

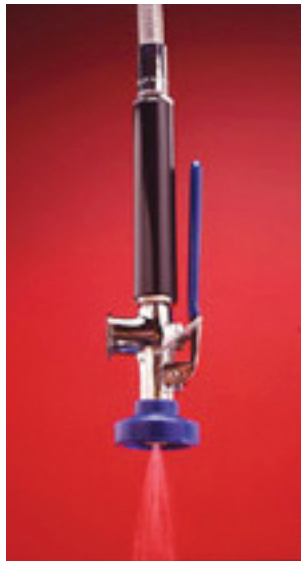
Low-flow pre-rinse spray valves save energy and water

Each year restaurant and cafeteria kitchens waste millions of dollars of potential profits by ignoring the water and energy running down their drains.

One of the easiest and most cost-effective ways to reduce this waste is to replace older pre-rinse spray valves with low-flow units. Most establishments use the valves to rinse dirty dishes before running them through a dishwasher. The units include a spray nozzle, squeeze lever that controls water flow and a dish guard bumper.

Standard spray valves and nozzles that spray in a round pattern use over three gallons of hot water per minute, plus the energy that goes into heating the water. By comparison, the flat, knife-like spray of low-flow valves uses only 1.6 gallons per minute.

According to a 2003 pilot project by the California Urban Water Conservation Council, once kitchen workers understand how to direct the spray, most agree that it is more effective in removing food from dishes. Installation is very easy—usually a competent maintenance person can remove the old valve and install a new one in a few minutes.



Low-flow, pre-rinse spray valves use only 1.6 gallons per minute, compared to the three gallons per minute conventional valves use. (Photo by California Urban Water Council)

Selecting and purchasing a low-flow pre-rinse spray valve

The American Society for Testing and Materials has developed a “Standard Test Method for Pre-Rinse Spray Valves”—ASTM F2324-03. Several sprayers have been tested using the ASTM standard and meet its requirements. These include:

- Fisher Manufacturing – Model Ultra-Spray 2949
- Niagara Conservation – Model N2180
- T&S Brass and Bronze Works, Inc. – Model B-0107-C

Contact your local water, natural gas or electrical utility to see if they offer free or reduced-cost low-flow valve conversions. If your local utility is not able

to help, contact one of the manufacturers listed above to find a local supplier. Federal and military facilities have special purchase options through the General Services Administration. ⚡

Estimating cost savings

To calculate the savings for your facility, you can use the Pre-Rinse Spray Valve Calculator provided by the Food Service Technology Center. The FSTC is a scientific testing facility for benchmarking the energy performance of equipment used in commercial kitchens. You’ll be surprised how much water, energy and money this simple change can save you.

Example:

A single three-gallon-per-minute spray valve used two hours per day consumes over 131,000 gallons of water per year. The total cost of using this one pre-rinse valve—including water, sewer and heating (assuming electric water heating at 5 cents per kWh)—is \$2,060/year.

Installing a low-flow pre-rinse spray valve that reduces the flow rate to 1.6 GPM reduces the total annual cost of water, sewer and energy to \$1,100/year. An investment of less than \$100 yields \$960 savings in the first year – not a bad return!

Resources

Food Service Technology Center Pre-Rinse Spray Valve Calculator

<http://www.fishnick.com/tools/watercost/>

Fisher Manufacturing – Model Ultra-Spray 2949 performance summary

<http://fisher-mfg.com/2949%20Features.pdf>

Niagara Conservation – Model N2180 performance summary

http://www.fishnick.com/saveenergy/sprayvalves/Niagara_N2180.pdf

T&S Brass and Bronze Works, Inc. – Model B-0107-C product information

<http://www.tsbrass.com/index.cfm?page=SearchProduct&ID=341>

Additional information

Low-Flow Pre-rinse Spray Valves, Food Service Technology Center

<http://www.fishnick.com/saveenergy/sprayvalves/>

How to Buy a Low-Flow Pre-Rinse Spray Valve

<http://www.eere.energy.gov/femp/pdfs/prerinsenozzle.pdf> (198K Adobe® Acrobat® .pdf)

U.S. Department of Energy Federal Energy Management Program, September 2004

Region of Waterloo Pre-Rinse Spray Valve Pilot Study

<http://www.cuwcc.org/uploads/product/Veritec-Waterloo-PRSV-Field-Study.pdf>

(414K Adobe® Acrobat® .pdf)

Veritec Consulting, Inc., January 2005

Evaluation, Measurement, and Verification Report for the CUWCC Pre-Rinse Spray Head

Distribution Program

http://www.cuwcc.org/uploads/product/SBW_Final_EMV_Report_Phase_1.pdf

(414K Adobe® Acrobat® .pdf)

SBW Consulting, Inc., May 2004

Draft Analysis of Standards Options for Pre-Rinse Spray Valves

<http://www.cee1.org/com/com-kit/codes.pdf> (33K Adobe® Acrobat® .pdf)

Pacific Gas and Electric Company, May 2004



Energy Services Web site
www.wapa.gov/es

Western's Power Line:
1-800-POWERLN
(1-800-769-3756)

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