



BUILT TO WORK. MADE TO LAST.



## The Complete Buyer's Guide to Warewashing

5th Edition



## The Complete Buyer's Guide to Warewashing

### The Stero Commitment

Stero warewashing systems have been proudly manufactured at our U.S.-based facilities for over 70 years.

Every Stero product is built with the highest quality materials and easy to use controls which have established our reputation as a trusted warewashing authority in the foodservice industry. At Stero, we are committed to serving our customers with the best solutions in warewashing today—products that are *built to work, and made to last*.

Stero is focused on delivering outstanding value, dependable performance and providing maximum productivity. We stand behind the products we manufacture, and we are committed to the customers we serve.

*Note: In line with its policy to continually improve its products, Stero reserves the right to change materials and specifications without notice.*

The Complete Buyer's Guide to Warewashing is designed to help you select the Stero dishwasher best suited to your operation. It provides vital information on the science, process and regulatory requirements of foodservice warewashing. To learn more about how we can create a system most suitable for your warewashing needs, simply call 800-762-7600 or email us at [info@stero.com](mailto:info@stero.com) for a free analysis of your warewashing operation.

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## An Introduction to Warewashing

Foodservice warewashing is a method by which dishes, glasses, flatware, pots, pans and other ware types are cleaned by an automated process that employs **chemicals, time, motion** and **water** to achieve optimal results. A business's commercial warewasher is often its greatest equipment investment and paradoxically, often operated by employees with the least training. When selecting a warewasher, consider ease-of-use for the operator, intuitive controls, ergonomic features and easy access for cleaning and maintenance.

Even a properly operating machine can be defeated by bad **procedures**. Observe your operator's process regularly to evaluate pre-scrapping, proper dish racking, chemical-levels and end-of-shift machine cleaning. Simple care and maintenance will help to preserve your investment for years to come.



**Sterno**

## Detergent, Rinse Aid and Sanitizer

Available in liquid, powder and solid forms, commercial detergents contain surface active agents that reduce the bond between food soil and ware. They are specially formulated for both automatic warewashers and three compartment sinks. You will need to select a chemical that corresponds with your warewasher's high- or low-temperature sanitation requirement in order to achieve the best results.

Rinse aids help to remove water from glasses, flatware and dishes—serving as a drying agent. Rinse aid contains chemicals called surfactants, which lower the surface tension of water. This causes water to spread out on ware items into thin 'sheets' instead of forming droplets which can result in spotting.

Detergents, rinse aids and sanitizers are injected into the warewasher based on the chemical manufacturer's recommended concentration. Warewashers can be fitted with dosing systems, which automatically measure the proper amount for the system. If chemical dosing is set too high, poor wash quality can result in hazy glassware. Corrosion can also ensue, leading to part failures and even void the manufacturer's warranty, so it is important to be knowledgeable about recommended concentrations.

*SPECIAL NOTE: Always use commercial-grade chemicals in your warewasher. Do not use household dishwasher detergent or rinse aid in a commercial-grade warewasher, as these chemicals are not formulated for high-speed, commercial use.*

## Time

Time within the warewashing operation refers to the duration that soiled dishware is exposed to chemical cleaning solution. This is dictated by the FDA Food Code and NSF International, based on their test procedures. Adequate time allows for proper washing and sanitation.

## Motion

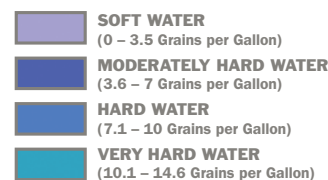
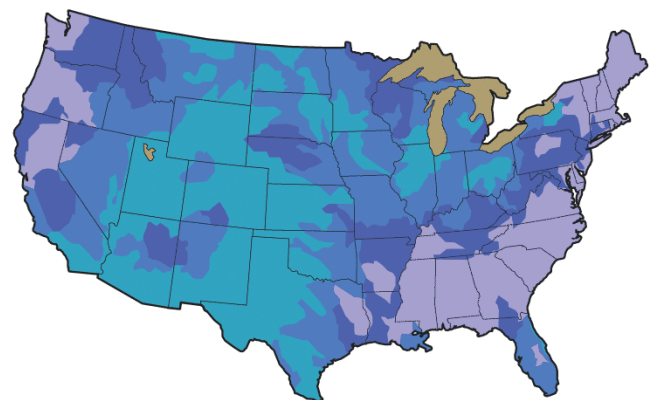
Motion refers to the washing system's mechanical action required to distribute water (combined with detergent) across the rack or conveyor and between ware items to loosen and remove food soils. Water is directed in a special wash pattern via spray nozzles within a spray assembly (either stationary or rotating arms or manifolds) that have been engineered and tested for maximum coverage and efficiency. The design of the spray nozzles can vary by size, number, shape and location.

## Water

Water delivers detergent to soiled dishware and requires sufficient force and engineering design to loosen and remove food soils. Water quality can also influence: wash results, frequency of preventative maintenance tasks like deliming to remove scale, and overall life expectancy. Understanding your facility's water quality (i.e., mineral content, pH level) will help to determine if a water conditioner would be beneficial. The Water Quality Association of the United States defines hard water as having dissolved mineral hardness of 7 grains per gallon (GPG) or more. Hard water is water that contains appreciable quantity of dissolved minerals such as calcium and magnesium. Stero recommends 3.5 GPG or less for optimal warewashing results and operation.

Type of Water	Grain per Gallon (GPG)	Parts per Million (PPM)
Soft Water	0-3.5	0-60 ppm CaCO <sub>3</sub>
Moderately Hard Water	3.6-7.0	61-120 ppm CaCO <sub>3</sub>
Hard Water	7.1-10	121-180 ppm CaCO <sub>3</sub>
Very Hard Water	10.1-14.6	181-250 ppm CaCO <sub>3</sub>
Extremely Hard Water	>14.6	>250 ppm CaCO <sub>3</sub>

## Water Hardness Areas in the United States



*Adapted from Concentration of Hardness as Calcium Carbonate in Milligrams per Liter. Digital image. USGS.gov. N.p., 21 Aug. 2013. Web. 25 Feb. 2016.*

Wash and rinse water temperatures can significantly influence wash cycle/rinse cycle effectiveness. The following parameters have been set by NSF to ensure proper sanitation:



High-Temperature/Hot Water Sanitizing Machine
150 to 160°F minimum <b>wash</b> water temperature
180°F minimum <b>rinse</b> water temperature

Low-Temperature/Chemical Sanitizing Machine
120 to 140°F <b>wash</b> water temperature
120 to 140°F <b>rinse</b> water temperature

Total cost of ownership is less with a hot water sanitizing warewasher.

## Two Ways to Sanitize with a Commercial Warewasher



	 High-Temperature or Hot Water Sanitizing	 Low-Temperature or Chemical Sanitizing
<b>Operating Parameters</b>	150 to 160°F minimum <b>wash</b> water temperature.	120 to 140°F <b>wash</b> water temperature.
	180°F minimum <b>rinse</b> water temperature.	120 to 140°F <b>rinse</b> water temperature.
	Booster heater and ventilation hood required.*	No booster heater or vent hood required.*
	Wash water is recirculated and heated; rinse water is always fresh—heated within booster heater.	“Fill-and-dump” or recirculating design; building water supply used for rinse.
	Chemical sanitizer not necessary. (A reading of 160°F at the dish level is an indication of satisfactory sanitation.)	Chlorine-based chemical sanitizer required. Flatware, aluminum, piping and equipment more prone to corrosion.
	Deliming schedule depends upon water quality.	Deliming schedule depends upon water quality.
<b>Performance</b>	Pre-scraping is recommended. At 150-160°F heat cuts heavy protein soils, grease, and lipstick.	Pre-rinsing/scraping required, otherwise rewash may be required. Unit does not clean heavy protein soils or breakdown grease as well.
	180°F-hot water sanitizes ware.	Chemical additive needed to sanitize ware.
	Heat from chamber is transferred to ware; water evaporates from ware surface upon removal from unit, ready for use.	Drying is more challenging.
	Requires ventilation to capture water vapor.	Doesn't produce as much water vapor, but requires proper room ventilation due to chlorine sanitizer use.
<b>Cost</b>	Typically low water consumption; added utility costs for heating final rinse water.	Higher water consumption; higher chemical costs due to additives required for sanitation.
	Higher upfront cost.	Higher long-term cost due to water and chemical sanitizer use.
	Purchase outright, finance or lease.	Purchase outright, finance or lease. Leasing option typically bundled with chemical contract.

\*Check with your local municipal code.



## Anatomy of a Warewasher

A commercial dishwasher contains eight key components:

1. **Tank** containing a detergent solution
2. **Hood** to contain wash and rinse action
3. **Pumping and piping system** that sprays the detergent solution over the ware
4. **Rinse system** that receives and sprays the final rinse over the ware
5. **Electrical system** to regulate wash and rinse action
6. **Heating system** to maintain wash solution temperature
7. **Method for guiding** the ware through the system
8. **Booster Heater** provides 180° final rinse water

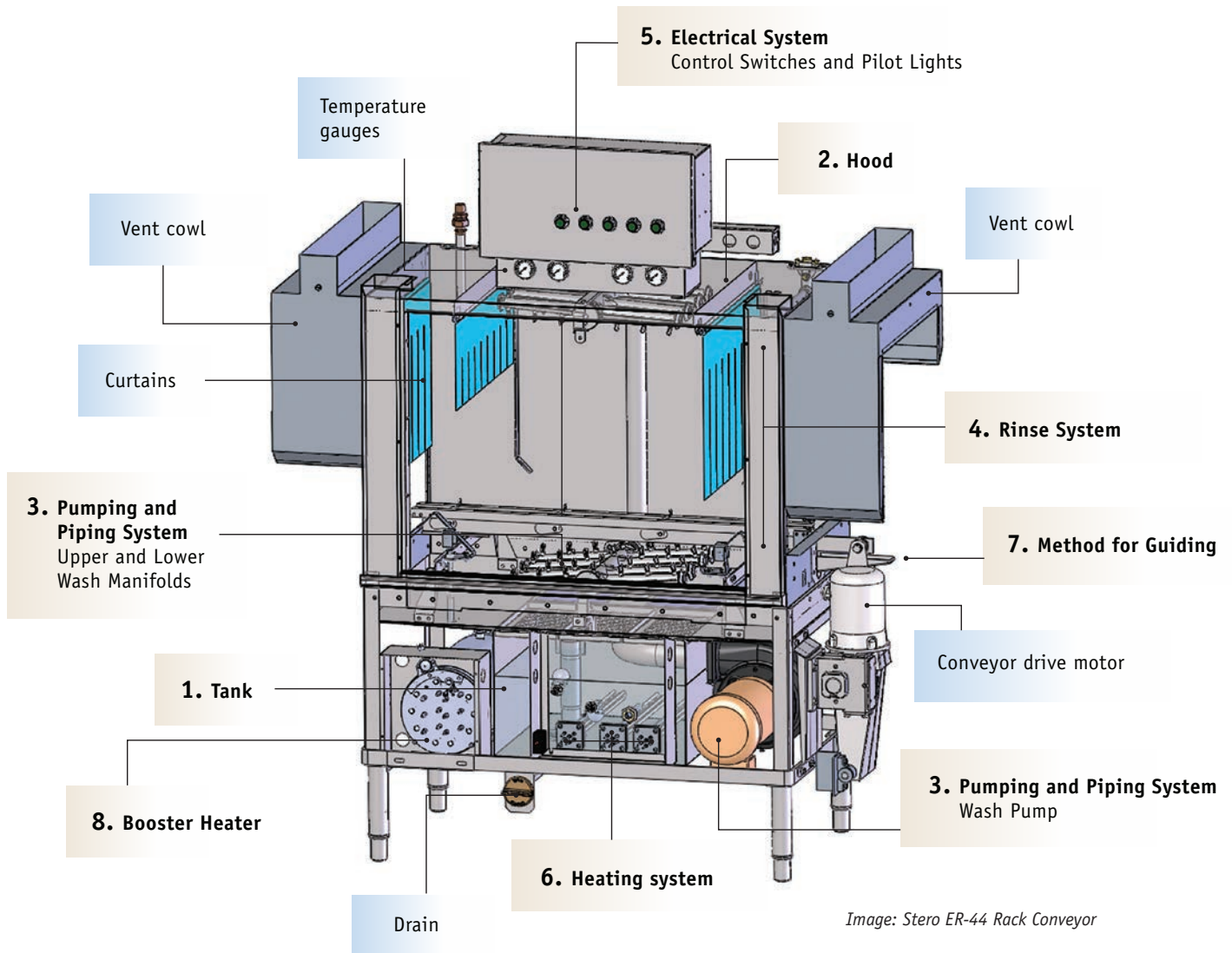


Image: Stero ER-44 Rack Conveyor

## Warewashing Types



### Glasswashers

A commercial glasswasher can clean and sanitize bar and beer glassware in a small, compact footprint. Automated glasswashers replace hand washing typically done in three-compartment sinks, improving efficiencies behind the bar or within restaurant pantries. Commercial glasswashers are ideal for bars and bistros challenged with limited space.



### Undercounter Warewashers

Undercounter warewashers provide speed and cleaning performance when space constraints are present. The compact design (similar in dimensions to a home dishwasher) fits neatly under a countertop and is perfect for small cafés, limited service restaurants, assisted living facilities and many other establishments that are serving up to 50 meals per hour. This type of machine can accommodate a variety of ware types, including glassware, flatware, dishes and some prep ware items. Available in both hot water or chemical sanitizing models, undercounter warewashers can support efforts for utility cost containment.



