



## Technical Bulletin 150 - Understanding EF and UEF

The Department of Energy (DOE) is responsible for defining and implementing energy conservation standards and testing procedures for various equipment and appliances, including water heaters.

On June 12, 2017, the DOE introduced a new metric for communicating the energy efficiency of residential water heaters called the Uniform Energy Factor (UEF), replacing the previous Energy Factor (EF). All manufacturers were required to report and list their UEF numbers as of this date.

UEF applies only to residential water heaters.

Commercial water heaters continue to be rated on Thermal Efficiency.

### Why are the Ratings Different?

While both EF and UEF measure the energy efficiency of the water heater, it is the testing procedures that are different. The main difference is that the new test procedure for UEF is intended to:

- Better represent how people use hot water today
- Make it easier to compare one water heater to another
- Simplify the selection process for consumers

### How is the UEF Rating Calculated?

UEF ratings are determined by assigning water heaters into one of four categories of hot water based on their usage and then evaluating their performance based on that usage. Each category has a specific hot water draw pattern and a water heater is assigned a category based the hot water delivery capacity. A greater UEF rating will indicate that the water heater in that category is more efficient.

All Energy Guide labels now include updated performance information to help consumers and contractors choose the water heater that best accommodates their needs. It is important that consumers and contractors understand that the change to UEF ratings is only a change to the way water heaters are being tested, measured, and communicated. Rinnai Tankless Water Heaters remain as efficient as they always have been and are built with the same quality that our brand is known for.

### Rinnai UEF Ratings

Although the DOE minimum efficiency level has changed from 0.82 EF to 0.81 UEF for water heaters, this only applies to tankless water heaters manufactured after June 12, 2017; thus, water heater models manufactured prior to June 12, 2017 are not subject to the 0.81 minimum efficiency requirement. Therefore, you can be assured that all Rinnai Tankless Water Heaters meet the required efficiency standards according to DOE regulations and can be sold both in the US and Canada.

The table below reflects the transition from EF to UEF for Rinnai Tankless Water Heaters.

Model	UEF (Current)	EF (Old)
V53De	0.81	0.82
V65i	0.80	0.82
V65e	0.79	0.82
V75	0.81	0.82
V94	0.81	0.82
V94X	0.82	0.82
RL75	0.81	0.82
RL94	0.81	0.82
RLX94	0.82	0.82
RUCS65i	0.85	0.93
RUS65e	0.86	0.93
RUCS75i	0.90	0.93
RUS75e	0.89	0.93
RU130i	0.91	0.95
RU130e	0.92	0.95
RU160i	0.93	0.95
RU160e	0.93	0.96
RUR160i	0.93	0.95
RUR160e	0.93	0.96
RU180i	0.93	0.95
RU180e	0.93	0.96
RU199	0.93	0.96
RUR199	0.93	0.96