

Here's How:

A low-flow pre-rinse spray valve is one of the easiest and most cost-effective water saving devices any food service operation can install. New low-flow valves on the market work just as well as the older, inefficient valves but reduce water use by 30 to 70 percent.

low-flow
pre-rinse
spray valve



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LOW-FLOW PRE-RINSE SPRAY VALVE



Low-flow
pre-rinse spray
valves will
save you
money on your
water, sewer
and water
heating bills.



What is a pre-rinse spray valve?

A pre-rinse spray valve is a handheld device that uses a spray of water to remove food and grease from dishware, utensils and pans before placing them in the dishwasher. Low-flow pre-rinse valves are inexpensive and easily interchangeable with different manufacturers' assemblies.

Why use a low-flow pre-rinse spray valve?

Dishwashing in a typical restaurant consumes more than two-thirds of all of the water used in the restaurant. Nearly one-half of that water can be used to rinse the dishes before actually washing. A great deal of energy is used to heat this water.

A typical pre-rinse spray valve uses 3 gallons per minute (gpm); however, older spray valves still use up to 7 gpm. A low-flow pre-rinse spray valve uses only 1.6 gpm. Increased water efficiency correlates to direct savings in energy by reducing the amount of water that needs to be heated.

Low-Flow Pre-Rinse Spray Valve Performance

The Food Service Technology Center in California tested many low-flow pre-rinse spray valves and concluded that efficient valves with the knife-like spray pattern performed as well as or better than conventional models. The following low-flow spray valves meet the performance criteria of the Food Service Technology Center as of September 20, 2006.



Efficient Valve	PERFORMANCE CRITERIA	
	Flow Rate	Cleaning Rate
Encore KN50-Y002-12	1.18 GPM	22 sec per plate
Fisher Ultra-Spray 2949	1.15 GPM	22 sec per plate
Krowne 21-129	1.24 GPM	24 sec per plate
Niagara Conservation N2180	1.28 GPM	17 sec per plate
Strahman Kwik-Clean II	1.16 GPM	26 sec per plate
T&S Brass B-0107	1.40 GPM	21 sec per plate
T&S Brass B-0107-C	1.24 GPM	21 sec per plate
T&S Brass Equip 5SV	1.41 GPM	22 sec per plate
T&S Brass JetSpray B-0108	1.48 GPM	21 sec per plate
T&S Brass JetSpray B-0108-C	1.12 GPM	21 sec per plate

For the most current list and for detailed performance summaries of these pre-rinse spray valves go to www.fishnick.com/saveenergy/sprayvalves.

Extremely low or high water pressure can impact performance; standard water pressure is 60 psi. Check your water pressure before installing a pre-rinse spray valve.

Potential Water and Cost Savings

A restaurant that uses a pre-rinse spray valve one hour a day and replaces a 3 gpm valve with a 1.6 gpm valve could potentially save the following;

Utility	Daily Savings	Annual Savings	Cost Savings (\$)
Water & Wastewater (gallons)	84	30,492	\$213.20
Gas Water Heating (therms)	0.5	181	\$268.51
Electric Water Heating (kWh)	10.8	3,918	\$391.80
Total Annual Savings is approximately			\$500 - 600

Water savings based on replacing a 3 gpm pre-rinse spray valve with a 1.6 gpm spray valve used a total of 1 hour per day, 363 days of the year. Cost savings are based on approximate average costs of \$3 per 1,000 gallons for water, \$4 per 1,000 gallons for sewer, \$1.48 per therm for gas and \$0.10 per Kilowatt for electric. Water heater efficiency was calculated using 70 percent and 95 percent efficiency for gas and electric, respectively.

Calculate Your Water Savings

The Food Service Technology Center has an online calculator that can estimate how much your restaurant could save. To calculate your water savings go to www.fishnick.com/tools/watercost.

Resources

Food Service Technology Center
www.fishnick.com

Water Management Options:
Kitchen and Food Preparation
www.p2pays.org/ref/04/03103.pdf

Federal Energy Management Program: How to Buy Low-Flow Pre-Rinse Spray Valves
www.eere.energy.gov/femp/procurement/eeep_low-flow_valves.cfm

Federal Energy Management Program: Clean Up with Water Savings
www.eere.energy.gov/femp/newsevents/fempfocus_article.cfm/news_id=8306