### Door-Type Warewashers

Designed for small to medium size operations serving 50-100 people per meal, door-type warewashers can wash up to 350 racks per day. They are equipped with revolving spray arms above and below the dishes for optimal rack coverage. These washers have automatically timed wash, dwell and rinse cycles that can be equipped with an integrated booster providing a hot sanitizing rinse. Doors slide up with the push of a handle for chamber loading in a pass-through or corner application, simplifying workflow.



### Rack Conveyors

Medium to large-scale operations can benefit from the flow and speed provided by a rack conveyor washer, which moves racked dishes through the wash system by a center pawl bar design. These units come in one-tank models for medium-sized operations (serving 150 people per meal), and multi-tank models for high-volume operations where space often restricts the use of a flight type conveyor machine. Scrapping sections can be added to reduce labor cost and provide optimal cleaning results. The dish rack is conveyed through a spray pattern directed from upper and lower center fed stationary spray arms, at a prescribed gallons-per-minute (GPM) flow rate. After the rack has passed through the zones, it moves on to activate the fresh-water final rinse. Stero's rack conveyors can be designed in straight, 90° or even 180° configurations utilizing space for high volume operations.



### Flight-Type (Rackless Conveyor)

Large capacity rackless conveyors—also called belt conveyors or flight-type warewashers—are manufactured for high-volume operations catering to more than 1000 people per meal, washing up to 20,000 dishes per hour. The belt conveyors have adjustable speeds and are ideally suited for cafeteria-type operations with heavy tray traffic.



### Pot, Pan and Utensil Washers

Endearingly coined as the 'kitchen workhorse,' pot, pan and utensil washers are specially engineered for the messy, over-sized ware generated in the back-of-the-house. Special features can offer increased clearance and powerful wash patterns via revolving wash arms. Stainless steel jets create turbulence to penetrate baked-on food and grease, softening and removing food residue. A combination of high pressure and hot water effectively sanitizes all types of ware, including common items like sheet pans and mixing bowls.



## Warewashing Basics

The following variables should be considered when selecting the right equipment for your dishwashing area:

### Machine Ratings

A dishwasher's rating is based on the *number of full dish racks* it can wash per hour, or in the case of a rackless conveyor, *the number of dishes* which can be washed per hour. The machine's rating is essential in determining the type and size of dishwasher that will be appropriate for your operation.

A common 20" x 20" dish rack can effectively hold 18 dinner plates or 25 to 36 standard glasses. However, capacity will vary based on the size of the items being washed. Specially configured racks are available to accommodate bowls, flatware and other ware types.

### Pumps and Motors

A commercial dishwasher's pump and motor may be thought of as the machine's heart and muscle. The pump is measured by its capacity in gallons per minute (GPM). The motor is rated by its horsepower (hp). Together, the pump and motor work to provide adequate water volume and pressure to ensure proper cleaning results and regulatory compliance.

### Heating Equipment

Automatic warewashers contain water heaters that maintain the proper water temperature in the unit's tank. These heaters use either electricity or steam. As a general rule, heaters maintain a wash tank temperature of 150° or 160°F (based on the model type) to ensure sanitation. Hot water sanitizing dishwashers use a booster heater to raise the incoming hot water supply to at least 180°F for the final sanitizing rinse cycle.

### Rinsing

NSF International requires an established amount of heat content to ensure sanitation. The water pressure for this cycle must be between 15 and 25 PSI (Pounds per Square Inch) for fresh water rinse machines. Most final rinse systems are controlled with an electric valve known as the solenoid. Water pressure is measured by a pressure gauge and regulated by a pressure reducing valve. Pumped rinse machines like the Stero Undercounter do not require a pressure gauge.

## General Guide to Warewasher Selection

Meals (per hour)	Style of Dishwasher
Up to 50	Glasswasher
Up to 50	Undercounter
50 to 250	Single-tank, door-style
250 to 400	Single-tank conveyor/ Single-tank conveyor with pre-wash option
400 to 750	Multi-tank, conveyor with pre-wash option
750+	Flight-Type conveyor

## Sanitation

Proper sanitation requires thorough removal of all food particles and other residue to prevent bacterial growth. Stero commercial warewashers meet the challenge every step of the way. All of our products carry the NSF International mark and have been tested and certified to NSF/ANSI (American National Standards Institute) Standard 3 for commercial warewashing equipment.

NSF International issues strict criteria to ensure that warewashing equipment complies with FDA Food Code regulations. To carry the NSF mark, Stero equipment must undergo a rigorous, third-party certification process which tests the following attributes:

- Performance
- Design
- Materials
- Soil Removal
- Sanitation Efficacy
- Accuracy of Thermometers
- Thermostats
- Pressure Gauges



Learn more at:  
[www.nsf.org](http://www.nsf.org)



# Warewashing Guidelines and Recommendations

## Key Considerations to Ensure Optimum Efficiency

Like any other piece of equipment, an automated warewasher will function best when installed, operated and maintained properly. Below are some of the key considerations to ensure your commercial warewasher maintains optimum efficiency—from installation to operation.

### Create an Integrated System for Optimal Productivity and Workflow

Establish the flow of the room by identifying the path of soiled ware once it enters the scullery, and identify the exit points for the clean ware. Select the appropriate piece of equipment that possesses the mechanical productivity to match the anticipated volume of ware.

Position the equipment in the room at the strategic location that conforms to the proper flow of ware—from soiled to clean. Create dedicated clean and soiled areas to match the flow and minimize the potential for cross-contamination.

Utilize peripheral equipment to increase productivity and save labor expense. These include:

- A **pre-rinse sink** to provide initial scraping and rinsing placed close to the machine to reduce labor. Preferably, a pre-rinse sink would be installed with a garbage disposal where local code permits.
- A **quick drain** to prevent food and soil from flowing into the wash tank from the soiled table, thus reducing detergent usage.
- **Clean dish tabling** (Three rack minimum is recommended if space allows on either side of the dishmachine.) Sufficient dish tabling will allow employees adequate space for loading and unloading ware items, as well as room for air drying.

### Confirm Available Utilities

Once you've selected the machine that best suits your operation, it is crucial that it be properly installed. One of the most important aspects of this is the plumbing.

Considerations include ensuring adequate supply lines to support the dishwasher's influent and effluent requirements and the installation of devices to improve operation and efficiency.

For example, a hot water pressure regulating valve should be installed to prevent *rinse atomization*—literally turning the rinse water into a fog. A shock arrestor should also be installed in the final rinse line. Shock arrestors provide a cushion against the shock that occurs when the solenoid valve closes. Without it, an audible hammering noise will be heard throughout the kitchen and perhaps the dining room when the solenoid closes on each cycle.

### Dimensions of a Dishroom

Meals (per hour)	Dishroom Area Square Footage
200	100
400	200-300
800	400-500
1200	600-700
1600	800-900

While square footage is an important consideration in laying out the warewashing area, it is not the only factor. It is equally important to design the warewashing area to support sanitation, safety and an efficient workflow.

## Detergent Usage

Detergents are an essential part of the chemical action that removes food particles from the dishware. Dispensing and rinse injection equipment is typically provided by the vendor selected to supply the detergent.

It is very important to carefully monitor detergent usage to ensure proper cleaning and cost control. Detergents can be a major expense, and common issues like correct water temperature and food debris left on dishes have an impact on detergent consumption.

Detergent formulas are determined by an analysis of water supply and vary depending on the operation's location. If the water supply is determined to be 'hard' (high in dissolved minerals, especially calcium and magnesium) this can lead to 'liming' in the water. The detergent supplier can provide deliming agents to alleviate this problem.

## Foaming

Some food products such as pasta, rice, eggs and other dairy items contain proteins that can cause foaming problems in dishwashers. The detergent supplier can provide formulas designed to eliminate foaming. Thorough pre-scrapping of soiled dishware also helps to eliminate this problem.

## Venting

Venting of the dishwasher removes excess water vapor from the machine. This aids in the drying process and prevents accumulation of moisture on walls and ceilings. Door-type machines require a draft hood which resides above the unit to capture the vapor. Large machines often employ vent cowls with duct openings. Duct risers fit into the openings and pull the moisture from each end of the warewasher.

## Maintaining Your Commercial Dishwasher

Each Stero warewasher comes with instructions for maintenance. This includes Stero's recommendation for a daily cleaning which will extend the life of the product, improve sanitation and increase efficiency.

Stero's stainless steel construction requires the use of appropriate cleaning tools and solutions to prevent pitting and rusting. Cleaners containing chlorides and highly abrasive tools, such as wire brushes, should not be used to clean stainless steel components.



## Questions to Consider When Buying a Warewasher

- Will the warewasher need venting? If so, what type of venting—draft hood, or pant leg ducts?
- Where will clean and soiled tables be placed? What length will the available space allow?
- Will there be a shelf for chemicals?
- Is primary water heat adequate? Will it be able to meet the required demand? What is the temperature range?
- Will rack shelves be needed for glasses and cups?
- Are disposal needs adequately addressed?
- Is a plate shelf required for the landing area?
- Have shop drawings been carefully checked for adequate breaker sizes, voltage, feed direction and dimensions, and construction of warewash areas?

## Did you know?

**Proper maintenance can help to extend the life of your Stero warewasher.**

1. A warewasher must be thoroughly cleaned at the end of each working shift, or at least daily. This includes the machine interior, emptying and rinsing the scrap basket, removing and rinsing wash and rinse arms, and clearing nozzles of any obstructions.
2. Never bang wash arms or rinse arms against hard surfaces to clean. This can damage parts, compromising performance.
3. After replacing all removed parts, leave the machine door open to allow the machine interior to air out and dry overnight.
4. Deliming is necessary if scale is visible inside or outside of the machine. Follow your chemical provider's instructions for frequency and dosing.
5. Never use steel wool to clean warewasher surfaces; only use products formulated to be safe on stainless steel.
6. Proper water quality can improve warewashing performance by reducing spotting, lowering chemical supply costs, improving productivity and extending equipment life.

## What is the best dishwasher for your application?

Use the **product finder** to identify the ideal washing system.



	Glasswasher Low-Temp	Undercounters Low-Temp	Undercounters High-Temp	Door-Type Low-Temp	Door-Type High-Temp Recirculating	Rack Conveyors Single Tank	Rack Conveyors Multiple Tank	Rack Conveyors Modular	Flight-Type Dishwasher	Flight-Type Utensil Washer	Pot, Pan & Utensil Washer
<b>Type of Foodservice</b>											
<b>Bars and Taverns</b>	•	•	•	•	•						
<b>Limited-Service Restaurant</b>											
Quick Service	•	•	•	•							
Fast Casual	•	•	•	•							
<b>Full-Service Restaurant</b>											
Casual Dining			•	•	•						
Midscale				•	•	•	•	•			•
Fine Dining	•				•	•	•	•			•
<b>Retail Hosts</b>											
Supermarket Prepared Foods					•						•
Convenience Stores		•	•	•	•						
<b>Hospitality/Lodging</b>	•	•	•			•	•	•	•	•	•
<b>Business &amp; Industry</b>		•	•	•	•	•	•	•	•	•	
<b>Education</b>											
K-12 Schools		•	•	•	•	•					•
Colleges/Universities						•	•	•	•	•	•
<b>Healthcare</b>											
Hospitals						•	•	•	•	•	•
Assisted Living/Skilled Nursing		•	•	•	•	•			•	•	•
<b>Government/Correctional</b>							•	•	•	•	•
<b>Contract/Catering</b>		•	•	•	•						•
<b>Volume (Meals per hour)</b>											
Up to 50		•	•								
50 to 250		•	•	•	•						
250 to 400				•	•	•					
400 to 750						•	•	•			•
750 to 1500							•	•	•	•	•
1500 plus									•	•	•
<b>Dishroom Area/Space Available</b>											
25" x 25"	•	•	•								
44" x 30"				•	•	•					
64" x 30"						•	•	•			•
9 1/2' x 26'							•	•	•	•	•
<b>Sanitizing/Energy Features</b>											
High-Temp Rinse with Booster Heater			•		•	•	•	•	•	•	•
Low Energy/Water Consumption	•	•	•	•	•	•	•		•		
Low-Temp Chemical Sanitizing Rinse	•	•		•							



## Before you buy...

### **Determine the volume, types of ware and utensils you'll be washing.**

The cardinal rule of warewashing is to ask the questions, "What are you washing? How can this ware be cleaned quickly and at the least cost?"

### **What type of service do you provide?**

How do your guests fit into the process, if at all? For example, in some foodservice settings, guests clear their own tables. In this environment a conveyor system could be installed to send ware directly from the dining area to the warewashing area.

### **Do you have any connection requirements and/or energy preferences?**

Remember to check power and plumbing sources, and their locations.

### **Consider federal and local regulations.**

Consider water quality, local building codes and health ordinances. Placement may depend on accessibility to an exhaust canopy. Regulations tend to vary in different locations—consult your local public health department.

### **Consider your building layout.**

What is the maximum size of equipment that can be brought into your operation?

### **How do you plan to handle and store your dishes?**

How will dishes be handled and placed both before and after washing? Are there logical places to put the clean dishes? The dishroom must be laid out for maximum efficiency.

### **Consider safety and automated features.**

Many warewashers have features such as automatic shut-off, power scrapping, or limit switches.

### **What options or accessories are available?**

Consider the following:

1. Insulated, cabinet-style doors
2. Equipment stands for improving ergonomics
3. Drain water tempering kit
4. Electric booster heater
5. Heated blower dryer
6. Right to left, or left to right operation
7. Seismic feet
8. Mounted circuit breakers
9. Vent cowl

Our representatives can help. Visit our website at [www.stero.com](http://www.stero.com) for information on your local Stero sales representative.





