



Danamark
W A T E R C A R E



DanaHub Module #7 – Warewashing



What we will cover in this section

- **Types of Equipment**
- **Water Issues**
- **Water Treatment Options**
- **Water Softening**
- **Profit Opportunity**



Intro to Warewashing Equipment

Warewashing is the term used to describe the act of collecting and washing any kitchen ware used in the preparation, serving, or storing food.

Although not an exhaustive list, this mainly refers to the pots and pans, cutlery, flatware, glasses, kitchenware, serving pans, and trays.

Most foodservice operations have at least one warewashing machine. In addition to basic cleaning, restaurant managers expect spot free glassware and complete sanitation from their equipment

Most Health Departments inspect the equipment on a regular basis to verify that the final rinse heat or chemical treatment is adequate to insure public safety.

Foodservice professionals know that failure to pass this health inspection will require immediate service and/or repair to correct any equipment problem.



Types of Warewashing Equipment

Here are the basic design factors.

TEMPERATURE OPTIONS – The final rinse cycle is the key to adequate sanitation in each warewashing equipment design.

After the dishes, glasses and utensils have been thoroughly washed and degreased, they are subjected to a final rinse with very hot water, or a warm chemical bath, to complete the sanitizing process.

High Temp Machines include a small water heater to boost the temperature of the final rinse. Water supplied from the building hot water heater is usually set around 140 F degrees, and that temperature must be raised to a minimum of 180 F degrees to legally complete the sanitizing process.

Low Temp Machines also use water supplied from the building hot water heater, but add chlorine based chemical to the final rinse for sanitizing. This approach consumes less energy, but requires the extra cost of chemicals, and monitoring of the chemical feed level. There are also occasional complaints about the residual taste of chemical (chlorine) on the glassware, when using this approach.



Basic Design & Size Options

Under Counter Warewashing units are used in small Restaurants, Diners, Quick Serve Restaurants, Convenience Stores, and homes. They are generally simple, economical, and designed for low volume applications.

Door Type Warewasher units are used in larger full-service Restaurants, small Cafeterias, and other medium volume outlets. They usually include removable racks for easy loading of the items to be cleaned, and the final air drying process may be completed outside of the equipment.

Rack Conveyers (Flight Line) are high volume units used in most areas of the institutional market (hospitals, prisons, schools, etc.). They represent a significant capital investment, and require more frequent PM maintenance.



Rack Conveyor

Water Issues

Booster heaters, included in the rinse cycle for most commercial warewasher units, are simply small hot water heaters with submerged heating elements.

These elements are subject to the same problems as steamer heating elements (mineral scale and corrosion).

A layer of mineral scale insulates the heating elements causing a loss of energy efficiency, reduced water temperature, and premature burn out. The thermostat continues to call for heat, and the heating element is subject to metal fatigue and eventual destruction.

An issue with local Health Departments may arise during their inspection if the boosted / rinse water temperature is below 180 degrees F. Local regulations usually require this water temperature to assure sanitation.

No food service establishment can be without a dishwashing machine and continue to operate!



Water Treatment Options

Water Softening is an excellent solution for the treatment problems associated with warewashing equipment.

The softener reduces water hardness by exchanging calcium, magnesium (hard minerals) and iron for sodium. The softened water eliminates hard mineral scale, and the sodium is easily flushed through the machine during normal operation.

Soft water has been shown to extend the effectiveness of detergents (reduced cost), and will reduce the spotting on dishes and glassware.

Water softeners require significant space, available utilities (water, power, drain), regular maintenance (addition of rock salt) and capital investment.

For all of these reasons, compact and simple water treatment products have been developed, requiring less space, no electricity and lower capital investment.

