

Understanding Warewashing

Warewashing equipment is the collective industry name for dishwashers and glasswashers. It derives its name from glass "ware" and table "ware."

A common question from caterers is why can't they use the same machine for both glasswashing and plate washing? The answer is you can and very small establishments cannot justify the cost of a dedicated glasswasher and dishwasher, but there are problems in using the same machine for glassware and tableware. The wash time for glassware is very short, so putting glasses in with the longer wash cycle needed for tableware wastes energy.

Food debris from tableware can easily cause smears and spots on glassware, leading to the need for hand finishing or re-washing. Even putting glasses in the washing machine on their own following a tableware washing cycle can still produce soiled glassware. Dishwashers are often programmed to do a pre-rinse cycle to clear loose food waste stuck to plates and may have a high finishing hot rinse to aid sanitisation.

Types of machine available

Glasswashers

Glasswashers tend to be front-loading compact machines for small to moderate usage of glassware, often fitting under a counter or on a bench in a preparation area. Being compact leads to fast turnaround of soiled glasses, avoiding the need for heavy stocking levels. While they are often sited underneath the bar because of space restrictions, it is better to use the bar area for retailing rather than glasswashing. Busy pubs and bars may need to move to a pull-down hood machine which enables rapid washing of a large volume of glasses.

Cabinet dishwashers

Dishwashers start with compact machines, which look and work in a similar way to glasswashers and are designed to fit on a bench in a back-of-house cleaning area, still-room or satellite kitchen.

Pull-down hood dishwashers

The next stage up in machine design is a pull-down hood machine. These are more powerful, faster and are manually loaded with a basket of soiled tableware. They are usually configured with stainless steel tabling either side of the dishwasher so while a basket of dirty tableware is being washed, another basket of dirty tableware is being loaded ready to go in and a washed basket on the other side of the hood washer is waiting to be emptied. This gives a continual cycle of plate washing.

Rack conveyor dishwashers

These work on a pass-through system where the baskets of soiled tableware are on a conveyor belt which passes through the washing

machine, going through wash zones which start at pre-rinse, go to hot wash, then hot rinse and come out on the other side of the conveyor ready for stacking away.

Flight dishwashers

These are a semi-automatic dishwashing system, similar in principle to rack conveyor systems, but very much bigger. They are designed to cope with huge volumes of soiled tableware which might be found in a university or hospital kitchen, an airline food production kitchen, large staff feeding facility or a conference and exhibition centre.

Which size of machine to choose

Many small to medium businesses underestimate the capacity of warewashing machine they need. The big mistake is looking at the overall daily throughput and basing machine size choice on that. This is to ignore there are always peak demand times in the day when tableware and glassware is needed very quickly. Also, buying a machine for current needs makes no allowance for an increase in business. The safest way of avoiding buying the wrong size machine is to ask manufacturers for advice.

Questions to ask before buying

There are strict national regulations on how dishwashers and glasswashers should be connected to the water main to prevent contamination of the mains water system through accidental backflow of dirty water. Some cheaper machines may not fully comply with water supply regulations, involving costly later modifications. Check the machine complies.

Ask about the type of steel. All warewashing machines offer stainless steel washtanks, but there are different grades used in manufacture. The best is Grade 304, much more corrosion-resistant than the cheaper 430 grade stainless steel, though both look the same.

Ask about noise and heat emissions. Double skin casings will reduce noise, operating cost and be cool to the touch.

Study the energy and water consumption performance. What may seem a cheap machine to buy could prove to be a very expensive machine to run.

Ask advice on the fitting of a water treatment system to prevent limescale build-up in the internal pipework of the machine. Water treatment is essential in hard water areas and recommended in other water areas.

Be very specific about the availability of spare parts, the turnaround time for spares and what are the service options offered with the machine.

Look After It!

Warewashing equipment is often shunted to the far corners of a kitchen and since in all but very small catering businesses is operated by a kitchen assistant rather than a chef. Professional warewashing machines are built to take hard work, but a lack of care

during use can be a potential source of unplanned and unnecessary maintenance cost.

Responsibility for supervising dish and glasswashing equipment should lie with a senior kitchen manager, who while not involved in daily operation of the machine, will ensure correct operation procedures and in-house maintenance as set out by the manufacturer. Warewashing equipment has heavy use during every service period. It is built for hard work, but not for neglect or abuse.

The biggest drain on maintenance cost of a warewashing cabinet is the failure to fit a water softening system. It is normally an extra item to a new machine, but it is not a luxury. Mains water contains dissolved salts which when heated break out of the water and attach to metal. This will be heating elements and pipework. This familiar furring up of metal increases energy costs and in furring up of pipework in a dishwasher can lead to serious internal damage.

Fitting a water treatment system in hard water areas is essential, but is also strongly recommended in soft water areas, since all water contains dissolved salts and water is passed around the national water pipeline. Fitting a water treatment system to a glasswasher will also reduce the risk of streaking and smearing, which is mostly caused by dissolved salts. It will almost certainly be a requirement for a manufacturer's warranty to be valid on new equipment and for a service contract.

There are relatively few moving parts on a dishwasher, the main two being the pump that circulates the water around and the wash arms. Fitting a cheap pump is invisible and it may even deliver a comparable time for the wash cycle to an expensive unit, but it will break down quicker and more often than a well-made pump.

The wash arms spin on bearings can wear out and cheap wash arms themselves can get damaged or broken if poorly designed. Spray jets may be individually replaceable, but on cheaper machines it is often the whole wash arm which needs replacing. These points need to be considered when during a routine maintenance visit by a service engineer it is reported that a part needs replacing and there are several spare price part options available.

All warewashing machines have filter systems to trap food debris, but a dishwasher is not a waste disposal system and excess food waste should be scrapped first into a dry waste bin and preferably with a pre-rinse using either a sink hose or a simple dip and scrub in a sink or by using a waste disposal unit. Larger dishwashing systems are built to deal with food residues, but with smaller cabinet machines, allowing excess plate waste to go into the cabinet could cause clogging of the water filter system. Rice may seem a benign food, but it notorious for clogging filter systems.

Under-performance of dish and glasswashing machines often has nothing to do with the machine, but with the quality of the detergents being used. Cheap detergents will not damage a washing machine, but can lead to double washing because the plates and glasses were not clean.

Like any item of catering equipment, regular servicing is the key to keeping warewashing equipment running effectively.

In brief

Do

- Fit a water softening system
- Check the detergent dosing levels
- Scrap plates thoroughly before washing
- Train staff on good work practise
- Check and un-block spray jets

Don't

- Use cheap detergents
- Use a dishwasher as a waste disposal unit
- Neglect to clean filters
- Mix dirty plates and dirty glasses
- Overload the machine

How to find out more about warewashing machines

Talk to the experts.

The Catering Equipment Suppliers Association

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