



Innovation has a name.



# Evolution of Water Heating in Restaurants



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# Evolution of Water Heating in Restaurants



## ● Introduction

- Hot water is the backbone of all restaurants.
- It is used for sanitation, cleaning, and cooking.
- Adequate hot water has to be present at all times for allowable operation.
- Energy costs are rising at double the rate of inflation.
- Because of said costs, a multitude of strategies and improvements have altered the course of hot water in restaurants.

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- According to an industry report by the EPA, 15% of the total gas consumed by commercial buildings in California is done so by commercial food service operators. Restaurants use approximately 52% of water in the kitchen and 31% of it domestically, such as in restrooms. A large amount of this can be linked back to restaurants' hot water usage, which makes up a significant portion of the facility's energy consumption.

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Table 1. Typical hot water system cost for restaurants.

|               | Water Use<br>(gal/d) | Gas Use<br>(therms/yr) | Water/Sewer<br>Cost* | Gas<br>Cost** | Electricity<br>Cost*** | Annual<br>Utility Cost |
|---------------|----------------------|------------------------|----------------------|---------------|------------------------|------------------------|
| Quick Service | 500                  | 1400                   | \$2,000              | \$1,500       | -                      | \$3,500                |
| Full Service  | 2500                 | 8800                   | \$9,800              | \$9,700       | \$150                  | \$19,650               |

California 2009 nominal utility rates: \*\$8.00/unit for water and sewer

\*\*\$1.10/therm for natural gas

\*\*\*\$0.15/kWh for electricity (recirculation pump)

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- Expectations of water heating equipment for restaurant owners
  - Unlimited access to hot water
  - Quick delivery of hot water to all facets of building
  - Minimal maintenance
  - Energy Efficient Product that minimizes cost
  - Conservation wherever possible
  - Consistent upgrades in usable technology

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## ● Understanding Restaurant Equipment

- Pre rinse Sprayers
  - 4.5 GPM - .64 Ultra Low Flow
- Commercial glasswashers
  - 2.5GPR - .70GPR High Efficient
- Commercial front load dishwashers
  - 10.4GPM – 5GPM
- Faucets
  - 2.2GPM - .375 Ultra Low Flow

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