

ENERGY USAGE COMPARISON BETWEEN CLEAN AND DIRTY COILS

A study performed by a major HVAC manufacturer illustrates the impact dirty coils have on energy costs. The study compares the operation of a clean coil versus a 'moderately dirty' coil. The comparison between clean and dirty operation shows the benefit of having clean coils.

A season has been defined in this study as 1,000 hours of operation. The energy cost for the dirty coil is based on the number of hours to give the equivalent cooling capacity of the clean coil.

The results of the study appear below. Charts showing the energy and cost savings are on the back.

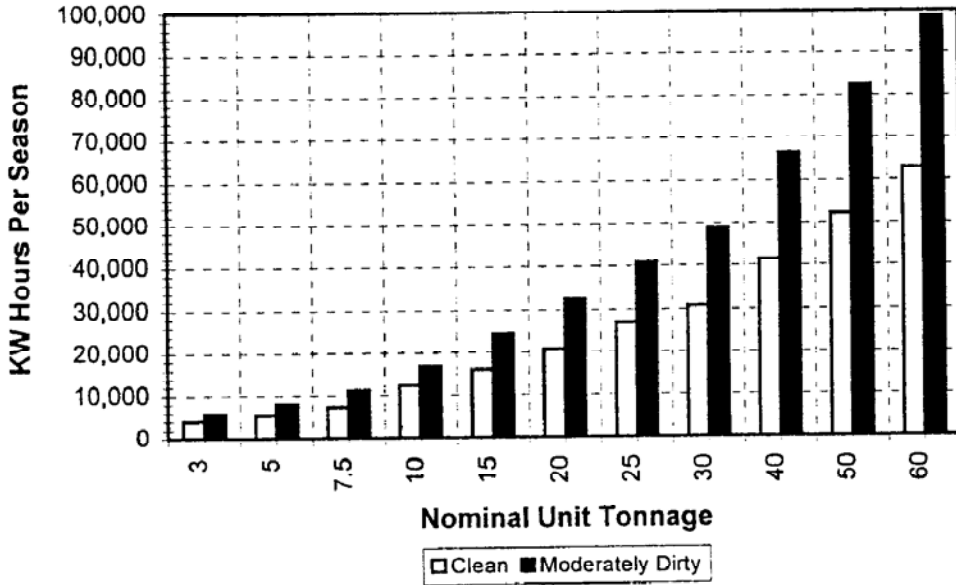
Tonnage	KW Hours per Season (Clean) ¹	Total Cost per Season (Clean) ²	KW Hours per Season (Dirty) ³	Total Cost per Season (Dirty) ²	Total Savings Per Season
3	4,100	\$320	5,700	\$448	\$128
5	5,500	\$470	8,100	\$687	\$217
7 1/2	7,400	\$650	11,200	\$964	\$314
10	12,300	\$1,000	16,800	\$1,394	\$394
15	16,000	\$1,370	24,400	\$2,092	\$722
20	20,800	\$1,790	32,400	\$2,794	\$1,004
25	27,000	\$2,290	40,800	\$3,493	\$1,203
30	30,800	\$2,680	48,900	\$4,205	\$1,525
40	41,500	\$3,570	66,400	\$5,716	\$2,146
50	52,100	\$4,470	82,300	\$7,056	\$2,586
60	63,000	\$5,390	98,600	\$8,404	\$3,014

1. Unit operating at 80 °F ambient temperature, 45 °F saturated suction temperature (standard design), F22 refrigerant, 1000 hours of operation (minimal seasonal operation).

2. Based on current Consolidated Edison Service Class 9 rates: \$0.0276/Kwh + \$0.0199/Kwh fuel adjustment charge + \$6.36 per KW demand per month + 14.1% tax.

3. Unit operating at 140 °F - 144 °F saturated condensing temperatures at 45 °F saturated suction temperature (337-354 psi head pressure) to simulate dirty condenser operation multiplied by required hours to give the equivalent cooling to Table 1 figures.

Electric Usage Comparison Clean Condenser Coil Vs. Dirty Condenser Coil



Electric Cost Comparison Clean Condenser Coil Vs. Dirty Condenser Coil