## Warewashing Solutions

**PRODUCT CATALOG**

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**Identify Your Ideal Warewashing System**

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**BUILT TO WORK. MADE TO LAST.**



## Explore Stero's Full Line of Warewashing Products

### **Stero Glasswashers**

Stero Glasswashers are under-bar machines that utilize low temperature, chemical sanitizing. Stero Glasswashers should be dedicated to cleaning bar and beer glassware.

### **Stero Undercounters**

Stero Undercounters conveniently fit under sink tabling or standard 32.5" countertops. An optional 6" base or 17" stainless steel stand is available for operator ergonomics. The 17" door opening makes this machine versatile and accommodating to a variety of ware types.

### **Stero Door-Type Warewashers**

Stero Door-Type warewashers are compact, efficient, batch-style warewashers that offer maximum power while providing operating cost savings. These washers fit seamlessly into corner or straight through configurations and are available in hot water or chemical sanitizing models.

### **Stero Rack Conveyor Washers**

Stero offers a selection of efficient, durable, easy-to-operate rack conveyor washers. They are available in single- or multi-tank models to answer the needs of varying clean-up areas and volume requirements.

- **Stero Single-Tank Conveyors** operate with a high or low-temperature power wash in a compact, versatile system.
- **Stero Multi-Tank Conveyors** scrap, wash and rinse in a powerful, easy-to-operate configuration designed for increased productivity.
- **Stero Modular Conveyors** provide flexible, modular design solutions to challenging dishroom layouts, where space constraints are present.

### **Stero Flight-Type (rackless conveyor) Washers**

Stero high-volume machines are specified for cafeteria type facilities with heavy traffic. This continual, fully-automatic flight washer offers operating features such as heated rinse water control, variable belt speed, safety stop and mounted blower dryer.

### **Stero Pot, Pan and Utensil Washer**

For the toughest washing challenge, Stero's Pot, Pan and Utensil Washers perform reliably, economically and efficiently. Our heavy-duty, single-tank pot, pan and utensil washer is fully automatic and includes adjustable wash and rinse cycles in a pass-through design.

The logo for Stero, featuring the word "Stero" in a white, stylized font inside a blue, trapezoidal shape with a white outline.

Make a great first impression.

### **Stero Glasswashers**

First impressions go a long way with crystal-clear glassware. The Stero Glasswasher is a proven work horse, producing sparkling clean glasses in a short cycle time. Patrons enjoy the special drink they ordered in its purest form, and nothing else.

The SGW is compact and easy to install. The door projects less than 12 inches into the bar area and functions as a working and staging area. Easily accessible, the SGW has a one touch control and a separate cycle hold switch for hard to clean ware. The SGW comes complete with an internal three pump chemical dispensing unit.

The SGW is available in a two-door pass through model. This option allows the operator to load, unload and operate from both sides of the bar.

Gain a competitive edge with a Stero Glasswasher—the clear choice for glassware.



# Stero SGW Glasswashers

## SGW-HM and SGW-HM-2D



At only 40 inches, the Stero SGW Glasswashers are designed to fit under any standard bar and are easy to install. A 115-volt electrical connection, 3/8-inch water supply and 2 1/4" drain are all that is required. Washing 37 standard racks per hour, the entire wash and rinse cycle is completed in 90 seconds.

### STANDARD FEATURES

- 37 racks per hour.
- Door Safety Switch: Automatic shut-off if door is opened during the Wash/Rinse cycle. Door must be closed for machine to operate.
- Chemical Dispenser: Built-in. Three peristaltic pumps—controlled individually—dispense detergent, sanitizer and a drying agent.
- Scrap Accumulator: Drain holding tank has a removable scrap screen to prevent food soil from plugging drain.
- Enclosure Panels: Front and sides.
- Upper Wash and Rinse Stainless Steel Spray Jets: Wash and rinse from above the ware in conjunction with rotating lower wash arm.
- Temperature Gauge: Visible from the front.
- Frame and Adjustable Feet: Stainless steel.
- Maintenance Heater: 2kW, with enough capacity to ensure hot water is always available for your machine. This is especially convenient if your hot water heater is distant from the unit.

### 2 MODELS TO CHOOSE FROM

- SGW-HM: Single Door with maintenance heater.
- SGW-HM-2D: Two Door with maintenance heater.



Model	Racks Per Hour	Water Usage per Rack	Cycle Time - Seconds	Tank Heat	Peak Drain Flow - Gallons per Minute	Incoming Water Temperature Required (Minimum)	Voltz/ Hertz/ Phase	Rated AMPS/ Breaker Size	Domestic Shipping Weight
SGW	37	1.75	90	2 kW	4.0	120°F	115/60/1	17.4/30	315 lbs.



**Stero**

## Big benefits in a small footprint.

### Stero Undercounters

Stero Undercounters pack powerful cleaning technology into a small, functional footprint. With one-touch digital controls and temperature display, these units are simple, easy-to-use and ideal when space is at a premium.

Stero Undercounters have earned ENERGY STAR® qualification, making them more energy and water efficient than standard models. The compact, flexible design fits neatly under a countertop and serves as the perfect washer for limited service restaurants, assisted living facilities, hospitality, convenience store foodservice and much more.

With a 17" door opening, the Stero Undercounter can accommodate a variety of ware types including a 30-quart mixing bowl. High- (SU-H) or low-temp (SU-L) chemical sanitizing units are available.

When you need to do more with less, Stero Undercounters deliver:

- Compact, flexible design for space-constrained areas
- ENERGY STAR® rating for utility cost savings
- Powerful cleaning action with interchangeable revolving spray arms
- Optional 6" or 17" stainless steel stands for a more user-friendly, ergonomic height.

Increase efficiencies in your clean-up process today with a Stero Undercounter warewasher.

# Stero SU Undercounters

## SU-H and SU-L



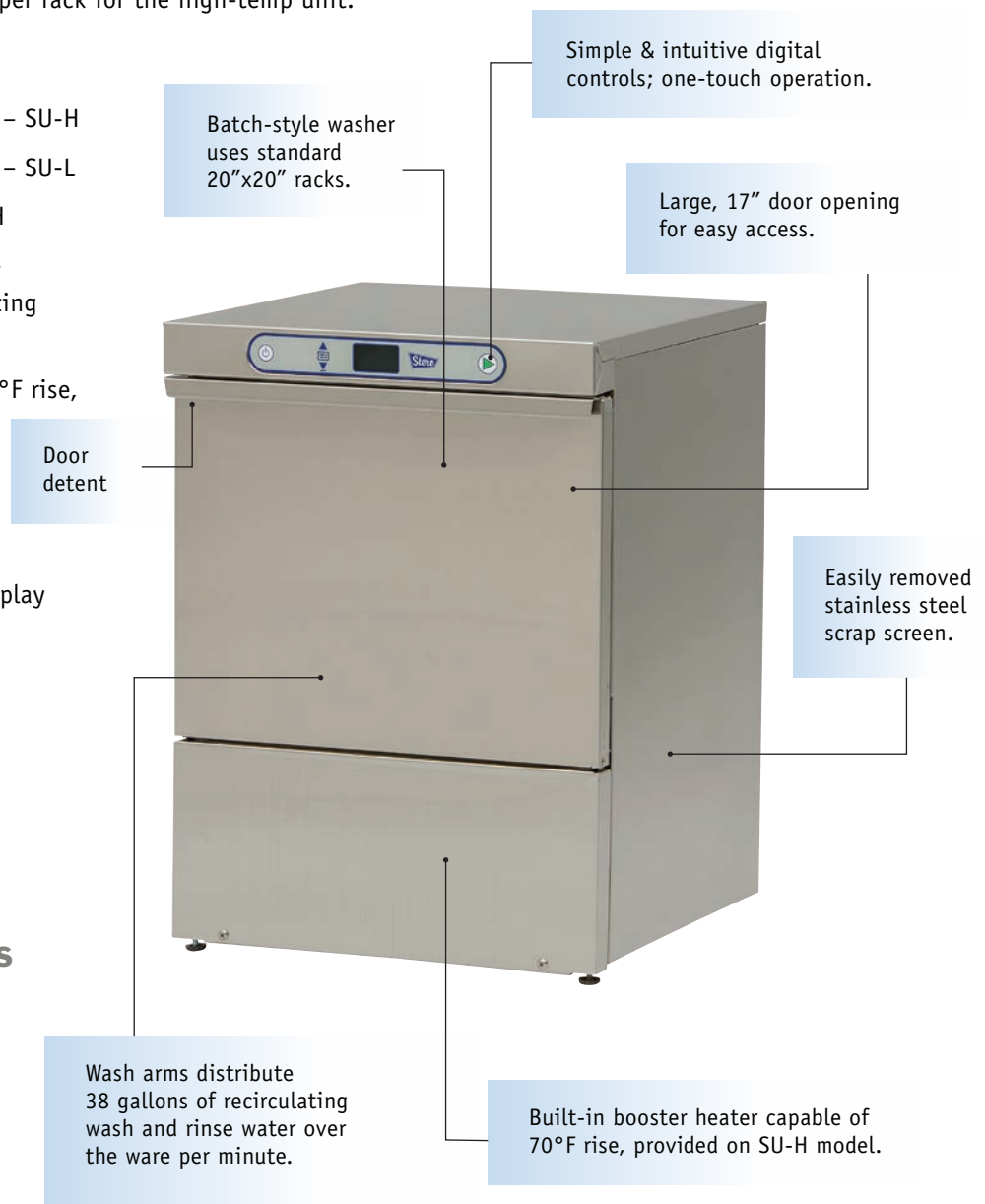
Stero Undercounters are simple and durable in their design, creating foolproof operation for team members with cross-functional roles. At 31 standard racks per hour, the entire wash and rinse cycle is complete in just over 90 seconds, and only uses .78 gallons of water per rack for the high-temp unit.

### STANDARD FEATURES

- .78 gallons of water per rack – SU-H
- .89 gallons of water per rack – SU-L
- 31 racks per hour rate – SU-H
- 33 racks per hour rate – SU-L
- Hot water or chemical sanitizing
- Low chemical alert indicators
- Booster heater capable of 70°F rise, provided on SU-H model
- 180°F final rinse assurance
- Self-priming chemical pumps
- Error notification
- Digital cycle/temperature display
- Interchangeable upper and lower wash and rinse arms
- Pumped drain
- Pumped rinse
- 17" door opening
- Automatic tank fill
- Chemical pumps standard

### OPTIONS & ACCESSORIES

- Power cord kits
- Drain water tempering kit
- 6" and 17" stainless steel stands



Model	Racks Per Hour	Water Usage per Rack	Cycle Time - Seconds	Tank Heat	Electric Booster Heater	Peak Drain Flow – Gallons per Minute	Incoming Water Temperature Required (Minimum)	Voltz/Hertz/Phase	Rated AMPS/Breaker Size	Domestic Shipping Weight
SU-H	31	.78	116	1.8 kW	4.9 kW	4.0	110°F	120/208-240(3W)/60/1*	30.5/40	170 lbs.
SU-L	33	.89	109	1.8 kW	N/A	4.0	120°F	120/60/1	15.4/20	170 lbs.

\*This system requires three power wires which includes a current carrying neutral; an additional fourth wire must be provided for a machine ground.



## Simple, durable and dependable design.

### Stero Door-Type Warewashers

Durability and simplicity are at the heart of Stero door-type dishmachine engineering. From installation to day-to-day operation and preventative maintenance, our stationary, single-tank units are reliable and easy for your operators to use.

Available in both high- and low-temperature models, Stero offers flexibility for varying infrastructure needs. The **SD1** is a basic dishmachine with a fast cycle that doesn't require a ventilation hood in most municipalities. With standard electrical voltage specification of 120/60/1, the unit is easily installed, so your dishroom is up and running in no time. The SD1 is a low-temp, chemical sanitizing machine suitable for a variety of applications in which lighter soils are dominant.

The Stero **SD3** has earned ENERGY STAR® qualification, making it more energy and water efficient than standard models. This machine can be specified as a high-temperature or chemical sanitizing washer. Its user-friendly design simplifies the clean-up process with one-touch operation, simple controls for cycle selection and temperature monitoring, easy-to-access and remove scrap baskets, and smooth interiors for cleaning ease.

Stero's simple, durable and affordable line of commercial warewashers will provide the results you expect for years of dependability.

When you choose a Stero door-type dishmachine, you're making an investment in quality:

- All-stainless steel construction for durability and long life
- Interchangeable upper and lower spray arms
- Compact, flexible design with optional corner installation
- Spray arm design gives full-rack coverage producing clean ware, no matter the rack
- Door-actuated start for one-touch operation
- Low energy and water consumption means lower utility bills.

Keep your clean-up process running smoothly with a door-type warewasher from Stero.

# Stero SD Door-Type Warewashers

## SD3



Available in both high- and low-temperature chemical sanitizing models, Stero door-type warewashers provide excellent cleaning results in a compact, flexible design that works to increase productivity and reduce operating expenses for your business.

### STANDARD FEATURES - SD3

- .85 gallons per rack
- Hot water or chemical sanitation
- 58 racks per hour – hot water sanitizing
- 65 racks per hour – chemical sanitizing
- 16 gauge stainless steel construction
- Timed wash cycles of 1, 2, or 4 minutes
- Digital control status
- 180°F final rinse assurance
- Field adjustable from straight-line to corner operation
- Interchangeable upper and lower wash and rinse arms
- 2 hp pump motor
- Automatic tank fill
- Door actuated start
- Automatic drain closure
- Exhaust fan control and booster activation included
- Error notification
- Pressure gauge

2 hp pump motor provides exceptional wash power to remove tough proteins.



