

ENERGY STAR Version 3.0 Commercial Dishwasher Draft 2 Comment Response Document

Topic	Subtopic	Stakeholder Comment	EPA Response
Definitions	Single Tank, Door Type	A stakeholder notes that single tank door type machines may be dual sanitizing mode machines and converted from one mode to another in the field. The stakeholder also notes that a chemical sanitizing mode machine may be provided with a booster heater to ensure 120°F minimum final rinse water.	ASTM F1696-18 Section 3.1.39 suggests this definition should remain as is. EPA aims to harmonize as much as possible with industry definitions. EPA believes this definition will be updated in the forthcoming standard pending committee approval. As a result, EPA proposes not to revise the definition in the Final Draft specification. EPA will make amendments to definitions in the ENERGY STAR specification once the revisions are finalized in the ASTM standard.
	Single Tank Conveyor	A stakeholder notes that conveyor machines may be dual sanitizing mode machines, which is missing from the definition.	ASTM F1920-15 Section 3.1.35 suggests this definition should remain as is. As a result, EPA proposes not to revise the definition in the Final Draft specification in order to align with the ASTM test procedure.
Scope	Glasswashing Machines	A stakeholder supports glasswashing models being classified as undercounter machines.	ASTM 1696-18 Section 3.1.16 defines glasswashing as a stationary rack, under counter machine, which is defined in the ENERGY STAR specification. For glasswashing machines to be ENERGY STAR certified, they must meet the ENERGY STAR requirements for the Under Counter machine type.
	Excluded Products	A stakeholder inquires why dedicated models of chemical sanitizing PPU and flight type machines are excluded from scope when the design and performance of dedicated and dual sanitizing mode machines are the same.	The PPU and flight type machine request to drop low temp from scope was based on stakeholder comments regarding lack of availability of these models in a solely low temp configuration. EPA requested and did not receive data submissions of product performance and availability on these machine types in order to further evaluate their performance and availability.
Certification Criteria	Idle Energy Rate	A stakeholder supports collecting booster idle energy data for use in a future spec revision. They suggest this data is not published publicly on the ENERGY STAR Qualified Products List (QPL).	EPA thanks the stakeholder for their support and notes that booster heater idle energy rate will be incorporated in the QPX and will not be a public facing field in the QPL.

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<p>Certification Criteria</p>	<p>Idle Energy Rate</p>	<p>A stakeholder notes that machines can be designed for varying levels of idle energy savings. They can be set up to reduce the tank and/or booster heater thermostats back to a “stand-by” temperature after a set amount of time. They can also be set up to turn off completely after a set amount of idle time. Larger machines may be programmed to enter a “stir” mode where the wash pump comes on for a few seconds periodically to minimize stratification in the heated tank. This stakeholder suggests that a machine being tested to the ASTM performance tests for energy consumption should be set up in the worst-case mode that is adjustable by the customer. If an idle shut down or set-back system can be adjusted by the operator or the manager, it should be programmed to the setting that results in the highest idle energy consumption. If the settings can only be changed by a qualified service technician, those settings should remain at the factory defaults.</p>	<p>EPA refers to the ASTM test method. Based on conversations with the ASTM committee, EPA believes revisions will be made to ASTM F1696 to align with ASTM F1920 with regards to testing idle energy savings in the worst case scenario.</p>
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<p>Certification Criteria</p>	<p>Energy Recovery Credit</p>	<p>A stakeholder notes that high heat recovery does not ensure an efficient machine because machines with low losses do not have as much heat loss to be recovered. The stakeholder notes that heat recovery systems may not be designed to maximize the energy exchange to the incoming water, but rather to maximize the recovery of energy that has already escaped and avoid pulling energy out of the interior of the machine.</p> <p>Multiple stakeholders note that the total energy consumption of the machines could be accounted for in developing the credit, which includes any and all external heating devices.</p> <p>A stakeholder inquires how raising the inlet water temperature at least 40 °F will be enforced in order to qualify as a heat recovery machine. A stakeholder notes that door type machines can have varying inlet and rinse water temperatures when flowing. A stakeholder notes that chemical sanitizing machines would have difficulty meeting this criteria.</p> <p>A stakeholder inquires why the energy recovery credit is capped at the median water consumption for each product type.</p> <p>A stakeholder inquires whether the current ASTM F1696 and F1920 test methods can be used to calculate an energy recovery credit.</p>	<p>EPA acknowledges that ASTM F1696/1920 provides a calculation for primary hot water energy consumption. EPA notes that primary hot water energy consumption is recorded by CBs, but the measurement has not been reported to EPA because it is not included in the QPX. The Version 3.0 QPX will include a field for the primary hot water energy consumption and the offset equation. Based on the feedback from ASTM F26 committee chairpersons, EPA proposes in the limited topic proposal and final draft to replace the energy recovery credit calculation as proposed in the Draft 2 v3.0 specification with an equation that calculates the primary hot water energy offset by the heat recovery dishwasher fed by a cold-water inlet during the washing energy rate test. This calculation accounts for the difference in water inlet temperatures between heat recovery and standard commercial dishwashers.</p>
		<p>A stakeholder notes that the current version of ASTM F1920 does not specify the inlet water temperature for heat recovery machines, and suggests clarifying the inlet water temperature required in the ENERGY STAR specification in order to receive the energy recovery credit.</p>	<p>Based on conversations with the ASTM committee, EPA believes ASTM F1920 will be updated to align with ASTM F1696 to specify the water inlet temperature connected to the booster heater. Therefore, EPA plans to keep the requirement that all heat recovery machines should be connected to inlet water at a temperature of 70 +/- 3 F.</p>