EQUILATERAL
SOLUTIONS

ENGINEERED FOR PURITY. BUILT FOR PERFORMANCE.

Precision Engineered.
Hygienic by Design.

HYGIENIC
PROCESS EQUIPMENT & TANK MANUFACTURING

- cGMP Compliant
- Hygienic Design
- Custom Engineered
- Reliable Performance



SERVING INDUSTRIES

PHARMACEUTICAL | FOOD | DAIRY | BEVERAGES

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FLOUV®

NON-THERMAL UV-C PASTEURIZER UNIT

PILOT SERIES



FloUV® Pilot Series systems deliver advanced non-thermal UV-C pasteurization for product development, process validation, and small-scale production. Utilizing patented FloUV® technology from FloUV, Inc., USA, these systems ensure exceptional microbial reduction while preserving product quality.

AVAILABLE CAPACITIES

- 1300 LPH
- 2000 LPH
- 2500 LPH

APPILCATIONS

- PHARMACEUTICAL INDUSTRY
- DAIRY INDUSTRY
- BEVERAGE INDUSTRY

KEY FEATURES

- Delivers highly uniform UV-C dose distribution while preserving vitamins, polyphenols, and fresh-pressed flavor.
- Fully validated >5-log pathogen inactivation against *E. coli*, *Salmonella*, and other key juice pathogens, meeting FDA Juice HACCP requirements.
- Designed in accordance with EHEDG and 3-A Sanitary Standards for hygienic processing.
- Integrated CIP functionality enables efficient cleaning with minimal production downtime.
- Real-time UV monitoring continuously verifies treatment performance and automatically controls the FDV.
- Optimized total cost of ownership through long-life UV lamps and hydrodynamic mixing that minimizes fouling and cleaning frequency.
- Up to 70% lower energy consumption compared to conventional thermal pasteurization systems.

PROVEN PERFORMANCE

A pilot-scale FloUV® reactor operating at 320 L/hr was used to validate process performance in fresh apple cider. Designed to replicate the hydrodynamic and UV-C exposure characteristics of the commercial platform, the system achieved >5-log reduction of *E. coli* under continuous non-thermal processing conditions. Commercial FloUV systems utilize identical reactor stacks in parallel, making pilot-scale results directly representative of full-scale operation.

>5-LOG REDUCTION



- HYGIENIC DESIGN
- RELIABLE PERFORMANCE
- EASY TO CLEAN & MAINTAIN
- CONSISTENT RESULTS

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FLOUV

LAB MODEL

FloUV Non Thermal UV-C Pasteurization Technology

Create safe, fresh-tasting apple cider, without heat.



FloUV® Apple Cider Pasteurization Technology is a continuous-flow, non-thermal UV-C process that enhances microbial safety while preserving the fresh flavor, aroma, color, and nutritional quality of apple cider.

Operating without heat, FloUV® helps producers maintain the fresh-pressed character of cider while achieving commercial-scale food safety objectives. The technology can be seamlessly integrated into existing processing lines and customized to meet specific production requirements.

At the core of the technology is FloUV's patented reactor architecture, engineered to deliver uniform UV-C dose distribution through advanced hydrodynamics and turbulent mixing. This enables effective pathogen inactivation in apple cider while minimizing the impact on quality-defining compounds.

APPLICATIONS

DAIRY
UHT alternatives, flavored milk, whey-based beverages & more

PHARMA
Purified water, WFI, syrups, & pharma formulations

BEVERAGES
Fruit juices, apple cider, functional drinks & RTD beverages

KEY BENEFITS

NON-THERMAL PROCESS
Preserves fresh flavor, aroma, color & nutrients

EFFECTIVE MICROBIAL REDUCTION
Achieves 2–3 log reduction

SEAMLESS INTEGRATION
Easy retrofit into existing lines

LOW MAINTENANCE
Robust design with minimal upkeep

SUSTAINABLE TECHNOLOGY
Energy-efficient, chemical-free solution

TECHNICAL SPECIFICATIONS (LAB MODEL)