### OPTIONS & ACCESSORIES (SD3 ONLY)

- Drain water tempering kit
- Electric booster heater
- Seismic feet
- Single point electrical conversion kit (3-phase only)
- Pressure reducing valve
- Shock arrestor

Model	Racks Per Hour	Water Usage per Rack	Cycle Time Seconds	Tank Heat	Electric Booster Heater	Peak Drain Flow – Gallons per Minute	Incoming Water Temperature Required (Minimum)	Voltz/Hertz/Phase	Rated AMPS	Domestic Shipping Weight
SD3 (High-Temp)	58	.85	60, 120, 240	5 kW	8.5 kW	14	110°F	208-240/60/1 208-240/60/3 480/60/3	(see spec sheet)	302 lbs.
SD3 (Low-Temp)	65	.85	60, 120, 240	5 kW	–	14	140°F	208-240/60/1 208-240/60/3 480/60/3	(see spec sheet)	302 lbs.

# Stero SD Door-Type Warewashers

## SD1

The SD1 is a low-temperature, chemical sanitizing machine suitable for a variety of applications in which lighter soils are dominant.

### STANDARD FEATURES - SD1

- 1.7 gallons per rack
- Fill-and-dump, chemical sanitation
- 37 racks per hour
- 16 gauge stainless steel construction
- Field adjustable from straight to corner operation
- Interchangeable upper and lower wash arms
- 1 hp pump motor
- Door cycle switch controls machine operation
- Filling machine initially, auto-fill after first cycle; fill time field adjustable
- Solenoid operated positive seating drain valve — open and closed (no water waste)
- Chemical pumps included
- Self-flushing stainless steel pump strainer; large scrap accumulator

All stainless steel construction, including tank, chamber, doors and frame.

Top-mounted control box

Temperature gauge

Standard electrical voltage specification of 120/60/1 for areas where electrical service isn't adequate to power a high-temp machine.

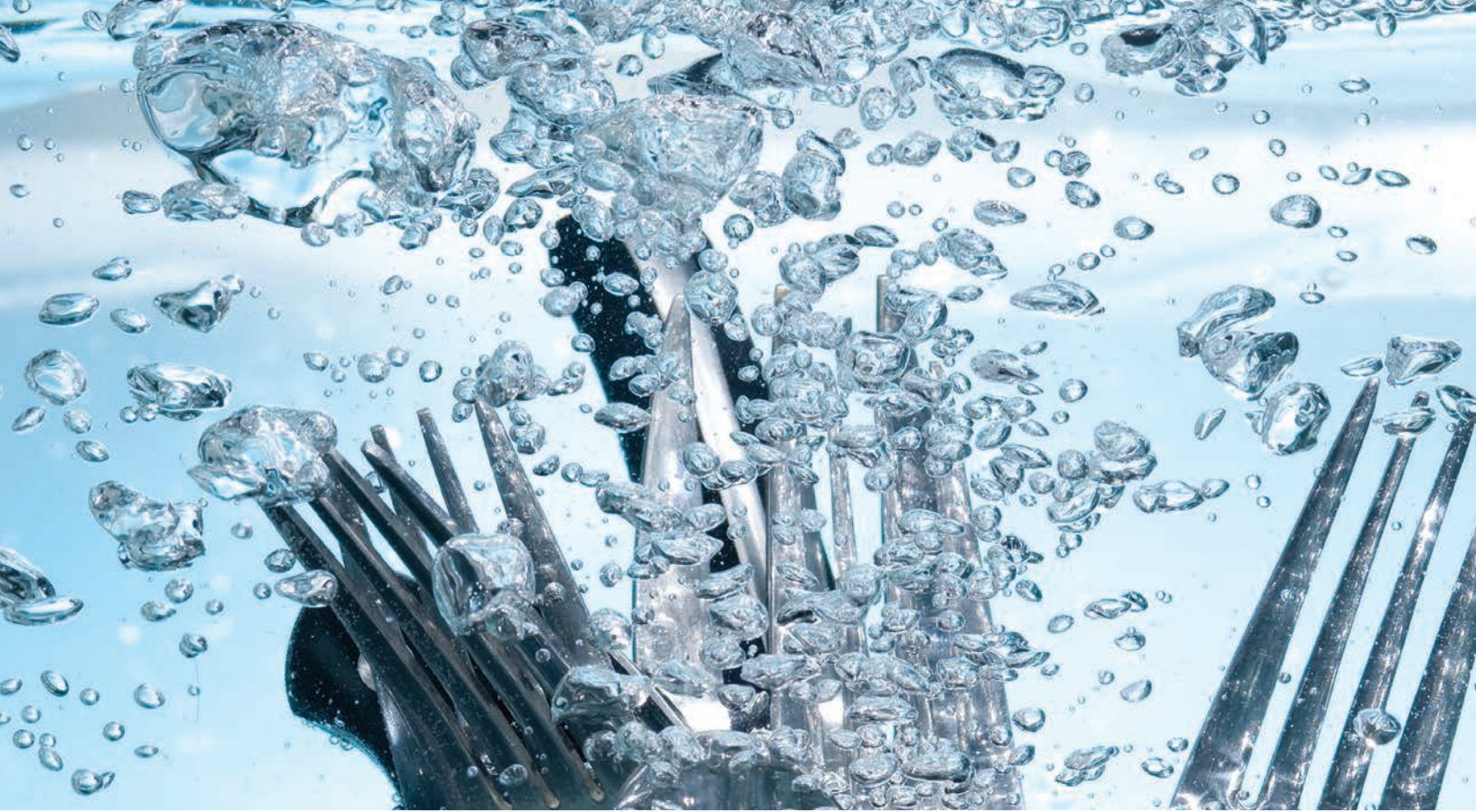
One-touch operation—just pull the door closed to operate.

1 hp pump motor

Large scrap accumulator



Model	Racks Per Hour	Water Usage per Rack	Cycle Time <i>Seconds</i>	Tank Heat	Electric Booster Heater	Peak Drain Flow – Gallons per Minute	Incoming Water Temperature Required (Minimum)	Voltz/Hertz/Phase	Rated AMPS/Breaker Size	Domestic Shipping Weight
SD1	37	1.7	82	1.8 kW	–	4.0	120°F	120/60/1	15.4/20	170 lbs.



*"We purchased a new Stero flight machine to replace the Stero we had in service for over 20 years. It's a great product—the dishes are spotless and it has no problem keeping up, even at our peak meal times. The built-in productivity, efficiency and durability make Stero flight machines the best option for campus foodservice needs—that's why we've stuck with Stero for nearly three decades."*

*– Jeff Smith, Operations Manager for Dining Services, Pacific Lutheran University*



A woman with dark hair, wearing a white chef's coat and white gloves, is holding a yellow plastic tray. She is looking towards the camera with a slight smile. The background is a kitchen setting with various equipment and shelves.

**Stero**

Because one size—doesn't fit all.

### **Stero Rack Conveyor Warewashers**

Stero Rack Conveyors are offered in a variety of lengths and models to suit the needs of any size facility. Whether it's a fine dining restaurant or an assisted living environment, Stero has a solution that will accommodate varying dishroom configurations and ware volumes with ease.

Because we understand that one size doesn't fit all, Stero provides both **single-** and **multi-tank conveyORIZED washers**. For dishrooms that require unique solutions as a result of space limitations, the Stero **SC Modular Conveyor Series** is the answer. Modular units can be mixed and matched to construct the perfect warewasher for your dishroom layout—creating solutions in areas previously believed to be unadaptable.

From the compact, single-tank ER-44 Series to the high-volume ER-94S/SC, Stero's legacy of rugged construction and engineering prowess deliver. And with many models qualifying for ENERGY STAR® designation, Stero Rack Conveyors provide more water and energy efficiency than other standard models—and that's a sustainability story worth sharing.

Find the right fit with Stero—your reliable, customizable solution provider for rack conveyor needs.



# Stero Rack Conveyor Warewashers

## Single-Tank, Multi-Tank, SC Modular Series

### KEY PRODUCT FEATURES

The following standard features add value and efficiency:

- ENERGY STAR® qualification on most models for energy management
- All stainless steel internal and external construction for long-life
- 2 hp wash motor recirculating 225 gpm
- 21" standard chamber height opening processes a variety of ware types, including sheet pans and mixing bowls
- Designed for easy operation: racks are conveyed through the washer by a stainless steel center drive pawl system
- Automatic tank fill, float switch controlled, fills and maintains proper tank water level during operation
- Rack activated auto-start—starts conveyor and pumps, eliminating the need for manual start
- Simple & intuitive operator controls; top mounted
- Stainless steel front enclosure panels: protects components from moisture
- Center-fed stainless steel wash arms with wide-angle fan jets for even flow of wash water
- Interchangeable upper and lower wash arms, easily removable without tools
- Stainless steel end caps easily removed without tools
- Directional fan jets create full coverage spray pattern for maximum rinsing and sanitation
- Final rinse plumbing assembly allows inspection and adjustment of final rinse water pressure
- Automatic energy saving shutdown when machine is idle (customized timer)
- Backflow prevention—on both tank fill and final rinse supply; ensures compliance with local environmental requirements
- Door-interlock switches to prevent operation if door is open
- Stainless steel drain valves and poppets, foot activated
- Kit 55: PRV, shock arrestor and pressure gauge included in final rinse line
- Bell-type stainless steel skimmer acts as overflow and removes fats and oils from the wash tank
- All plumbing is easily accessed and serviced

### REQUIRED TANK HEAT

NSF International requires that the water in all power and rinse tanks be maintained at specified temperatures. Stero offers three types of heating equipment to meet this standard. You will need to specify which option best suits your job conditions.

Tank Heating Options	
<b>Electric</b>	(3) 5kW stainless steel elements are mounted in the bottom of each wash and power-rinse tank. The units are thermostatically controlled and have Stero's low-water protection system. The elements, thermostat, LWP and contactor are all inter-wired to the control panel.
<b>Steam Injectors</b>	(2) stainless steel injectors with silencers are mounted in each wash and power-rinse tank. A thermostat controls a solenoid valve, and maintains the correct temperature.
<b>Steam Coils</b>	Stero-designed and built stainless steel steam coils are mounted in the tank. Steam coils allow the condensed steam to be returned to the steam generator, a decided advantage when there is a question of purity of steam. A thermostat controls a steam solenoid valve and maintains the correct temperature. A steam trap is mounted on the steam return line.

# Stero Single-Tank Rack Conveyor Warewashers

## ER-44, ER-54, ER-66S, ER-76S/SC (scrapper corner)



Stero offers a comprehensive selection of durable and efficient, easy-to-operate rack conveyor washers for your commercial kitchen. Single-tank rack conveyors provide a high-performance wash system within a compact, manageable footprint. All Stero Single-Tank Rack Conveyors are ENERGY STAR® qualified for energy management-focused operators.

Model	Design Description	Racks per Hour
ER-44	Single-tank, 44" Conveyor	223
ER-54	Single-tank, 54" Conveyor	223
ER-66S	Single-tank, 44" Conveyor with 22" Scrapper	223
ER-76S/SC	Single-tank, 44" Conveyor with 32" Scrapper	223

Stero's **ER-44** is the foundation for the single-tank rack conveyor family of warewashing products. This robust rack washer provides a recirculated, heated wash zone followed by a fresh water rinse— creating a high-volume, low-water-consuming solution in a 44" footprint.

Stero's **ER-54** adds 10" of length to the ER-44 model to create more separation between the wash and final rinse zones. This additional length helps to reduce wash water carryover, contributing to optimal warewashing results.

Stero's **ER-66S** adds a powerful 22" power scrapper to the load-end of the machine. This feature helps to lower chemical costs and reduce manual scrapping labor, providing added 'muscle' to remove tough food soils from ware items. The ER-66S scraps, washes and then rinses with a high temperature, 180°F minimum final rinse (optional booster heater available).

Stero's **ER-76S/SC** adds a substantial 32" power scrapper to the load-end of the machine, adding a significant washing pattern enhancement. The scrapper replaces the work of a manual pre-rinsing operation, providing automated cleaning power to remove tough food soils from ware items. This feature helps to reduce manual scrapping labor and lower chemical costs. The ER-76S/SC can be installed in a straight line or with an optional corner loading scrapper.

### AVAILABLE OPTIONS & ACCESSORIES

- Right to left or left to right operation
- Cabinet-style doors for easy access to interior
- Cold Water Aquastat: tempers scrap tank water to avoid adhesion of food proteins to ware
- Corner scrapper units—available on select models
- Space-saving side loader—allows corner loading of racks
- Automatic dwell—allows extended exposure to wash pattern for heavily soiled ware
- Table limit switch—allows single person operation of machine until racks fill unload table
- Vent cowls: 10" wide x 25" deep with extended splash guards front and rear
- Standard Electrical Specifications: 208V, 220V, 480V; 60Hz, 3ph
- Drain water tempering kit
- Consult factory for international options
- Steam Booster
- Integrated Electric Booster Heater Stainless 15/30 kW

*To learn more about Stero Single-Tank Rack Conveyor Warewashers, visit [stero.com](http://stero.com) for a complete description of standard features and options.*

# Stero Single-Tank Rack Conveyor Warewashers

## ER-44, ER-54



Optional cabinet-style doors for easy access to interior of machine for cleaning and maintenance.

