

# High Efficiency Specifications for Commercial Pre-Rinse Spray Valves

Effective Date 6/1/2014

## Performance Requirements for Qualifying Products\*

	Tier 1	Tier 2
<b>Flow Rate (gallons per minute, gpm)</b>	≤ 1.28	≤ 0.75
<b>Spray force (ounces-force, ozf)<sup>1</sup></b>	≥ 4	≥ 4
<b>Life cycle (# of cycles)</b>	≥ 250,000	≥ 250,000
<b>Performance Criteria Equivalency (for reference purposes only)</b>	WaterSense™ Version 1.0	A subset of units meeting WaterSense Version 1.0

\*Testing bodies test PRSV performance with water pressure at 60 pounds per square inch (psi). Significantly higher or lower water pressure will impact PRSV performance.

## Definitions

**Pre-Rinse Spray Valve (PRSV):** a handheld device designed and marketed for use with commercial dishwashing and warewashing equipment and applications that spray water on dishes, flatware, and other food service items for the purpose of removing food residue before cleaning the items.<sup>2</sup>

ASME: American Society of Mechanical Engineers

<sup>1</sup> This metric and corresponding test method was developed by EPA WaterSense in collaboration with the American Society of Mechanical Engineers (ASME)/Canadian Standards Association (CSA) Joint Harmonization Task Force Project Team FT-07-11 (the “Task Force”). To determine spray force’s efficacy as a performance metric, the Task Force mapped laboratory force test data for 14 pre-rinse spray valve models that EPA had monitored in a field study to customer satisfaction data collected in the field study. Ultimately, the Task Force found spray force to correlate better to user satisfaction than cleanability—though neither metric exhibits extremely high correlation to user satisfaction based on the data currently available. ASTM subsequently revised its *ASTM F2324* test protocol to include the new spray force method and move the cleanability method from the body of the test protocol to an Appendix.

<sup>2</sup> [WaterSense Specification for Pre-Rinse Spray Valves Version 1.0](#)

ASTM: ASTM International, formerly the American Society for Testing and Materials

CSA: Canadian Standards Association

## Qualifying Products

This specification applies only to pre-rinse spray valves that:

1. Meet the definition for pre-rinse spray valves. This specification does not apply to spray fittings used for pot and kettle filling, pet grooming, grocery produce and meat cleaning, residential dish rinsing, and purposes other than those described in the definition above.
2. Meet the performance criteria above. If the pre-rinse spray valve has more than one mode, all modes must meet the maximum flow rate requirement, and at least one mode, as specified by the manufacturer, must meet all of the requirements outlined in this specification.
3. Conform to applicable requirements in the latest version ASME A112.18.1/CSA B125.1 *Plumbing Supply Fittings*, with the exception of the flow rate test and the life cycle test requirements (which must meet the criteria in this specification).

CEE will develop a qualifying products list by collecting third-party certified or verified performance data from other organizations rather than requiring manufacturers to submit performance data directly to CEE. All third-party certified or verified data sources will be cited on each qualifying products list published quarterly, including organization name and date. Manufacturers not participating in any third-party programs, such as ENERGY STAR® or similar programs are strongly encouraged to do so. If this is not an option, please contact CEE.

## Test Methods and Reporting

When testing commercial pre-rinse spray valves, the following test methods shall be used to determine qualification:

- The latest version of ASTM F2324, *Standard Test Method for Pre-Rinse Spray Valves* (flow rate and spray force)
- The latest version of ASME A112.18.1/CSA B125.1 *Plumbing Supply Fittings* (life cycles)

Significant Digits and Rounding: All calculations shall be carried out with actual measured or observed values. Only the final result of a calculation shall be rounded. Calculated results shall be rounded to the nearest significant digit as expressed in the corresponding specification limit. Unless otherwise specified, compliance with specification limits shall be evaluated using exact values without any benefit from rounding.

## Future Specification Revisions

CEE reserves the right to revise the specification as appropriate.

© 2014 Consortium for Energy Efficiency, Inc. All rights reserved.

See [www.cee1.org/terms.php3](http://www.cee1.org/terms.php3) for Terms and Conditions of Usage