

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 50 percent.

low-flow
pre-rinse
spray valve



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LOW-FLOW PRE-RINSE SPRAY VALVE



Low-Flow
Pre-Rinse Spray
Valves Save
Water and
Energy



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 waste from dishes, utensils and pans before placing them in the dishwasher.
- » Low-flow pre-rinse spray 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 the water used in the restaurant. Nearly one-half of that water is used by a pre-rinse spray valve to rinse the dishes before actually washing.
- » A typical pre-rinse spray valve uses 3 gallons of water per minute (gpm); a low-flow pre-rinse spray valve uses only 1.6 gpm.
- » An efficient, low-flow pre-rinse spray valve can save 84 gallons of water per hour of use.
- » Low-flow pre-rinse spray valves use hot water to rinse dishes so by saving water, you also save energy.

Tips on Buying and Using a Low-Flow Pre-Rinse Spray Valve

- » The Food Service Technology Center in California has tested many low-flow pre-rinse spray valves and recommends a pre-rinse spray valve with a flow rate of 1.6 gpm or less at 60 pounds per square inch (psi), and with a cleanability performance of 26 seconds per plate or less.
- » High velocity spray patterns show better cleaning performance than those that simply use a restrictor to reduce water flow. Efficient valves with the knife-like spray pattern perform as well as or better than conventional models.
- » Check your water pressure before installing a pre-rinse spray valve. Extremely low or high water pressure can impact performance.
- » If possible, periodically disassemble and clean pre-rinse spray valves to remove scale build-up and maintain efficiency.

The following list of pre-rinse spray valves are verified by the Food Service Technology Center. For the most current list and for detailed performance summaries of these pre-rinse spray valves go to www.fishnick.com/equipment/sprayvalves/.

Food Service Technology Center Verified Pre-Rinse Valves	PERFORMANCE CRITERIA	
	Flow Rate	Cleanability*
BK Resources PRV-1	0.98 GPM	25 sec per plate
Bricor B064 PRV	0.65 GPM	21 sec per plate
Bricor B074 PRV	0.71 GPM	21 sec per plate
Bricor B084 PRV	0.84 GPM	20 sec per plate
Bricor B094 PRV	0.91 GPM	19 sec per plate
Bricor B095NS	0.94 GPM	23 sec per plate
Chicago Faucet 90-LABCP	0.93 GPM	22 sec per plate
Encore KN50-Y002-12	1.18 GPM	22 sec per plate
Fisher Ultra-Spray 2949 & 71307	1.15 GPM	22 sec per plate
Krowne Metal Water Saver 21-129	1.24 GPM	24 sec per plate
Niagara N2180	1.28 GPM	17 sec per plate
Strahman Kwik-Clean 3	0.99 GPM	16 sec per plate
Strahman Kwik-Clean II	1.16 GPM	26 sec per plate
T&S B-0107	1.40 GPM	21 sec per plate
T&S B-0107-C & EB-0107-C	0.64 GPM	21 sec per plate
T&S Equip 5SV	1.41 GPM	22 sec per plate
T&S Equip 5SV-C	1.14 GPM	23 sec per plate
T&S JetSpray B-0108	1.48 GPM	21 sec per plate
T&S JetSpray B-0108-C	0.64 GPM	21 sec per plate
T&S B-2108	1.38 GPM	20 sec per plate
Zurn Z80000-PR1	1.23 GPM	23 sec per plate

*Cleanability is defined by the ASTM Standard Test Method for Performance of Pre-Rinse Spray Valves and is based on the time it takes to wash off tomato paste from a plate (given in seconds).

Potential Water and Cost Savings

A restaurant that uses a pre-rinse spray valve at least 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 & Waste Water (gallons)	84	30,492	\$274.35
Gas Water Heating (therms)	0.5	181	\$199.57
Electric Water Heating (kWh)	10.8	3,918	\$430.98
Total Annual Savings is approximately			\$450-700

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 \$4 per 1,000 gallons for water, \$5 per 1,000 gallons for sewer, \$1.10 per therm for gas and \$0.11 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 and energy savings go to: <http://www.fishnick.com/savewater/tools/watercalculator/>.



Resources

Food Service Technology Center (FSTC) – www.fishnick.com

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