Simple, intuitive controls; top mounted.

Designed for easy operation: Racks are conveyed through the washer by a stainless steel center drive pawl system.



### ER-44

Full perimeter stainless steel frame; 16 gauge, 304 stainless steel welded tanks and hood.

44" in length with a recirculated, heated wash followed by a fresh water final rinse.

Integrated Electric Rinse Booster, 40° or 70° rise

21" opening accepts a variety of ware types.



### ER-54

Power Wash: center-fed manifolds evenly distribute 225-300 gallons of recirculating wash water over the ware each minute.

54" in length with a recirculated, heated wash followed by a fresh water final rinse.

Integrated Electric Rinse Booster, 40° or 70° rise

# Stero Single-Tank Rack Conveyor Warewashers

## ER-66S, ER-76S/SC (scraper corner)



Two large inspection doors for cleaning and maintenance.



### ER-66S

External scrap basket collects food soil and can be removed and emptied while the machine is in operation.

22" Power Scrapper: Utilizes fixed upper and lower stainless steel wash arms, fitted with large, stricture-free jets which effectively strip food soil from all types of ware as it passes through the spray pattern.

Integrated Electric Rinse Booster, 40° or 70° rise

Full perimeter stainless steel frame, 66" in length with a recirculated, heated wash followed by a fresh water final rinse.

Powerful 32" power scrapper adds a substantial washing pattern enhancement to help reduce labor and chemical costs.

Can be installed in a straight line or with an optional corner loading scrapper.

External scrap basket collects food soil and can be removed and emptied while the machine is in operation.

Automatic tank fill maintains proper water levels.

Integrated Electric Rinse Booster, 40° or 70° rise



### ER-76S/SC

# Stero Multi-Tank Rack Conveyor Warewashers

## ER-64, ER-86S, ER-94S/SC (scraper corner)



Stero's comprehensive offering includes multi-tank rack conveyors for optimum cleaning efficiency. All Stero Multi-Tank Rack Conveyor Warewashers are ENERGY STAR® qualified for energy management-focused operators.

Model	Design Description	Racks per Hour
ER-64	Multi-tank, 64" Conveyor	270
ER-86S	Multi-tank, 64" Conveyor with 22" Scrapper	270
ER-94S/SC	Multi-tank, 64" Conveyor with 30" Scrapper	270

The **ER-64** provides a recirculating, heated wash tank and rinse tank followed by a fresh water rinse—creating a high-volume, low-water-consuming machine in a 64" footprint. The rinse tank assures thorough washing of ware items to keep your fast-paced environment moving at peak performance.

The **ER-86S** provides a powerful 22" scrapper, recirculating heated wash tank and rinse tank, followed by a fresh water rinse—perfect for high-volume operations where throughput, water and energy efficiency is critical.

The **ER-94S/SC** provides high-capacity warewashing performance to large, highly-trafficked foodservice environments. This model utilizes a powerful 30" scrapper, recirculating heated wash and rinse tanks, followed by a fresh water rinse in a 94" footprint. The ER-94S/SC is ENERGY STAR® qualified making it more water and energy efficient than its conventional counterparts.

The scrapper tank on both ER-86S and ER-94S/SC models does the pre-rinsing operation better and faster than a manual set-up, with 185 gpm of recirculating water stripping food soil from above and below ware items. This feature saves operators on labor and chemical costs. In this design, food soil is automatically transferred to the outboard scrap basket by the rinse water feed-back system, keeping the scrapper tank water clean.

The full-coverage washing pattern in conjunction with Stero's 225 gallon-per-minute pump motor powers these rugged, high-performing commercial washers. Rinsing and sanitizing is controlled by Stero's exclusive rack-activated final rinse, which guarantees accurate, trouble-free cleaning you can depend on.

The ER-94S/SC can be installed in a straight line or with an optional corner loading scrapper.

### AVAILABLE OPTIONS & ACCESSORIES

- Right to left or left to right operation
- Cabinet-style doors for easy access to interior
- Cold Water Aquastat: tempers scrap tank water to avoid adhesion of food proteins to ware
- Mounted circuit breakers—protects motors and heating circuit
- Corner scrapper units—available on select models
- Space-saving side loader—allows corner loading of racks
- Automatic dwell—allows extended exposure to wash pattern for heavily soiled ware
- Table limit switch—allows single person operation of machine until racks fill unload table
- Vent cowls: 10" wide x 25" deep with extended splash guards front and rear
- Standard Electrical Specifications: 208V, 220V, 480V; 60Hz, 3ph
- Drain water tempering kit
- Steam Booster
- Top Mounted Electric Booster Heater Stainless 15/30 kW

To learn more about Stero Multi-Tank Rack Conveyor Warewashers, visit [stero.com](http://stero.com) for a complete description of standard features and options.

Multi-tank rack conveyor, 64" in length with recirculated, heated wash and rinse tanks followed by a fresh water final rinse.

All components are easily accessible for cleaning and maintenance.

**Top Mounted Electric Booster** available for all models (ER-64, ER86S, and ER94S/SC) 40° or 70° rise

Flexible strip curtains separate wash, rinsing and final rinse.



Stainless steel drain valves and poppets; foot activated.

Multi-tank rack conveyor, 86" in length with power scrap, power wash, power rinse and sanitizing final rinse.

Cold Water Aquastat: tempers scrap tank water to avoid adhesion of food proteins to ware.

## ER-64

Temperature gauges

Bell-type stainless steel skimmer with hinged cover: acts as overflow and facilitates removal of fats and oils from wash tank.



## ER-86S

The ER-94S/SC can be installed in a straight line or with an optional corner loading scrapper.

Removed food soil is transferred to the outboard scrap basket automatically by the rinse water feed-back system. This keeps the scrapper tank water clean and removes food soil from the scrapping tank.



Multi-tank rack conveyor, 94" in length with power scrap, power wash, power rinse and sanitizing final rinse.

Unique rinse pattern with our 225 gallons per minute pump provides full rack coverage.

## ER-94S/SC

Scrap screens, wash arms and curtains are easily removed through two large inspection doors without the use of tools.

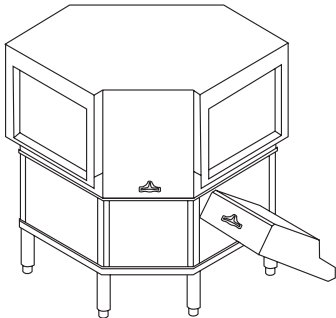
Stainless steel drain valves and poppets; foot activated.

# Stero Rack Conveyor Series Spec Chart

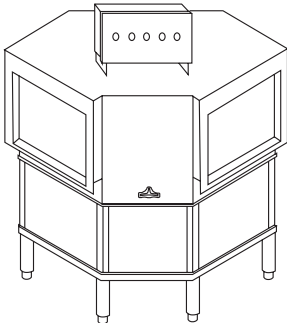
	Single-Tank		Single-Tank with Scrapper		Multi-Tank	Multi-Tank with Scrapper	
	ER-44	ER-54	ER-66S	ER-76S	ER-64	ER-86S	ER-94S
<b>Capacity Rating (Mechanical)</b>							
Conveyor Speed (FPM)	6.2	6.2	6.2	6.2	7.45	7.45	7.45
Racks per Hour	223	223	223	223	270	270	270
Dishes per Hour	4140	4140	4140	4140	4860	4860	4860
<b>Rinse Water Consumption</b>							
Gallons per Hour	1.46	1.46	1.46	1.46	121	121	121
Gallons per Minute	2.43	2.43	2.43	2.43	2.01	2.01	2.01
<b>Motor Horsepower</b>							
Scrapper Motor	N/A	N/A	1	1	N/A	1	1
Wash Motor	2	2	2	2	2	2	2
Rinse Motor	N/A	N/A	N/A	N/A	2	2	2
Conveyor Motor	1/4	1/4	1/4	1/4	1/4	1/4	1/4
<b>Tank Capacity</b>							
Scrapper Tank	N/A	N/A	12	15	N/A	12	15
Wash Tank	20	20	20	20	20	20	20
Rinse Tank	N/A	N/A	N/A	N/A	20	20	20
<b>Pump Capacity (GPM)</b>							
Scrapper Pump	N/A	N/A	185	185	N/A	185	185
Wash Pump	225	225	225	225	225	225	225
Rinse Pump	N/A	N/A	N/A	N/A	225	225	225
<b>Heating Equipment</b>							
Electric (kW)	15	15	15	15	30	30	30
Steam Coils (Lbs./Hr.)	75	75	75	75	140	140	140
Steam Injectors (Lbs./Hr.)	75	75	75	75	140	140	140
<b>Booster Sizing (When Specified)</b>							
Electric 40°/70° Rise	15/30 KW	15/30 KW	15/30 KW	15/30 KW	15/30 KW	15/30 KW	15/30 KW
Steam	SWB-150	SWB-150	SWB-150	SWB-150	SWB-150	SWB-150	SWB-150
<b>Exhaust CFM</b>							
Load End	200	200	200	200	200	200	200
Unload End	400	400	400	400	400	400	400
<b>Shipping</b>							
Weight (Lbs.)	900	950	1150	1400	1000	1200	1550

# Stero Rack Conveyor Modules

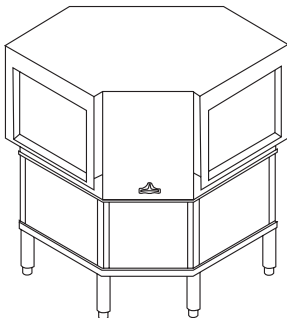
Modules can be mixed and matched to create the perfect warewashing system for your foodservice operation.



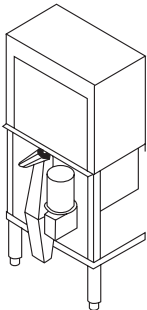
**SC-1**  
90° power scrapping unit



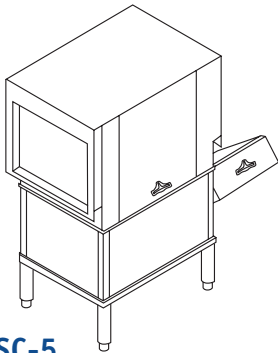
**SC-2**  
90° power wash unit



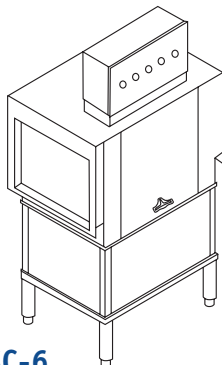
**SC-3**  
90° power rinse unit



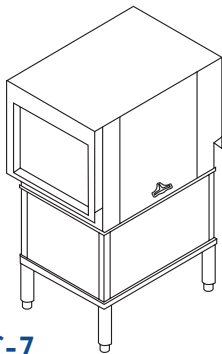
**SC-4**  
12" straight high-temperature final rinse



**SC-5**  
Straight through power scrapper



**SC-6**  
Straight through power wash unit



**SC-7**  
Straight through power rinse unit



*Image: Stero SC 5-6-3-4 configuration*



# Stero SC Modular Conveyor Warewashers

## SC 1 thru 7 Modular Units

Stero provides the only true corner dishwashing system, eliminating the need for side-loaders, power loaders & unloaders, as well as rack advancers. The SC Series transforms non-washing transition pieces into actual washing solutions. Both soiled and clean dish table space can be gained, because Stero's large-volume conveyor utilizes previously un-used space. Now that's innovative design.

### STANDARD FEATURES

- Single-tank, 20" rack, automatic conveyor modules work in tandem
- Each unit may be fashioned in a 90° or straight through design
- Full perimeter stainless steel frame; 16 gauge, 304 stainless steel welded tanks and hood
- Automatic tank fill, float switch controlled, fills and maintains proper tank water level during operation
- Rack activated auto-start—starts conveyor and pumps, eliminating the need for manual start
- Automatic energy saving shutdown when machine is idle (customized timer)
- Directional fan jets create full coverage spray pattern for maximum rinsing and sanitation
- Door-interlock switches to prevent operation if door is open
- Bell-type stainless steel skimmer acts as overflow and removes fats and oils from the wash tank
- Common drain: overflow and drain valves are connected, allowing one drain to service the entire machine
- Kit 55: PRV, shock arrestor and pressure gauge included in final rinse line
- Thermometers: one each for wash, rinse and final rinse
- Standard electrical specifications available

### Required Tank Heat

NSF International requires that the water in all power and rinse tanks be maintained at specified temperatures. Stero offers three types of heating equipment to meet this standard. You will need to specify which option best suits your job conditions.

Tank Heating Options	
<b>Electric</b>	A total of (5) 5kW stainless steel elements are mounted in the bottom of the wash and power-rinse tanks. The units are thermostatically controlled and have Stero's low-water protection system. The elements, thermostat, LWP and contactor are all inter-wired to the control panel.
<b>Steam Injectors</b>	(2) stainless steel injectors with silencers are mounted in each wash and power-rinse tank. A thermostat controls a solenoid valve, and maintains the correct temperature.
<b>Steam Coils</b>	Stero-designed and built stainless steel steam coils are mounted in the tank. Steam coils allow the condensed steam to be returned to the steam generator, a decided advantage when there is a question of purity of steam. A thermostat controls a steam solenoid valve and maintains the correct temperature. A steam trap is mounted on the steam return line.

