



High-Efficiency

Pre-Rinse Spray Valves

Pre-rinse spray valves—often used in commercial and institutional kitchens—are designed to remove food waste from dishes prior to dishwashing. By switching to a U.S. Department of Energy (DOE)-compliant pre-rinse spray valve, a commercial and institutional kitchen can save more than \$110 annually in energy and water costs.

About one million food service establishments in the United States use nearly 53 billion gallons of water each year to rinse dishes with pre-rinse spray valves (PRSVs). In fact, PRSVs can account for nearly one-third of the water used in a typical commercial kitchen.

From 2013 to 2018, WaterSense labeled PRSVs that met its criteria for water efficiency and spray force. Starting in 2019, DOE adopted the WaterSense efficiency criteria for the national energy standard. In addition, DOE used the WaterSense-developed spray force test to establish three PRSV categories. All PRSVs sold in the United States are required to meet the DOE standard. With the revised DOE standard in place, WaterSense sunset its specification on January 1, 2019.

DOE MAKES HIGH-EFFICIENCY THE STANDARD

DOE's federal energy conservation standard now requires every PRSV sold in the United States to flow at 1.28 gallons per minute (gpm) or less, depending on the product's spray force-based product category. The following chart explains the new categories of PRSVs and their maximum flow rates.

Product Class by Spray Force	Maximum Flow Rate (gpm)
Product Class 1 (≤ 5.0 ozf)	1.00
Product Class 2 (> 5.0 ozf and ≤ 8.0 ozf)	1.20
Product Class 3 (> 8.0 ozf)	1.28

Source: DOE, 2016

Replacing an old PRSV (flowing at 1.6 gpm or more) with a DOE-compliant model can save a typical commercial kitchen more than 7,000 gallons of water



per year, equivalent to the amount of water needed to wash nearly 4,800 racks of dishes. Because kitchens use hot water to rinse dishes, installing a high-efficiency PRSV can reduce a commercial kitchen's annual natural gas use by more than 5,700 cubic feet per year. That's enough energy to run its convection oven 12 hours per day for three weeks.

A commercial kitchen that replaces one old PRSV with a DOE-compliant model could save as much as \$110 to \$200 on utility bills per year, by reducing water costs by \$65 per year and energy costs by more than \$40 per year (natural gas) or more than \$130 per year (electricity). The facility could see payback on the investment in a high-efficiency PRSV in as little as five to eight months.

As of 2019, high-efficiency and high-performing DOE-compliant PRSVs are available across the country. Visit the [WaterSense](#) and [DOE websites](#) for more information.