



ENERGY STAR® and Commercial Refrigeration

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ENERGY STAR for Commercial Refrigerators and Freezers

- Specification covers solid door commercial products
 - Refrigerators
 - Freezers
 - Refrigerator-freezers
 - Ice cream freezers
- Qualifying products include
 - Reach-in cabinets
 - Under counter cabinets (w/o worktop surface)
 - Roll-in and Roll-through cabinets
 - Pass-through cabinets





Test Criteria

ASHRAE Standard 117-1992, “Method of Testing Closed Refrigerators”

Solid-door refrigerator: initial product temp. $38^{\circ}\pm 2^{\circ}\text{F}$
Solid-door freezer: initial product temp. $0^{\circ}\pm 2^{\circ}\text{F}$
Ice cream cabinet: initial product temp. $-5^{\circ}\pm 2^{\circ}\text{F}$



Energy-Efficiency Specs

Product Category	Energy Use Under Test Conditions
Refrigerators	$0.10V + 2.04 \text{ kW-hours/day}$
Freezers	$0.40V + 1.38 \text{ kW-hours/day}$
Refrigerator-Freezers	$0.27AV - 0.71 \text{ kW-hours/day}$
Ice Cream Freezers	$0.39V + 0.82 \text{ kW-hours/day}$

V = Internal volume in ft^3

AV = Adjusted volume (1.63 H freezer volume in ft^3)
+ refrigerator volume in ft^3



ENERGY STAR Success To Date

- Launched at North American Food Equipment Manufacturers Show, Sept. '01
- 10 Partners representing over 90% of the market for these products
 - Arctic Air, Beverage Air, Continental Refrigerator, The Delfield Company, Hobart Corporation, McCall Refrigeration, Nor-Lake Incorporated, Traulsen & Co., Inc., True Manufacturing, Victory Refrigeration
- 97 qualifying products
 - 43 refrigerators
 - 54 freezers



Post NAFEM Activity

- Trade publication outreach
- Publicity via ENERGY STAR for Small Bus.
 - 4,000 small business partners
 - 10% are restaurants; restaurant specific info
 - Other ENERGY STAR labeled product interest
- Partner web site activity
 - Web linking to www.energystar.gov
 - Qualifying product information to EPA
 - Content for partner web sites
- Partner sales collateral
 - Logo in catalogues, on spec sheets, etc.
 - Product labeling



Notify Institutional Users

- ENERGY STAR colleges, universities, school districts and congregations
 - Already active in ENERGY STAR for Buildings
- Strategically chosen ally organizations
 - National Association of College & University Food Services (NACUFS)
 - American Society for Healthcare Food Service Administrators
 - American Correctional Food Service Association (ACFSA)



National Restaurant Association

- Trade show in May
 - Very high profile event
 - 90,000 attendees
 - 350 registered journalists
- ENERGY STAR will have an educational session at the show
 - Focus on small business, including products
- Event aimed at inducing end user awareness of this product and others



Vending Machines

- Renewed interest for an ENERGY STAR specification for refrigerated beverage vending machines
- New efficient technology by Royal Vendors
 - Lighting and refrigeration



Limited Progress on Spec

- Based on ASHRAE 32.1 - 1997
 - Methods of Testing for Rated Bottled and Canned Beverage Vending Machines
- Use a line equation TBD based on some data
 - Currently working to gather that data from manufacturers and others
 - May incorporate multiple tiers
- Perhaps require an integrated, site-enabled, sleep capability