

Duct Leakage Reduces Rated Equipment Efficiency



“When a manufacturer sends equipment to a laboratory to establish its SEER rating, you can bet the equipment is set to perform its best under the test conditions.

But real conditions in a home, not controlled lab conditions, determine how equipment will perform.”



SEER FACTS Bulletin

Impact of Duct Leakage On Efficiency of New Heating & Cooling Equipment

Factory (Lab) Air Conditioner SEER	Real World AC SEER Efficiency			
	2% Leakage (SEALED)	10% Leakage	20% Leakage	30% Leakage
24	23.3	20.3	16.6	12.9
22	21.3	18.6	15.2	11.9
20	19.4	16.9	13.9	10.8
18	17.5	15.2	12.5	9.7
16	15.5	13.5	11.1	8.6
14	13.6	11.9	9.7	7.6

Factory (Lab) Furnace AFUE	Real World Furnace AFUE Efficiency			
	2% Leakage (SEALED)	10% Leakage	20% Leakage	30% Leakage
95%	93	85	76	67
90%	88	81	72	63
80%	78	72	64	56

Source: Comfort Institute. Based on Department of Energy Research and FL Energy Office Research Report: FSEC-CR-397-91
 Degradation above is typical. Impact is up to 50% greater on AC performance if return air leakage is from a hot attic or attached garage.
 Impact is typically 50% to 100% greater on winter heating performance of a heat pump with electric resistance auxiliary heat.