MODEL	FLOW CAPACITY	TECHNOLOGY	MATERIAL	CONTROL SYSTEM	POWER SUPPLY
FLOUV 640 LPH	Up to 640 LPH	Non Thermal UV-C (FloUV® Reactor)	SS 304 / SS 316L (Product Contact)	PLC + HMI (Touch Screen)	230V AC, 50Hz Single Phase

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GMP COMPLIANT | EHEDG GUIDELINES | SS304 / SS316 CONSTRUCTION

CIP SYSTEM

CLEAN-IN-PLACE SOLUTIONS

HYGIENIC. EFFICIENT. RELIABLE.

Equilateral CIP Systems are engineered for effective, validated cleaning of pipelines, tanks, and process equipment without disassembly. Built with hygienic design principles, premium components and advanced automation, our systems ensure safety, hygiene, and operational efficiency for Pharmaceutical, Dairy, Food & Beverage industries.



PHARMACEUTICAL | DAIRY | FOOD | BEVERAGE

CAPACITY
100 LPH
(LITERS PER HOUR)

KEY FEATURES

- Hygienic design as per EHEDG guidelines
- SS304 / SS316 construction
- Capacities from 50 L to 300 L
- Top quality sanitary components
- Orbital welded piping
- Automatic sequence control
- CIP return temperature monitoring
- Conductivity based phase change
- Recipe based cleaning cycles
- PLC + HMI control system
- Skid mounted – Compact & easy installation
- CIP validation documentation support

SYSTEM OVERVIEW



- **AUTOMATED CONTROL PANEL** – PLC + HMI with recipe management
- **DOSING SYSTEM** – Accurate chemical dosing
- **HEATER TANK** – (CAUSTIC / ACID)
- **SANITARY VALVE MANIFOLD** – Fully automated
- **CIP PUMP** – High efficiency pump
- **INSTRUMENTATION** – Flow, Temp., Conductivity & Pressure
- **HYGIENIC PIPING NETWORK** – Orbital welded, crevice free

APPLICATIONS

- Storage Tanks
- Mixing Tanks
- Transfer Lines
- Process Piping
- Heat Exchangers
- Fillers & Pasteurizers
- Homogenizers
- Membrane Systems



ROTARY SPRAY BALL



SANITARY VALVE MANIFOLD

STANDARD SIZES

MODEL	CAPACITY (EACH TANK)	TANKS CONFIGURATION	SUITABLE PLANT CAPACITY
CIP-50	50 L	2 / 3 Tanks	Up to 500 L
CIP-100	100 L	2 / 3 Tanks	500 – 1000 L
CIP-200	200 L	2 / 3 Tanks	1000 – 2000 L
CIP-300	300 L	2 / 3 Tanks	2000 – 3000 L

SYSTEM BENEFITS

HIGH CLEANING EFFICIENCY | REDUCED DOWNTIME | LOW CHEMICAL & WATER USAGE | ENERGY EFFICIENT | SAFE & COMPLIANT OPERATION

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SS316 REACTOR TANK

HYGIENIC | DURABLE | GMP COMPLIANT

Equilateral Solutions' SS316 Reactor Tank is precision-engineered for pharmaceutical, food, dairy, and beverage industries. Designed with hygienic principles and built to GMP standards, it ensures safe, efficient, and contamination-free processing for critical applications.



- HYGIENIC DESIGN
- SS304 / SS316 CONSTRUCTION
- GMP COMPLIANT
- DURABLE & RELIABLE

KEY FEATURES

- **SS304 / SS316 Construction**
  High resistance to corrosion and ensures long service life.
- **Hygienic Design**
  Smooth finish, crevice-free, easy to clean and maintain.
- **GMP Compliant**
  Designed as per GMP guidelines for pharmaceutical and food-grade applications.
- **Precision Fabrication**
  Advanced welding and polishing for superior performance and durability.
- **Versatile Applications**
  Ideal for pharmaceutical, food, dairy, and beverage industries.