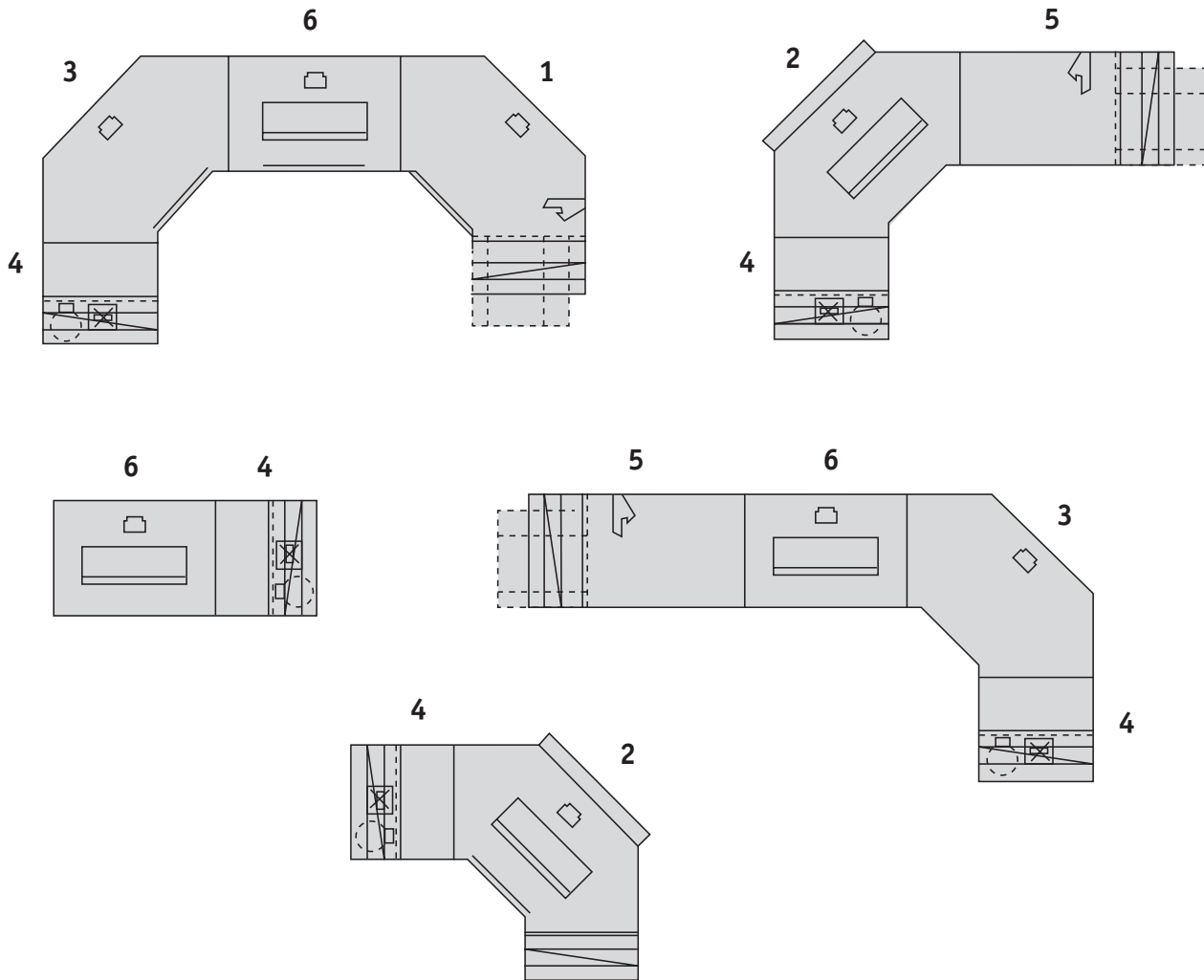
### OPTIONS & ACCESSORIES

- Vent cowls
- Mounted circuit breakers
- Cold Water Aquastat: tempers scrap tank water to avoid adhesion of food proteins to ware (available on select multi-tank models)
- Table limit switch
- Drain water tempering kit

To learn more about Stero SC Modular Conveyor Warewashers, visit [stero.com](http://stero.com) for a complete description of standard features and options.

# Design Your Dishroom with SC Modular Building Blocks

The following layout configurations are just five examples of 11 possible combinations, available in either feed direction.



Modularity for your modern kitchen.

## Stero Modular Conveyor Series

Stero provides flexibility and maximum warewashing power in a minimum amount of space. The **SC Modular Series** is the only warewashing system that can be designed around a challenging dishroom layout. With modular sections, each power scrapper, wash, rinse, high temperature or chemical sanitizing final rinse section may be designed in either a straight through or 90° section. These may be assembled with other sections to complete a problem-solving warewashing system.



# Stero SC Modular Rack Conveyor Spec Chart

	Single-Tank		Single-Tank with Scraper		Multi-Tank with Scraper					
	SC 2-4	SC 6-4	SC 1-6-4	SC 5-2-4	SC 1-6-3-4	SC 5-6-3-4	SC 1-6-7-4	SC 5-6-7-4	SC 1-2-7-4	SC 5-2-7-4
<b>Capacity Rating (Mechanical)</b>										
Conveyor Speed (FPM)	3.8	5.9	3.8	6.4	10	10	10	10	10	10
Racks per Hour	136	212	212	136	360	360	360	360	360	360
Dishes per Hour	2448	3816	3816	2448	6480	6480	6480	6480	6480	6480
<b>Rinse Water Consumption</b>										
Gallons per Hour	301	301	301	301	252	252	252	252	252	252
Gallons per Minute	5.02	5.02	5.02	5.02	4.2	4.2	4.2	4.2	4.2	4.2
<b>Motor Horsepower</b>										
Scraper Motor	N/A	N/A	2	2	2	2	2	2	2	2
Wash Motor	2	2	2	2	2	2	2	2	2	2
Rinse Motor	N/A	N/A	N/A	N/A	2	2	2	2	2	2
Conveyor Motor	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
<b>Tank Capacity</b>										
Scraper Tank	N/A	N/A	15	15	15	15	15	15	15	15
Wash Tank	15	15	15	15	15	15	15	15	15	15
Rinse Tank	N/A	N/A	N/A	N/A	15	15	15	15	15	15
<b>Pump Capacity (GPM)</b>										
Scraper Pump	N/A	N/A	225	225	225	225	225	225	225	225
Wash Pump	225	225	225	225	225	225	225	225	225	225
Rinse Pump	N/A	N/A	N/A	N/A	225	225	225	225	225	225
<b>Heating Equipment</b>										
Electric (kW)	10	10	10	10	20	20	20	20	20	20
Steam Coils (Lbs./Hr.)	75	75	75	75	150	150	150	150	150	150
Steam Injectors (Lbs./Hr.)	75	75	75	75	150	150	150	150	150	150
<b>Booster Sizing (When Specified)</b>										
Electric (kW minimum)	36	36	36	36	27	27	27	27	27	27
Steam	SWB-260	SWB-260	SWB-260	SWB-260	SWB-260	SWB-260	SWB-260	SWB-260	SWB-260	SWB-260
<b>Exhaust CFM</b>										
Load End	200	200	200	200	200	200	200	200	200	200
Unload End	400	400	400	400	400	400	400	400	400	400
<b>Shipping</b>										
Weight (Lbs.)	850	850	1550	1550	2250	2250	2250	2250	2250	2250

Single-Tank SC Modulars available in Low Water option reducing Rinse Water Consumption to 120GPH and slowing conveyor speed.



Trusted, high-volume performance.

### Stero Flight-Type Warewashers

Stero's finely engineered rackless flight conveyors demonstrate the impeccable workmanship and enduring quality that the Stero brand has been linked to for over 70 years. These large capacity conveyor belt machines can be engineered to handle most production rates and configured to suit any dishroom.

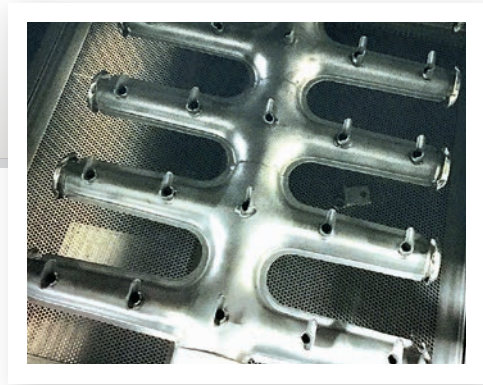
Stero Flight-Types are built with robust, durable materials and simple, intuitive controls resulting in a machine that is easy to operate and maintain, providing years of consistent, dependable performance. The large tunnel opening can handle a variety of ware items, processing them through powerful scrapping, wash and rinse zones before exiting through a sanitizing 180°F fresh water rinse. To facilitate the drying process, an optional blower system can be added to the machine so ware items can return to service faster.

Flight conveyor models offered by Stero include the **STPCW-ER** with innovative Heat Recovery System, conceived to reduce overall operating costs while meeting the high-volume performance demands of today's modern kitchen. This model has earned ENERGY STAR® qualification, making it more energy and water efficient than standard models. Recognized as the kitchen workhorse—Stero's **STBUW** is suitable for production kitchens where high-capacity pot, pan and utensil washing is desired.

When you select a Stero Flight Conveyor to meet ware cleaning requirements, you've made an investment in quality equipment that is *built to work, and made to last.*

# Stero Flight-Type Warewashers

## STPCW-ER, STBUW



*Stero Flight-Type Wash Arm*

### KEY PRODUCT FEATURES

- All stainless steel internal and external construction
- Top-mounted control panel
- Start-stop controls on each end of machine
- Conveyor belt options include stainless steel or polypropylene peg links with limit switch
- Large 32" or 44" power scrapper tank capable of spraying 300 GPM of pre-wash water over ware
- Large 44" or 54" wash and rinse tanks capable of spraying 300 GPM of detergent water over ware
- Vent cowl to provide ducting of water vapor and excessive heat
- Interchangeable upper and lower wash arms, easily removable without tools
- Stainless steel end caps easily removed without tools
- External scrap basket can be removed and emptied while machine is in operation
- Drain pans at the loading and unloading sections
- Final rinse arms activated only when ware is detected in the final rinse zone, conserving water
- Kit 55: PRV, shock arrestor and pressure gauge included in final rinse line
- Automatic fill with water level control
- Automatic energy saving shutdown when machine is idle (customized timer)
- Variable speed conveyor drive capable of adjustment from 2 to 12 feet per minute (FPM)
- Door safety switch prevents the machine from running if the door is open
- Removable doors allow for proper cleaning of the interior
- Temperature probes provided for each zone of the machine
- Maintenance-free motors and pumps; splash-proof, heavy-duty 1750 rpm
- Externally controlled drain valves for hand or foot operation
- All plumbing is easily accessed and serviced

### REQUIRED TANK HEAT

NSF International requires that the water in all power and rinse tanks be maintained at specified temperatures. Stero offers three types of heating equipment to meet this standard. You will need to specify which option best suits your job conditions.

Tank Heating Options	
<b>Electric</b>	(5) 5kW stainless steel elements are mounted in the bottom of each wash and power-rinse tank. The units are thermostatically controlled and have Stero's low-water protection system. The elements, thermostat, LWP and contactor are all inter-wired to the control panel.
<b>Steam Injectors</b>	(2) stainless steel injectors with silencers are mounted in each wash and power-rinse tank. A thermostat controls a solenoid valve, and maintains the correct temperature.
<b>Steam Coils</b>	Stero-designed and built stainless steel steam coils are mounted in the tank. Steam coils allow the condensed steam to be returned to the steam generator, a decided advantage when there is a question of purity of steam. A thermostat controls a steam solenoid valve and maintains the correct temperature. A steam trap is mounted on the steam return line.

# Stero Flight-Type Warewashers

## STPCW-ER



Stero's Flight-Type can help you to improve efficiencies and reduce operating costs while meeting the warewashing demands of high-volume foodservice operations. Our solutions are designed for a variety of warewashing applications, with your specific goals and requirements at the heart of our R&D process.

### STANDARD FEATURES – STPCW-ER

- 31" x 20" tunnel opening
- 58 Gallons Per Hour Final Rinse Consumption
- Simple & intuitive operator controls; top mounted
- Stainless steel upper and lower wash arms with fan sprayers
- Automatic tank fills and water level control
- Safety stop at unload to prevent ware pile-up
- Automatic shut-off; automatic shutdown during idle periods
- Full perimeter stainless steel frame
- 16 gauge, 304 stainless steel welded tanks and hoods
- Easily accessible external scrap basket
- Removable stainless steel scrap trays
- Replaceable flight link system
- Waterproof start-stop switches at both ends
- Variable speed conveyor 2 to 9.2 feet per minute (FPM)
- Adjustable exhaust dampers at each end
- Stainless steel drain valves and poppets; foot activated
- On-demand final rinse (conserves water)

### AVAILABLE OPTIONS & ACCESSORIES

- Heat Recovery System
- Cold Water Aquastat: tempers scrap tank water to avoid adhesion of food proteins to ware (available on select multi-tank models)
- Right to left, or left to right operation
- Final rinse water booster heater - electric or steam
- Circuit breakers
- Optional cabinet-style doors
- Insulated tanks
- 3 or 4 tank options
- Hose bib
- Heated blower dryer
- Standard Electrical Specifications: 208V, 220V, 480V; 60Hz, 3ph
- Drain water tempering kit
- Consult factory for customization, including international options

Simple, intuitive controls for easy operation.

Optional cabinet-style doors.

