



ROUND 1:

Heating defrost with snow

Outside temp: 23° with snow and ice

Inside temp: 105°

In this test, the heat pump must maintain an inside room at 105° while operating in sub-freezing conditions. The coil must be free of ice build-up in order to perform under these conditions. This test will require the compressor to work very hard and run almost continuously.

ROUND 2:

Cooling

Outside temp: 100° with fan shut off

Inside temp: 75°

This test causes the unit to cycle on overload by simulating outdoor fan failure. This test will also determine if the unit will restart after it cools down. Thanks to American Standard's innovative dual safety components, the IPR valve opens and discharges hot gases over the internal motor overload, which in turn opens and shuts down the compressor. The IOL is designed to take the compressor off-line if any combination of temperature and current exceeds motor winding tolerances.

ROUND 3:

Minimum load heating

Outside temp: 0°

Inside temp: 90°

Minimum refrigerant flow causes lesser motors to seize due to bearing oil starvation, burning the bearings in the process. Because of its brilliant design, the Duration™ compressor has the velocity to pull oil back through the lines and into the compressor to keep the bearings lubricated.

ROUND 4:

Power shut off

This test simulates the adverse conditions of a sustained power outage. After 12 hours without electricity, most of the oil will drain or wash off the bearing surfaces by refrigerant migration. The level of oil in the reservoir at the bottom of the sump has floated above the oil pump opening due to the heavier liquid refrigerant. During the harsh startup with low oil pressure, American Standard's unique bearing plating will serve as a boundary lubricant until oil flow is established.

2,688 hours of the worst possible conditions. For the best possible reasons.

Our reputation for durability is earned every day as our engineers put American Standard heat pumps through the worst scenarios they can dream up. Each test unit will undergo a two week regimen of brutal extremes, eight consecutive times. At the end of the 16-week period, every component is carefully disassembled and examined for weak spots or areas of potential failure. It's the most grueling test bed in the business. But it helps us build the best systems in the industry.

The SEET Laboratory

SEET

Systems
Extreme
Environmental
Test

BUILT TO A HIGHER STANDARD™

American Standard

HEATING & AIR CONDITIONING

Before any system goes into production, the team at American Standard obsesses over the components to ensure it is reliable and will operate under the most extreme conditions. American Standard believes in durability, that's why the SEET lab was created. This is where American Standard systems earn their reliable reputation. It simulates years of operation under extreme weather conditions; sort of a worst-case scenario that helps refine and improve systems to ensure they are *built to a higher standard*.