AVAILABLE SIZES

Capacity (Liters)	100	250	500	1000	2000	3000

APPLICATIONS



PHARMACEUTICAL INDUSTRY



FOOD INDUSTRY



DAIRY INDUSTRY



BEVERAGE INDUSTRY

COMPLIANCE & STANDARDS

- GMP Compliant
- Stainless Steel 304 / 316
- Hygienic Design for Easy Cleaning
- Quality Assured Manufacturing

HYGIENIC & EASY TO CLEAN | BUILT FOR SAFETY | PRECISION ENGINEERED | RELIABLE PERFORMANCE FOR EVERY INDUSTRY

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SS MIXING TANK

Engineered for Purity. Built for Performance.

Our SS Mixing Tanks are precision-engineered for pharma, dairy, food and beverage industries to ensure safe, hygienic and efficient mixing processes. Built with GMP compliance, these tanks deliver reliability, durability and superior product quality.



AVAILABLE CAPACITY
50 LTR. TO 500 LTR.

KEY FEATURES

GMP & Hygienic Design
Crevice-free construction with rounded edges for easy cleaning and minimum product hold-up.

High Quality Materials
Manufactured in SS304 / SS316 with matt finish or mirror finish options.

Efficient Mixing
Designed for uniform blending with top-mounted agitator system.

Inspection & Monitoring
Top manway for inspection and flush-mounted view glass for visual monitoring.

Safe Discharge
Bottom outlet with hygienic valve for complete drainage and easy maintenance.

Smart Integration
Optional automation with control panel for precise process control.

SPECIFICATIONS

- **Material of Construction**
  SS304 / SS316
- **Capacity Range**
  50 Liter to 500 Liter
- **Surface Finish**
  Matt Finish / Mirror Finish
- **Design Standard**
  GMP / cGMP Compliant
- **Mounting**
  Three / Four Legged
- **Applications**
  Pharma, Dairy, Food, Beverage & Allied Industries

GMP & HYGIENIC DESIGN HIGHLIGHTS

- ☑ All contact parts in SS304 / SS316
- ☑ Smooth internal surface finish (Ra ≤ 0.8 µm) for easy cleaning
- ☑ No dead legs, no product hold-up
- ☑ Easy to clean, inspect & maintain
- ☑ Compatible with CIP / SIP systems
- ☑ Compliant with ASME / DIN / ISO standards

INDUSTRIES WE SERVE

PHARMACEUTICAL | DAIRY | FOOD | BEVERAGES | AND MORE

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SS IBC (INTERMEDIATE BULK CONTAINER) BIN

Engineered for Safe Handling. Built for Performance.

Our SS IBC Bins are specifically designed for pharmaceutical, food, dairy and beverage industries to ensure safe storage, handling and transfer of powders, granules and liquids. Built with GMP compliance and hygienic design, these bins offer durability, easy cleaning and superior performance in critical environments.



AVAILABLE CAPACITY
50 LTR. TO 300 LTR.

KEY FEATURES

GMP & Hygienic Design
Crevice-free construction with sloped surfaces for complete drainage and easy cleaning.

High Quality Materials
Manufactured in SS304 / SS316 with matt or mirror finish as per requirement.

Efficient Discharge
Conical bottom with hygienic outlet valve for smooth and complete discharge.

Safe & Ergonomic Handling
Sturdy frame with integrated handles for safe lifting and movement.

Customizable Design
Available in various capacities with options for lids, valves, and accessories.