Let's take a look at the HTS-10 & HFC-10



Kleenware HTS-10 Scale & Corrosion Inhibitor

The Everpure **HTS-10** System was designed for the water booster heater (only) in High Temperature Warewashing equipment, and includes the following features:

- A specially designed head and clear bowl housing that can be installed directly on hot water lines, with up to 170 degree source water. This unit is easily installed in one hour or less, and supports up to 15 gallons per minute flow rate
- Unique Hydroblend™ compound that was designed specifically for hot water use, and provides scale control for the booster heater. The flow-thru head meters the Hydroblend™ material into the water, enabling the heating elements to operate efficiently. The dish machine interiors stay cleaner too, due to reduced mineral deposits in the cabinet.
- A clear bowl allows monitoring of *Hydroblend*™ cartridge, which can last approximately 6 months on under counter and door type machines (depending on volume).



HFC-10 Deliming System

The Everpure **HFC-10 Deliming System** provides a simple and economical method for injecting ScaleKleen deliming compound into the warewashing equipment, without the use of tools and excessive labour.

It consists of a specially designed head and bowl housing that can be installed directly on hot water lines, with up to 170 degree source water. This unit is easily installed and supports up to 15 gallons per minute flow rate.

A Simplified Deliming Process

- Shut off the water supply and relieve the pressure. Remove feeder bowl and insert the dip tube.
- Pour packet of ScaleKleen into housing. Reinstall the bowl and turn on the water
- Turn the water back on, to flush ScaleKleen and hot water into the booster heater
- Allow 30-45 minutes for the delimiting process to dissolve mineral scale deposits
- Flush dissolved minerals and balance of ScaleKleen to drain



Deliming Schedule

It is extremely difficult to predict the ideal frequency for deliming Warewashing Equipment with the HFC-10 System, due to the variety of water and use factors involved in each foodservice outlet.

The amount of water hardness (grains per gallons), the amount of water used each day, and any existing pre-treatment should always be considered.

As a starting point, you may chose to apply the suggested Deliming Schedule in this table – and then make adjustments according to your observations and experience

Water Hardness	2 - 8	8 - 14	14 - 20
Soft, 0 – 3 gpg	30 days	24 days	18 days
Moderately Hard, 3 – 7 gpg	24 days	18 days	12 days
Hard, 7 – 15 gpg	15 days	9 days	6 days
Very Hard, > 15 gpg	9 days	6 days	3 days

Profit Opportunity

We refer to Everpure products as 'backward compatible' which means that all our replacement cartridges fit into existing Everpure hardware regardless of when or who it was purchased from.

In addition to the ongoing revenue stream associated with selling water filtration systems, Everpure offers a broad range of 'upgrades' in the form of higher capacity cartridges, should you need longer life. Problem solving cartridges for problematic water and even shorter cartridges should you be tight on space.

By keeping track of your system sales and scheduled cartridge changes, and providing your customers with a planned PM programme, you can build a nice business that will only grow year over year.

Warewashing solutions provide some opportunity for replacement cartridges, but the real opportunity is your presence in any foodservice establishment. The sheer fact that you are in the building gives you the chance to look around for existing filter installations and pick up the replacement cartridge business.



Protecting Equipment is as easy as 1,2,3

- 1) Install the proper Watercare Equipment
- 2) Assure results with the proper installation
- 3) Establish a Preventive Maintenance Schedule & Stay on Schedule!

Establishing Regular Preventative Maintenance (PM) with the customer and replacing filter cartridges when needed, is of paramount importance.

Preventative maintenance can be assured by scheduled automatic service calls, auto ship programs or by sending automatic reminders to the customers.

Remember: S I R - Select - Install - Replace

Is the key to providing quality, protecting equipment and selling filters.



Recap

WaterCare is a great business to be a part of...it benefits your customers and their operations and it provides you with a new revenue stream.

Water filters pay for themselves through:

- Customer satisfaction by delivering consistently high quality water, day in and day out
- Reduced emergency maintenance, wear & tear on equipment
- Extended equipment life, less deliming with harsh chemicals
- Peace of mind –water is food and food safety is everything (NSF Certification)

Thank you for your time.

This concludes our DanaHub Module on
Warewashing

DanaHub