleaning requirements.

Transferring of wash basket from Tanks-to-Tanks can be manually, semiautomatic or fully automatic with Full Encapsulation as part of a safety measures.

The Machine comes in 3 standard sizes but can always be customized to suit each customer's requirements – including with many options.





### CYCLOSONIC VAPOR DEGREASER

The **Cyclosonic Vapor Degreaser** is a standard cleaning system which uses the latest vapour degreasing technology to clean and dry complicated parts which aqueous based cleaning cannot be used.

It can also involve ultrasonic immersion cleaning to further enhance the cleaning effectiveness and/or configured into a complete hybrid cleaning line with full encapsulation.

The equipment is modularly designed and comes in 3 standard sizes and handling of the wash parts can be either manual or automatic option.

Note : For more detail technical specification, please refer to our Cyclosonic Product Brochures or visit our websit www.cyclosystem.com

# CYCLOSONIC



### CYCLOSONIC CUSTOMIZED CLEANING SYSTEM

Cyclosystem with its wide and long experiences in designing customized equipment using different cleaning technologies is also able to customize **Cyclosonic Cleaning System** to suit customer's needs.

Most of these customized equipment are fully automated and used in different industries such as: Hard Disk Drives, Metal Stamping, Aerospace MRO, etc.



# CYCLO-DIP

### Standard Immersion Cleaning Tanks

The **Cyclo-Dip Cleaner** is a range of proprietary designed cleaning tank which uses immersion cleaning and mechanical agitation to achieves its cleaning objectives.

It is a Standalone Tank and comes in 3 standard sizes but can also be customized to suit the Clients' requirements – including integrating several tanks together to form an integrated cleaning line.

Options such as mechanical heating, filter pump circulation, lifter platforms, mechanical, pump or air agitations, autocovers, etc. can be included under options.



MAX LOAD 1500 KG

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# CYCLOBLAST

### Automatic / Manual Surface Blasting Machines

**CycloBlast Machine** comes in both Manual & Customized type. It is used for removing of surface rusts, paints & oxidation, etc. on the surfaces of a mechanical part.





### **Environmental-Friendly Cleaning Solvent / Biodegradable Detergent**

The **Cycloclean Cleaning Agent** is a range of environmental-friendly Cleaning Solvent and Biodegradable detergent which is specially blended by our OEM partners to suit Cyclosystem range of cleaning machines.

It is mostly aqueous based, and its main constituent meets all the local health safety regulations and environmental requirements.

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# **CYCLOHEAT**

### Vacuum and / or Drying Ovens

The CycloHeat High Efficiency Drying Oven is mainly used to help dry wash parts fully after the cleaning process.

It is usually based on hot air circulation principle but can also be designed based on Vacuum Drying Technology. The CycloHeat Stoving Oven comes in 3 standard sizes but can also be customized to suit each drying requirement.







# **FLUORESCENT PENETRANT INSPECTION (FPI) SYSTEM**

### MANUAL / AUTO FLUORESCENT PENETRANT INSPECTION (FPI) SYSTEM

The Fluorescent Penetrant Inspection (FPI) System is a Non-Destructive Test (NDT) System that is commonly used to inspect surfaces cracks on a moving/ rotating mechanical parts.

The whole NDT process combines different cleaning, drying, penetration application and development processes in a controlled environment before inspecting the processed part under UV Lights in a dark room condition. It is commonly used to inspect engines components or other critical parts – especially in the Aerospace Maintenance Repair Operation (MRO) industry.

Cyclosystem has been instrumental in helping advance FPI requirements through automation and cutting down the long process time - without compromising on the basic NDT requirements.

The company is one of the pioneers, if not the first company to design and supply a fully Automated FPI and Etching Line in this region successfully.

Cyclosystem has since developed and standardized the Auto-FPI Line into: One-Piece-Flow, Small-Batch-Flow and Large-Batch Flow among other which we classified as follows:

Large-Batch-Flow



# FLUORESCENT PENETRANT INSPECTION (FPI) SYSTEM

### **One-Piece-Flow Type**

### **Small-Batch-Flow**

Compact FPI System – for Small Parts







Manual FPI System - customized for Large Parts



**Robotic FPI System** 



### Supporting FPI Equipment





# CYCLOTREAT









### **Compact Waste Water Treatment Plant**

The **CycloTreat Waste-Water Treatment Plant** is a compact standalone system which utilizes the latest waste-water treatment technologies to treat industrial waste-water – either for recycling or to be discharged directly to the sewage.

It can be a standard design or can be customized to suit each waste-water treatment requirements.

## **OTHER CUSTOMIZED CLEANING SYSTEM**





### CYCLOJET ULTRA-HIGH PRESSURE ROBOTIC CLEANER

The **Cyclojet Ultra-High Pressure Robotic Cleaner** is the latest cutting edge-innovation by Cyclosystem. It utilizes a 6-Axis Robotic Arm with ultrahigh pressure oscillating spray jets to clean the washpart(s) effectively.

The Robotic Cleaner does not require any heating or use of detergent to clean the parts, hence, saving a lot of energy and operational costs. The machine is intended for cleaning Bogie/ Wheelset, Axle Box & other complicated wash parts.

### CYCLOJET ULTRA-HIGH PRESSURE ROBOTIC AXLE / WHEELSET CLEANER

The **Cyclojet Ultra-High Pressure Robotic Axle / Wheelset Cleaning Technology** is a cutting edge-innovation by Cyclosystem.

This latest innovative technology was implemented to our Automatic Wheelset/ Axle Cleaner Equipment – a compact, aqueous-based Single Stage machine specially designed and manufactured for the purpose of washing and cleaning the wheelsets and axles using Ultra-High Pressure Robotic Cleaning Technology.

With this technology:

- No heating is required
- No detergent is needed
- Expect High Cleaning Efficiency
- Expect Lower Cost for Waste Water Treatment
- Achieve maximum cleaning results with minimum energy and time required

The Ultra HP Robotic Cleaning Technology requires very low water usage, with little to no environmental risk, reduces downtime and provides better safety performance.



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