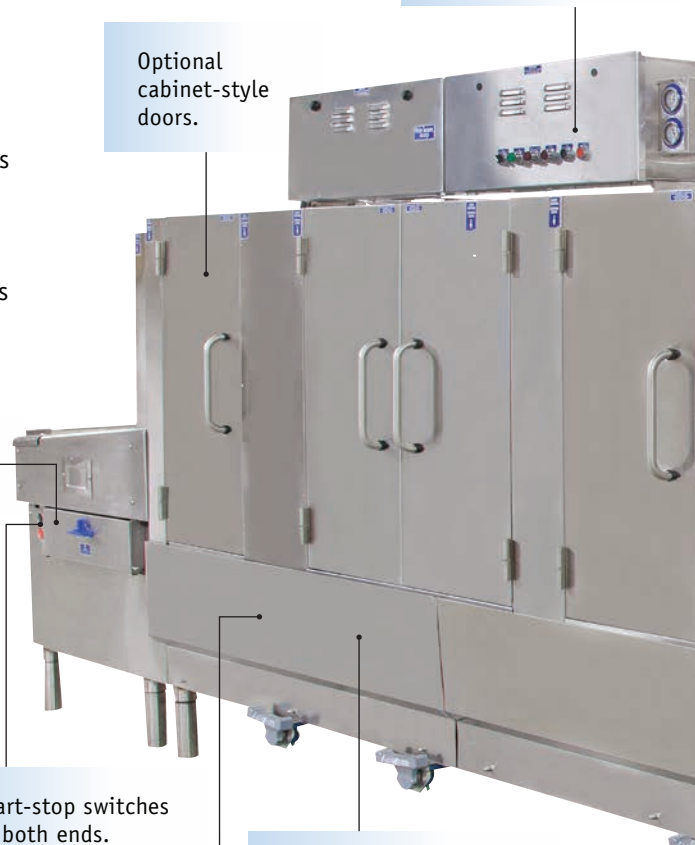
External scrap basket.

Start-stop switches at both ends.

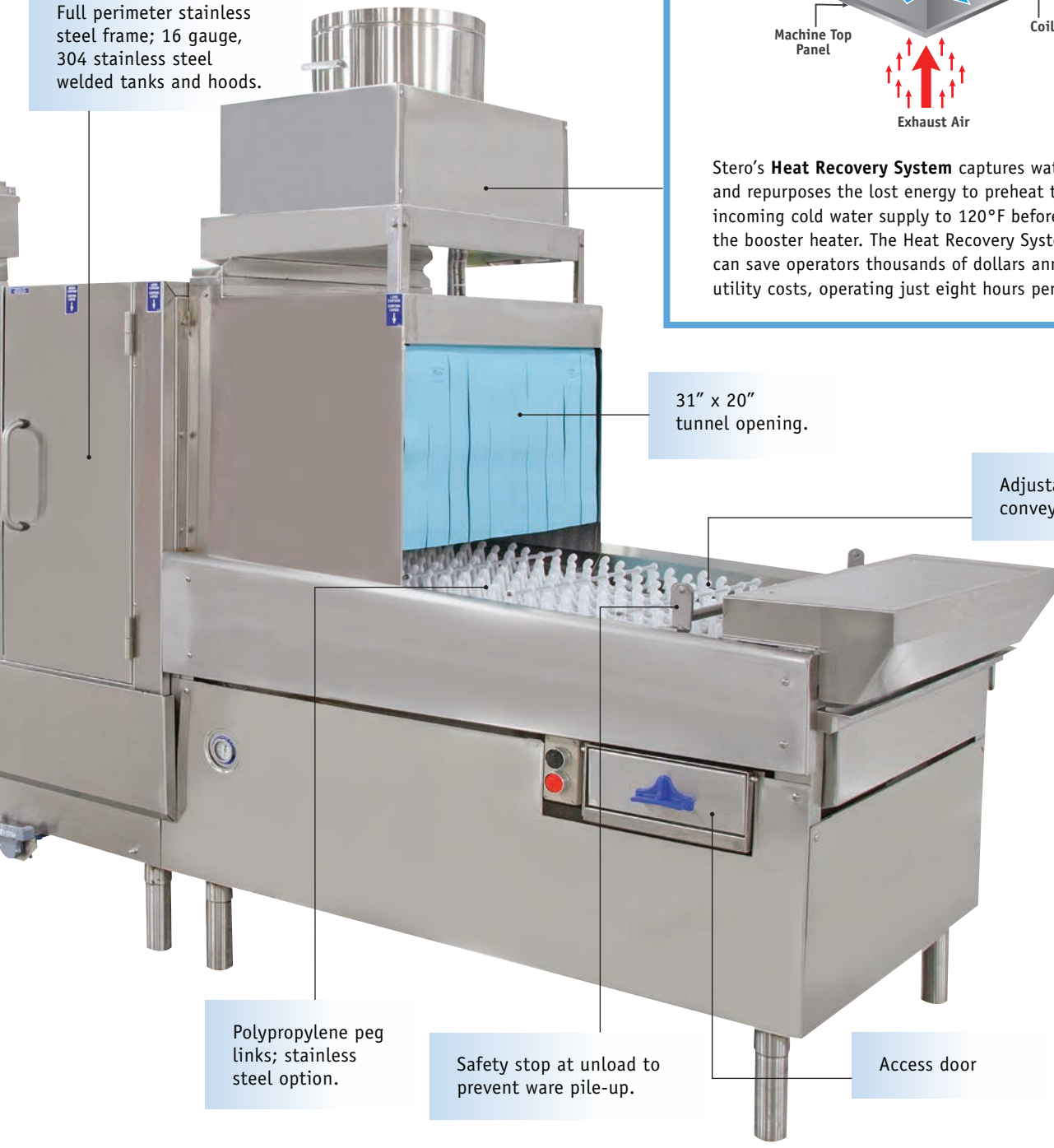
High capacity pump powered by 3 hp motor ensures thorough cleaning and sanitation.

Auto fill for each tank with level control.

Stainless steel drain valves and poppets; foot activated.



Reference the Stero STPCW-ER Product Specification Sheet for a complete listing of standard features and options.



Full perimeter stainless steel frame; 16 gauge, 304 stainless steel welded tanks and hoods.

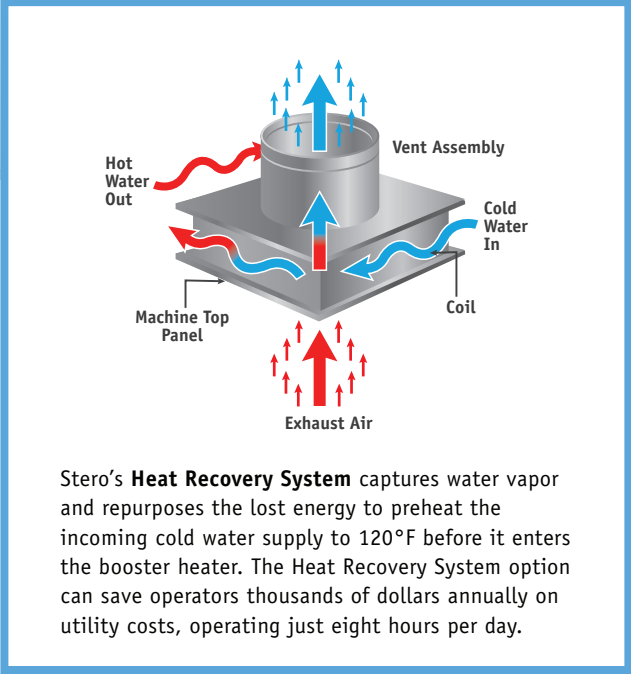
31" x 20" tunnel opening.

Adjustable speed conveyor, 2 to 9.2 FPM.

Polypropylene peg links; stainless steel option.

Safety stop at unload to prevent ware pile-up.

Access door



Stero's **Heat Recovery System** captures water vapor and repurposes the lost energy to preheat the incoming cold water supply to 120°F before it enters the booster heater. The Heat Recovery System option can save operators thousands of dollars annually on utility costs, operating just eight hours per day.

Model	Dishes Per Hour	Conveyor Speed (FPM)	Maximum Water Consumption (GPH)	Pump Capacity (GPM)			
				Scrapper	Wash	Rinse	Rinse II
STPCW-ER 3-Tank*	13,689	2 to 9.2	58	225	330	330	N/A
STPCW-ER 4-Tank	20,832	2 to 14	102	225	330	330	330

\*ENERGY STAR® Qualification on STPCW-ER electric heat, 3-tank configuration only.

# Stero Flight-Type Warewashers

## STBUW

### STANDARD FEATURES – STBUW

- 31" x 27" tunnel opening – extra-tall for larger ware types
- Simple & intuitive operator controls; top mounted
- Stainless steel upper and lower wash arms with fan sprayers
- Automatic tank fills and water level control
- Safety stop at unload to prevent ware pile-up
- Automatic shut-off; automatic shutdown during idle periods
- Full perimeter stainless steel frame
- 16 gauge, 304 stainless steel welded tanks and hoods
- Easily accessible external scrap basket
- Removable stainless steel scrap trays
- Replaceable flight link system
- Waterproof start-stop switches at both ends
- Variable speed conveyor from 2 to 10 feet per minute (FPM)
- Stainless steel drain valves and poppets; foot activated
- On-demand final rinse (conserves water)

### AVAILABLE OPTIONS & ACCESSORIES

- Right to left, or left to right operation
- Electric or steam heat
- Circuit breakers
- Final rinse water booster heater
- Heated blower dryer
- Optional unload lengths available
- Standard Electrical Specifications: 208V, 220V, 480V; 60Hz, 3ph
- Drain water tempering kit
- Consult factory for custom options

Reference the Stero STBUW Product Specification Sheet for a complete listing of standard features and options.



Model	Conveyor Speed (FPM)	Maximum Water Consumption (GPH)	Pump Capacity (GPM)			Tank Capacity Gallons
			Scrapper	Wash	Rinse	
STBUW	2 to 10	447	300	330	330	N/A*

\*Dependent upon machine model number. For information on tank capacity, shipping weights and crate size, please consult the factory.



## Did you know?

You can further streamline your clean-up process with **TragenFlex** material handling systems to gain labor efficiencies and better operational ergonomics. TragenFlex provides solutions for soiled tray handling, custom-engineered to fit any foodservice space. For more information email [info@tragenflex.com](mailto:info@tragenflex.com) or call 855-363-0335.



Extra-tall chamber opening for larger ware capacity.

Adjustable conveyor drive, variable speed from 2 to 10 feet per minute.

Easily accessible external scrap basket.

Stainless steel drain valves and poppets; foot activated.

High capacity pump powered by 3 hp motor ensures thorough cleaning and sanitation.

Stainless steel flat belt, standard.

# Flight-Type Series Spec Chart

Model	MULTIPLE TANK		
	STPCW-ER 3-Tank	STPCW-ER 4-Tank	STBUW 4-Tank
<b>Capacity Rating (Mechanical)</b>			
Conveyor Speed (FPM)	9.2	14	10
Dishes per Hour	13689	20832	N/A
<b>Rinse Water Consumption</b>			
Gallons per Hour	58	102	447
Gallons per Minute	.96	1.7	7.45
<b>Motor Horsepower</b>			
Scrapper Motor	3	3	3
Wash Motor	3	3	3
Rinse Motor	3	3	3
Rinse Motor II		3	N/A
Conveyor Motor	1/2	1/2	1
<b>Tank Capacity</b>			
Scrapper Tank	36	36	36
Wash Tank	47	47	47
Rinse Tank	47	47	47
Rinse Tank II	N/A	47	N/A
<b>Pump Capacity (GPM)</b>			
Scrapper Pump	225	225	300
Wash Pump	300	300	300
Rinse Pump	N/A	300	300
Rinse Pump II	N/A	300	N/A
<b>Heating Equipment</b>			
Electric (kW)	50	75	50
Steam Coils (LBS/HR)	170	255	170
Steam Injectors (LBS/HR)	170	255	170
<b>Booster Sizing (When Specified)</b>			
Electric 40 Deg. Rise (kW) Minimum	24	24	45
Steam	SWB-150	SWB-150	SWB-380
<b>Exhaust CFM</b>			
Load End	300	300	300
Unload End	700	700	700
<b>Shipping</b>			
Weight (Lbs.)	Model/Length Specific		

# Correctional Institution Package

## Special features for the unique requirements of a prison environment.

For decades, Stero has been a trusted authority in the design and manufacturing of commercial warewashing systems. During that time Stero has worked closely with correctional foodservice administrators to address the unique requirements of a prison environment. Examples of our design and manufacturing capabilities can be seen in correctional institutions across the United States.



Control panels restrict access.



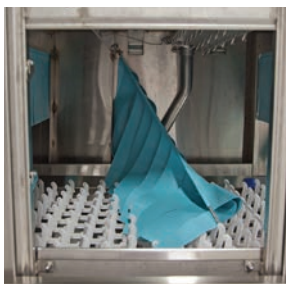
Temperature gauges are enclosed behind stainless steel wire mesh.



Conveyor belts are fully welded, making them tamperproof.



Non-removable door handle with an insulated gripping bar.



Plastic strip curtains with non-removable curtain rods.



Welded, stainless steel, perforated under carriage prevents access to the bottom of the machine.

Specified corrections packages receive the following added security features:

- **Control panels:** provided with welded and lockable stainless steel hasps so that access is restricted.
- **Control panels:** can be mounted remotely and be protected in a lockable security cage.
- **Control switches:** made tamperproof with an access limiting shield.
- **Enclosure panels:** all stainless steel enclosure panels secured with security screws.
- **Temperature gauges:** enclosed behind stainless steel wire mesh.
- **Conveyor belts:** stainless steel or celcon plastic conveyor belts can be fully welded making stainless steel parts tamperproof.
- **Door handles:** non-removable, welded stainless steel design with an insulated gripping bar.
- **Curtains:** plastic strip curtains are hung with flexible and non-removable curtain rods.
- A welded, stainless steel, **perforated under carriage** can be provided to prevent access from the bottom of the machine.

