

# QSR OPERATIONS: MANUAL vs. AUTOMATED WASHING

## Undercounter Dishmachines Save Labor & Improve Food Safety

If your food service operation relies on manual washing in a three-compartment sink, upgrading to an undercounter dishmachine can significantly improve labor and resource efficiency, as well as food safety. In a recent field study with a QSR operation using a three-compartment sink versus operation with an LXe Undercounter Dishmachine, Hobart engineers found an automated dishmachine provided measurable savings in labor time and water consumption, and drastic improvements in food safety and sanitization assurance.

### OBJECTIVES AND METHODOLOGY

While introducing a dishmachine into an operation can bring time and cost savings, the question is just how much, and what other benefits are there? Our study was designed to analyze three factors:

1. Labor Time
2. Water Use
3. Food Safety Compliance (in accordance with the 2017 FDA Food Code)

Our team collected data from one QSR location during two separate 5-day periods, the first period using a three-compartment sink, and the second using the LXe Undercounter Commercial Dishwasher. Data included:

- Labor time analysis of the dish washing process, recorded by a video camera over the wash area (see sidebar).
- Water consumption of the sink and the dishmachine, tracked by flow meters installed on the incoming water lines.
- Water temperature in the three-compartment wash sink (FDA guidelines specify water temperature must be maintained at 110°F minimum).

### LABOR SAVINGS

In today's tight labor market, attracting and retaining employees is a top challenge faced by many foodservice operators. Finding ways to improve efficiency can help save and repurpose labor time and costs, while helping to improve overall operations and creating a better environment for your staff.

Our field team conducted a labor time analysis using video from the 5-day period with the three-compartment sink, and then with the undercounter dishmachine. **The commercial dishwasher saved 40% on total daily washing time** (including start up and cleanup of the sinks or dishmachine). The average daily dishwashing time using the 3-compartment sink was 70.3 minutes, compared to 30.3 minutes using the LXe.



### OUR BIG TAKE-AWAYS

The LXe undercounter dishmachine provide significant labor and water savings and improvement to food safety when compared to the 3-compartment sink.

40%

- The LXe commercial dishwasher saved 40% on total daily washing time.

60%

- 60% of the time spent manually washing in the 3-comp sink did NOT comply with FDA standards.

100%

- All the ware that went through the machine was fully washed, rinsed & sanitized.

23k

- The LXe provided potential savings of over 23,000 gallons of water each year.

During the analysis it was observed that **60% of the time spent manually washing in the 3-comp sink did not comply with FDA standards** for washing, rinsing, and sanitizing, creating “missing” time for procedures that should have been performed. Accounting for the missed standards and time, the primary process time (NOT including start up and clean up time) for washing ware with three-compartment sink came out to 49.7 minutes, compared to 21.9 minutes with the LXe Undercounter dishwasher. That shows a reduction in primary dishwashing labor of 44%.

Staff washing with a 3-compartment sink are typically observed washing in one, long session that keeps that person tied up for 30-40 minutes. However, using the undercounter dishwasher, staff would load a rack and start a cycle as they went throughout the day, allowing them to walk away while the dishwasher ran a cycle. In addition to the time savings, this freed staff to perform other tasks across the operation while washing takes place in the background.

## FOOD SAFETY IMPROVEMENTS

One of the most significant observations made during this study was washing behaviors with the three-compartment sink that do not comply with the FDA standard, especially with regard to sanitization. Food safety was a major concern as the proper wash and sanitization procedures were frequently missed. This ranges from food soil left on the ware, to ware that wasn't fully sanitized, or not sanitized at all, creating the opportunity for bacteria growth and the increased possibility of food-borne illness.

### Risky behaviors in the 3-comp sink included:

- Dunking ware in the wash sink, without scrubbing off built-up food soil.
- Rinsing and returning items to service, skipping the washing and sanitization steps.
- Dunking items in the sanitization sink for only one second (59 seconds less than the 60-second requirement).

- Piling ware in the sanitizer sink so that many items never touch sanitizer.
- Wash water temperature falling below 110°F requirement.

When operators used the LXe Undercounter Dishwasher, the dishwasher consistently applied washing and sanitization standards on every cycle, so there were no missed standards from operator behavior with the dishwasher, and all **ware that went through the machine was fully sanitized.**

## WATER AND ENERGY SAVINGS

Whether you're filling up a 3-compartment sink or running a wash and rinse cycle in an undercounter dishwasher you're going to use water. However, our data shows that using an undercounter dishwasher in an operation can drastically reduce the amount of water used each day.

At this QSR location, when using only a three-compartment sink the average daily water use was 75.5 gallons. When the LXe Undercounter dishwasher was first installed, staff used a combination of three-compartment sink with the dishwasher and averaged around 31.9 gallons of water per day. When the dishwasher was used for all warewashing operations the amount of water averaged only 13.4 gallons per day. This means **total potential savings of over 23,000 gallons of water each year** when using an automated dishwasher.

## AUTOMATED DISHWASHERS BENEFITS ADD UP

Dishwashers are highly efficient, and operators can expect to save 30 minutes or more each day, and allow staff to wash as they go, freeing up valuable time for other parts of the operation. The consistency of washing and sanitization also takes away the food safety concerns and risks that go with manual washing. Combine this with significant reductions in water use, and a commercial dishwasher is an important upgrade for food service operations that currently rely on three-compartment sinks.



## Ready to Achieve Hobart Clean?

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### WHY RISK IT?

Learn more about the LX dishwashing advantages with our infographic.