SPECIFICATIONS

- **Material of Construction**
  SS304 / SS316
- **Capacity Range**
  50 Liter to 300 Liter
- **Surface Finish**
  Matt Finish / Mirror Finish
- **Design Standard**
  GMP / cGMP Compliant
- **Mounting / Support**
  SS Frame with Handling Support
- **Applications**
  Pharma, Dairy, Food, Beverage & Allied Industries

GMP & HYGIENIC DESIGN HIGHLIGHTS

- ☑ All contact parts in SS304 / SS316
- ☑ Smooth internal surface finish (Ra ≤ 0.8 µm) for easy cleaning
- ☑ No dead legs, no product hold-up
- ☑ Easy to clean, inspect & maintain
- ☑ Compatible with CIP / SIP systems
- ☑ Compliant with ASME / DIN / ISO standards

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HYGIENIC | RELIABLE | CUSTOM BUILT

STAINLESS STEEL STORAGE TANKS

Engineered for Purity. Built for Performance.

Our Stainless Steel Tanks are designed and manufactured to the highest standards for the Pharmaceutical, Food, Dairy, and Beverage industries. With a focus on hygiene, durability, and customization, our tanks ensure safe and efficient storage of liquids and ingredients.



IDEAL FOR

PHARMACEUTICAL | FOOD | DAIRY | BEVERAGE

KEY FEATURES

- Manufactured in SS304 / SS316 / SS316L
- Capacities from 50 Liters to 10,000 Liters
- Hygienic Design – Crevice Free Construction
- Mirror / Matt Finish – Easy to Clean
- TIG Orbital Welding for High Purity & Strength
- Top Manway with Clamp / Bolted Lid
- Bottom Outlet with Hygienic Valve
- CIP Compatible
- Custom Designed as per Process & Layout

BUILT FOR HYGIENE & DURABILITY



Top Manway with Clamp / Bolted Lid



Hygienic Outlet with Sanitary Valve



TIG Orbital Welding Crevice Free



Sturdy Support Legs with SS Base Plate

AVAILABLE SIZES

Custom Capacity from 50L to 10,000L



50 L | 100 L | 250 L | 500 L | 1000 L | 2000 L | 3000 L | 5000 L | 10000 L

HIGH QUALITY SS304 / SS316 CONSTRUCTION

CUSTOM ENGINEERED AS PER REQUIREMENT

HYGIENIC DESIGN EASY TO CLEAN & MAINTAIN

RELIABLE PERFORMANCE FOR EVERY INDUSTRY

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CIP TANK

Reliable. Hygienic. Efficient.

Our CIP Tanks are designed to deliver consistent cleaning performance with optimum quality, safety and reliability. Built with high-grade stainless steel and precision craftsmanship, our tanks ensure effective solution preparation, storage and circulation for CIP systems.

- Hygienic Design
- Corrosion Resistant
- Durable & Reliable
- Easy to Maintain

CAPACITY RANGE
1000 LTR to 15000 LTR
Custom Designs Available

KEY FEATURES

- Manufactured in SS304 / SS316 / SS316L
- GMP & Hygienic Design
- Electropolished / Mirror Finish (Ra ≤ 0.8 µm)
- Top Manhole with Safety Handrail
- CIP Inlet, Outlet, Spray Ball, Bottom Drain
- Piping Connections as per Process Requirement
- Custom Capacity & Configuration

APPLICATIONS

- Pharmaceutical Industry
- Food Industry
- Beverage Industry
- Chemical Industry



Top Manhole with Safety Railing



CIP Spray Ball



Hygienic Piping (Tri-Clamp)



Bottom Drain with Valve



High Quality Finish & Welding

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VISUAL INSPECTION
CONVEYOR SYSTEM

Engineered for precision. Built for hygiene.
Our Visual Inspection Conveyor System ensures accurate manual or automated inspection of products in pharmaceutical and food industries. Designed with GMP compliance and customized to meet specific client requirements.



GMP HYGIENIC DESIGN
SS304 construction with smooth surface finish for easy cleaning and maintenance.

CUSTOMIZED SOLUTIONS
Tailored conveyor dimensions, speed, lighting, and controls as per client requirements.

