Annual Walk-in Energy Factor
The Annual Walk-In Energy Factor (AWEF) is a regulatory efficiency metric created by the Department of Energy (DOE) that measures electrical energy input versus the cooling capacity of the system.

Condensing Units and Evaporators used in commercial walk-in coolers and freezers under 3000 ft$^2$

Compliance based on Date of Manufacture, not Sale Date or Install Date

**What is AWEF?**

\[
AWEF = \frac{Btu}{W \cdot h}
\]

\[
SEER = \frac{Btu}{W \cdot h}
\]
DOE – AWEF Published
June 2014 – Final rule was published

Industry Challenged
April 2015 – Legally challenged in Federal appellate court

Ruling Negotiation
July 2015 – DOE and industry began collaboration for achievable efficiency targets

Final Rule
July 2017
- Final, agreed upon ruling goes into effect
- MT condensing units must be reported

Compliance #1
January 1st, 2020
- MT Condensing Units
  - Self-contained

Compliance #2
July 10th, 2020
- LT Condensing Units
  - Unit Coolers
January 1, 2020
- Medium temperature (MT) air-cooled Condensing Units
- Units manufactured after December 31, 2019 must be compliant. Non-compliant condensing units manufactured prior to December 31, 2019 can be sold through.

July 10, 2020
- Low Temperature (LT) air-cooled Condensing Units
- Units manufactured after July 10, 2020 must be compliant. Non-Compliant Units manufactured up to July 10, 2020 can be legally sold through.
- Medium Temperature (LT) & Low Temperature (LT) Evaporators
- Evaporators manufactured after July 10, 2020 must be compliant. Non-compliant evaporators manufactured up to July 10, 2020 can be legally sold through.
AWEF Saves Operating Costs

- 5 HP Outdoor Condensing Unit Medium Temp
- Analysis using weather BIN data and state EIA state energy rates 2017
- Average payback is <1 year
What products are not covered?

- Equipment intended solely for scientific, medical or research purposes
- Condensing units solely designed and marketed to serve multiple WICFs or other pieces of refrigeration equipment
- Water cooled condensing units or systems
- WICF with floor space in excess of 3,000 ft²
- Compressorized racks that serve multiple refrigeration loads
- Remote air-cooled condensers and fluid coolers not used for WICF
- Reach-in units
What you need to know

- All Walk-Ins (<3,000 sqft) will need to meet AWEF standards
- Every component of a Walk-In must be compliant AND is based on **Date of Manufacture**, NOT install or sell
- Compliance required on equipment whether it’s for **retrofit** or **new installs**

<table>
<thead>
<tr>
<th>Equipment Class</th>
<th>Jan 1st 2020</th>
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</thead>
<tbody>
<tr>
<td>Dedicated Condensing System – Medium, Indoor</td>
<td></td>
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<tr>
<td>Dedicated Condensing System – Medium, Outdoor</td>
<td></td>
</tr>
<tr>
<td>Dedicated Condensing System – Low, Indoors (q_{net})</td>
<td>&lt; 6,500 Btu/h</td>
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<tr>
<td></td>
<td>≥ 6,500 Btu/h</td>
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<tr>
<td>Dedicated Condensing System – Low, Outdoors (q_{net})</td>
<td>&lt; 6,500 Btu/h</td>
</tr>
<tr>
<td></td>
<td>≥ 6,500 Btu/h</td>
</tr>
<tr>
<td>Unit Cooler – Medium</td>
<td></td>
</tr>
<tr>
<td>Unit Cooler – Low with a Net Capacity (q_{net})</td>
<td>&lt; 15,500 Btu/h</td>
</tr>
<tr>
<td></td>
<td>≥ 15,500 Btu/h</td>
</tr>
</tbody>
</table>
What you need to know

- **Responsibilities:**
  
  - **Manufacturer** – Build, Certify, Label Compliant Equipment
  
  - **Wholesaler / Salesman / OEM** – Ensure correct equipment is selected
  
  - **Contractor** – Ensure equipment installed is compliant
Product Changes

Product Changes could include:

- 1 Speed, 2-Speed or Variable speed EC Motors
- Oversized Condenser / Chassis size changes
- Evaporator dimensional changes
- Lower Floating Head Pressure settings / controls (TXV Valve Sizing?)
- MODEL Number Changes
Manufacturer Changes

>Trenton
- Have Released A New Generation Of Condensing Units Up To 15hp
- Less Efficient Models Will No Longer Be Offered

>Heatcraft
- Have Released New Condensing Unit Models With New Nomenclature
- Less Efficient Models Will No Longer Be Offered

>Copeland
- Will Continue To Offer A Line Of Indoor & Outdoor Scroll Condensing Units
- Hermetic Condensing Unit Line In Development
AWEF Required For Walk-in Equipment Installed On Boxes Less Than 3000 ft.²
MT Condensing Units Began January 1st, 2020
LT Condensing Units & All Evaporators Began July 10th, 2020
Be Prepared For Manufacturer Changes To Condensing Units & Evaporators
Lower Head Pressure Settings, EC Motors & More
Record Jobsite Information To Properly Cross Equipment
Help Us Help You!