All normally optional equipment is available on any corrections package. Other items and alterations can be specified to suit custom or special installations.



**Stero**

Prepare—for greatness.

### Stero Pot, Pan & Utensil Washer

It takes a heavy-duty washer to tackle the challenge of cleaning pots and pans. Stero's U-31A is a single tank, one rack, pot and pan washer—fully-automatic with adjustable wash and rinse cycles. The hood and tank are made from heavy gauge, fully-welded stainless steel for durability and longevity.

The **U-31A** uses 24"x28" stainless steel racks which enable a large variety of food preparation utensils to be processed through the machine. Its pass-through design integrates perfectly into your dishroom's workflow. This workhorse will tackle the toughest cleaning job, with ease.

For higher volume operations, the Stero **U-31A2** doubles production, processing two racks per cycle.

For even larger loads and higher capacity production needs, Stero offers a rackless conveyor utensil washer, model **STBUW**. (See pages 40-41 for details.)

Keep your workflow moving with all of the right prep ware items—clean, and at your fingertips when you need them.

# Stero Pot, Pan & Utensil Washer

## U-31A, U-31A2

Based on your prep ware volume, we can recommend the right Stero Pot, Pan & Utensil Washer to meet your washing needs. The U-31A is our most widely-used prep washer, providing fully-automatic and adjustable operation in a heavy-duty, single tank, pass-through design. For 10 full-size sheet pan capacity, the U-31A is perfect for the job. When greater volume is needed, the U-31A2 will hold 20 full-size sheet pans.

Four unique stainless steel racks are included with Stero's U-31A to handle various utensil washing needs. Eight stainless steel racks are included with the U-31A2 model. All racks are 24"x28".

### STANDARD FEATURES – U-31A

- 25 racks per hour
- Rinse 1.16 gpm/2.8 gallons per rack
- 25"x27" opening
- Automatic fill maintains proper tank levels
- Adjustable cycle times
- 3 hp wash motor recirculating 230 gpm
- Stainless steel front enclosure panel protects motors and control panels from moisture
- Stainless steel construction
- Door safety switch prevents operation if door is open
- Stainless steel drain valves and poppets, foot activated
- Kit 55: includes PRV, shock arrestor and pressure gauge in final rinse line
- Bell-type stainless steel skimmer acts as overflow and removes fats and oils from the wash tank

### OPTIONS & ACCESSORIES

- Electric or steam coil heat
- Corner installation (not available on U-31A2)
- Double rack capacity (U-31A2 design)
- Basket rack (for cooking utensils)
- General utility rack (for large mixing bowls, cook pots)
- Pan rack
- Bun pan rack (for bun pans and cooking sheets)
- Standard Electrical Specifications: 208V, 220V, 480V; 60Hz, 3ph
- Drain water tempering kit
- Top mounted controls

Model	Racks Per Hour	Maximum Water Consumption (GPH)	Pump Capacity (GPM)	Tank Capacity Gallons	Shipping Weight Lbs.
U-31A	25	70	230	30	1000
U-31A2*	50	140	460	60	1800

\*Contact factory for booster sizing.



# Stero Pot, Pan & Utensil Washer

## U-31A

**Rinse pattern** designed for optimal coverage—seven fixed perimeter sprayers above the utensils and lower stainless steel revolving rinse arms with stainless steel jets—all mounted in the perimeter of the rack for thorough rinsed and sanitized utensils.

**Efficient and powerful cleaning action**—produces 25 large volume 24"x28" racks of clean and sanitized ware per hour.

**Door safety switch**—automatically stops the machine if the door is opened before cycle completion.

**Increased vertical clearance**—accommodates large oversized objects; 27"x25" opening

**Pass-through design** for easy loading and unloading.

**Extra heavy-duty design**—12 gauge stainless steel side guards provide a flat surface that assists the operator's loading of large pots and other bulky ware.

**High-capacity wash pumps**—3 hp, 230 gallons per minute.

**Front opening waterproof control box.** Includes two adjustable timers: Wash cycle timer is adjustable from two to five minutes, and rinse cycle timer is adjustable from 15 to 30 seconds. A selector switch allows the machine to be operated automatically or manually, at the operator's discretion. A push button start and a tank heat switch are provided for ease of operation.





Glasswasher

Undercounter Warewashers

Door-type Warewashers

Rack Conveyors

Flight-type (Rackless Conveyor)

Pot, Pan and Utensil Washers



# Look for ENERGY STAR®

## Benefits of ENERGY STAR® Certified Commercial Dishwashers

From an operational standpoint, dishwashers are one of the most expensive pieces of equipment in your kitchen. Commercial dishwashers that have earned the ENERGY STAR® are on average **40 percent more energy efficient and 40 percent more water efficient** than standard models. ENERGY STAR® certified dishwashers have features that conserve energy and water such as advanced controls and diagnostics, improved nozzles and rinse arm design.

You can improve the efficiency of your dishwasher even further with inexpensive good practices, such as:

- Run fully loaded dish racks through the dishmachine. Cutting wash cycles could save you hundreds of dollars annually in energy, water and chemical charges.
- Pay attention to your dishwasher’s pressure gauge—if it’s showing pressure above 25 psi, there is a good chance you are using much more water than is necessary. Most dishwashers require only around 20 psi.
- If you have a conveyor-style dishwasher, make sure you are using it in auto mode, which saves electricity by running the conveyor motor only when needed.

### Cost-Saving Tips

- Look for the ENERGY STAR®
- Replace torn wash curtains
- Replace worn spray nozzles
- Turn off at night
- Repair leaks and perform regular maintenance
- Engage low power mode during long periods of downtime, if available, or between mealtimes.

The ENERGY STAR® label can be found on high-temp (hot water sanitizing), low-temp (chemical sanitizing) machines, and multi-sanitizing machines. The following product types are eligible: undercounter; single tank, door-type; single tank conveyor; multiple tank conveyor and flight-type machines. Glasswashing machines and pot, pan & utensil washers are also eligible.

To save even more money, consider purchasing a dishwasher with heat recovery technology.

ENERGY STAR® certified commercial dishwashers can save:

- **\$5,500** annually and **\$68,000** over the product lifetime of flight-type machines
- **\$1,300** annually and **\$16,000** over the product lifetime for other eligible dishmachines
- Additionally, ENERGY STAR® certified flight-type machines can save over **150,000** gallons of water annually.

	Flight-Type Dishmachines	Other Eligible Dishmachines
Annual Savings	\$5,500	\$1,300
kWh/year	40,000	8,500
Lifetime Savings*	\$68,000	\$16,000

\*Based on 15-year life and 4 percent discount rate. Actual savings will vary depending on use.



### LEARN MORE AT energystar.gov

ENERGY STAR®, a U.S. Environmental Protection Agency program, helps us all save money and protect our environment through energy-efficient products and practices. For more information, visit [www.energystar.gov](http://www.energystar.gov).

Source: “ENERGY STAR® Guide for Cafés, Restaurants and Institutional Kitchens.” [www.energystar.gov](http://www.energystar.gov). N.p., 2015. Web. April-May 2016.





# Booster Heater Sizing

Stero dishwashers can be designed to work with Hatco Booster Heaters to provide a high-temperature, sanitizing final rinse. Use the chart below to identify the corresponding booster heater for your installation. For questions about booster applications, contact us for consultation at 800-762-7600.



Stero Dishwasher Model Number	Electric Compact Booster Temperature Rise		Electric Imperial Booster Temperature Rise		Gas Powermite® Booster ▲ Temperature Rise	
	40°	70°	40°	70°	40°	70°
ER-44, ER-54, ER-66S, ER-76S, ER-76SC	C-15	C-27	S-15	S-27	PMG-100	PMG-100
ER-64, ER86S, ER-94S, ER-94SC	C-15	C-27	S-15	S-27	PMG-100	PMG-100
SC-1-2-7-4, SC-1-6-3-4, SC-1-6-7-4, SC-2-7-4, SC-5-2-7-4, SC-5-6-3-4, SC-5-6-7-4, SC-5-6-3-4, SC-5-6-7-4, SC-6-7-4, SC-2-3-4, SC-5-2-3-4	C-30	C-54	S-30	S-54	PMG-200	PMG-200/100
SC-1-2-4, SC-1-6-4, SC-2-4, SC-5-2-4, SC-5-6-4	C-36	C-57	S-36	S-57	PMG-200	(2)PMG-200
STPCW-ER (Three-Tank)	C-24	C-24			PMG-100	PMG-200
STPCW (Four-Tank)	C-24	C-24			PMG-200	PMG-200/100
U-31-A, U-31-AC			S-24	S-45	PMG-100	PMG-200
U-31-A2			S-45	(2)S-45	PMG-200	(2)PMG-200
STBUW-1	C-45	(2)C-36				

▲ Powermite® installations above 2,000 ft. will reduce the above capabilities and may require change of pressure and/or orifices in certain models at time of install to meet IAS safety compliance. These modifications are the responsibility of the installer. Consult "Installation and Operating Manual" for sizing adjustments and orifice changes.

This selector chart is based on 40°F and 70°F temperature rises, 20 psi flow pressure, and minimum rinse cycle timer setting in NSF listing.

All booster heaters are rated at 100% of the capacity of the dishwashers as recommended by NSF. Where make-up water for wash tank is provided from final rinse supply, chart recommendations are based upon this additional demand (not over 2 GPM) as required by NSF.

**ELECTRICAL DATA**  

$$\left( \frac{\text{GPH} \times \text{°F Temp. Rise}}{400} = \text{kW} \right)$$
**NOTE:** GPH is gallons per hour.

All sizings shown are that of the dishwasher manufacturer. Hatco Corporation is not responsible for incorrect sizing applications. For additional questions, contact Hatco Corporation at (800) 558-0607, [www.hatcocorp.com](http://www.hatcocorp.com).

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## CHECKLIST: Spec Your Warewashing System

The first step in properly designing a washing system is to determine the types and quantities of goods which will be run through the dishmachine. FSIL recommends making a list on a separate sheet of paper with this information. Include all china pieces, glassware, flatware, equipment parts and all kitchen and food prep utensils.

### YOUR REQUIREMENTS:

How many linear feet can be devoted to the following?

\_\_\_\_\_ Feet for scrapping      \_\_\_\_\_ Feet for pre-rinsing  
\_\_\_\_\_ Feet for washing      \_\_\_\_\_ Feet for unloading

How far will the machine be located from the dining room? \_\_\_\_\_ Feet

How far will the machine be located from the food prep area? \_\_\_\_\_ Feet

### POWER REQUIREMENTS:

**Steam:** \_\_\_\_\_ pressure (psi)  
\_\_\_\_\_ Inch supply      \_\_\_\_\_ Inch return

**Electric:** \_\_\_\_\_ watts      \_\_\_\_\_ V      \_\_\_\_\_ ph  
\_\_\_\_\_ Amps      \_\_\_\_\_ V      \_\_\_\_\_ ph  
\_\_\_\_\_ Amps

### Line size:

\_\_\_\_\_ Inch-cold water line size      \_\_\_\_\_ Inch-supply temperature  
\_\_\_\_\_ Inch-supply pressure      \_\_\_\_\_ Inch-hot water

### DISHTABLES REQUIRED:

- Soiled table** Length: \_\_\_\_\_ Inch      Backsplash height: \_\_\_\_\_ Inch  
 Scrap block       Scrap sink       Disposer required  
 Pre-rinse spray       Faucet       Sloped over-shelf  
 Under-shelf
- Clean table** Length: \_\_\_\_\_ Inch      Backsplash height: \_\_\_\_\_ Inch  
 Flat over-shelf       Under-shelf

### SOILED TO CLEAN FLOW:

- Left to right       Right to Left

### VENTILATION REQUIRED:

- Simple box hood       Hood connected to exhaust fan  
 Pant leg duct required: \_\_\_\_\_ Inch (w) x \_\_\_\_\_ Inch (d)

### SANITIZING:

- Low-temp sanitizing       High-temp sanitizing

### BOOSTER HEATER:

- Booster heater built-in       Booster heater loose  
 Floor mount       Under table mount  
 °(F) temperature rise

### OPTIONS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Options vary by model. See product pages for availability.

## **Stero** WARRANTY

All new Stero warewashers are warranted against defects in workmanship and materials for a period of one (1) year from the date of the initial start up or 18 months from date of shipment, whichever occurs first. Any part or material found to be defective by our authorized service representative would be replaced or corrected. The labor necessary to replace or correct the defect is included under our warranty.

Our warranty does not cover:

- Abuse or improper use of the equipment.
- Alterations to the equipment by unauthorized persons.
- Damage to the equipment resulting from improper installation by other contractors.
- Repairs or corrections of the equipment by persons other than our authorized service agencies.
- Parts subject to normal wear (curtains, wipers, etc.).

The warranty card furnished with equipment must be completed and returned to the factory within ten days from date of the start up.

Any repair work done on machines by persons other than authorized Stero service agencies is the sole responsibility of the owner.

- Terms-net 30 from date of invoice, with approved credit.
- All orders for products are subject to acceptance or refusal by Stero.
- All orders received with the necessary ordering information plus shipping instructions will be granted three months price protection.
- All weights listed are approximate U.S. pounds (lbs.).

STERO, A DIVISION OF ILLINOIS TOOL WORKS INC.  
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Image: Stero STPCW-ER Flight-Type Warewasher

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