EFFICIENT INSPECTION
Provides optimal visibility for manual or automated visual inspection of products.

AUTOMATED CONTROL SYSTEM
Integrated with user-friendly control panel for speed, operation & system monitoring.

INDUSTRIES WE SERVE
Pharmaceuticals | Food & Beverages
Nutraceuticals | Cosmetics & More

KEY FEATURES

- SS 304 Construction – Corrosion resistant & durable
- Hygienic Design – No product contact assembly, smooth welds
- Adjustable Guide Rails – Quick changeover for different product sizes
- High Intensity LED Lighting – For effective product visibility
- Variable Speed Drive – For consistent product flow
- Castor Wheels with Brakes – Easy mobility & stability
- User Friendly HMI/PLC Control Panel – For process control & monitoring
- Easy to Clean & Maintain – Tool-less disassembly options

CUSTOMIZABLE PARAMETERS

- Conveyor Length & Width
- Conveyor Speed
- Lighting System
- Control System
- Rejection System (Optional)
- Stand & Structure





CUSTOM BUILT. PRECISION DRIVEN.
Every system is engineered to match your process, space, and product inspection needs.

Hygienic Design | Reliable Performance | Tailored Solutions | GMP Compliant

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RIBBON BLENDER

HYGIENIC | EFFICIENT | UNIFORM

Equilateral Solutions Ribbon Blender is designed for uniform and gentle blending of dry and moist powders, granules, and other bulk solids. Engineered for efficiency and consistency, it ensures homogenous mixing with minimal product degradation.



AVAILABLE CAPACITY

Size Range:

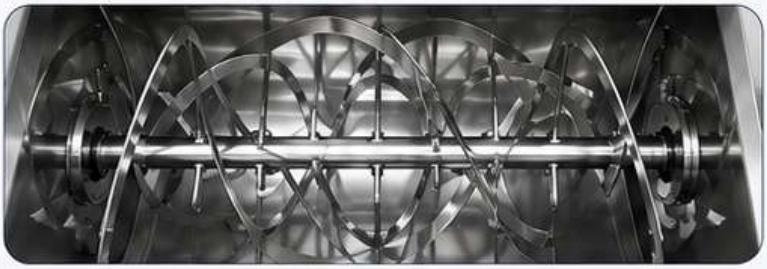
50 LITER to **500** LITER

Custom sizes available
as per application requirement.

APPLICATIONS

PHARMACEUTICAL
- Powder blending
- Granulation
- Dry syrup mixing

FOOD INDUSTRY
- Flour & spice blending
- Dry mix powders
- Nutraceuticals



KEY FEATURES

- Uniform and homogenous mixing
- Gentle blending action – ideal for fragile materials
- Stainless Steel 316 / 304 construction
- GMP & Hygienic design – easy to clean
- Quick discharge with full opening bottom valve
- Interlocking safety guards for operator safety
- Suitable for dry & semi-wet mixing applications
- Customizable design as per process requirement

GMP / HYGIENIC DESIGN | **ROBUST PERFORMANCE** | **EASY TO CLEAN & MAINTAIN** | **CONSISTENT RESULTS**

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ITC Limited
Ciron Drugs & Pharmaceuticals Pvt. Ltd.
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Givaudan
MJ Biopharm Pvt. Ltd.
NuLife
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Godrej
agrovet brighter farming

GLOBAL REACH

Delivering Hygienic Process Equipment Solutions Worldwide.

PROUDLY EXPORTING TO

USA
IRELAND
AUSTRALIA

Committed to quality, compliance and customer satisfaction across borders.

GLOBAL PRESENCE



Engineering Excellence. Delivering Worldwide.

From India to the world – we engineer, manufacture and supply high quality hygienic process equipment that meets international standards and exceeds customer expectations.

GMP COMPLIANT
EHEDG COMPLIANT
3-A SANITARY STANDARDS
ISO CERTIFIED

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