

TABLE 4. APPROXIMATE COSTS OF ALL-YEAR AIR CONDITIONING^{a,b}

APPLICATION	SELLING PRICE PER UNIT INDICATED											
	SQ Ft NET AREA			PERSON			TON REFRIGERATION			CFM SUPPLY AIR		
	Low	Avg	High	Low	Avg	High	Low	Avg	High	Low	Avg	High
Banks.....	\$1.25	\$2.00	\$3.50	\$80	\$140	\$320	\$350	\$480	\$700	\$0.95	\$1.40	\$2.75
Department Stores {	0.60	1.00	1.15	25	40	100	250	325	400	0.60	0.80	1.00
	0.60	1.05	1.25	25	40	80	250	325	400	0.60	0.75	0.90
	0.60	0.90	1.10	30	45	100	300	350	400	0.60	0.80	1.00
Hotels—Guest Rooms.....												
Office Buildings.....	\$0.85	\$1.25	\$2.00	\$240 ^c	\$300 ^c	\$420 ^c	\$300	\$375	\$500	\$0.75	\$1.05	\$1.50
Offices—Small Suites.....	1.00	1.75	3.25	110	180	350	300	450	800	0.75	1.25	2.50
Restaurants.....	1.40	2.20	3.50	15	18	25	215	280	400			
Specialty Shops {	\$1.50	\$2.50	\$4.00	\$50	\$100	\$150	\$325	\$400	\$500	\$0.70	\$1.00	\$1.50
	1.25	1.50	2.00	45	55	75	230	275	350			
	1.25	1.50	2.00	45	55	75	230	275	325			
	0.90	1.20	2.80	22	33	55	220	270	425	0.80	0.95	1.50
	0.95	1.20	1.75	35	40	50	230	275	350			
Theaters.....				\$9 ^d	\$15 ^d	\$23 ^d	\$215	\$300	\$450	\$0.65	\$1.00	\$1.25

^aModern Air Conditioning, Heating and Ventilating, by W. H. Carrier, R. E. Churne and W. A. Grant (Pitman Publishing Corp. 1940, p. 64).^bThere is a wide variation in unit prices such as shown above, due to differences in load concentration and in complexity of physical layout. Prices cover air-conditioning work only, for year-round use (except the low column, which is for seasonal use). They include electrical wiring, piping and refrigerating, building construction and alterations, and boilers or burners. Low figures in general are simply direct expansion systems using city water for condensing. High figures are usually chilled water systems with cooling towers or evaporative condensers, and may be considered high quality systems as well.^cPrice per room.^dPrice per seat.

Owning and Operating Costs

less may be proper, whereas for larger installations in buildings that are owned outright, a period of 10 or 20 years or more may be used.

Depreciation due to deterioration and obsolescence must also be considered in arriving at the amortization period. Deterioration and maintenance generally go hand in hand. If a long depreciation period is to be

TABLE 5. APPROXIMATE LIFE OF EQUIPMENT
(Including Obsolescence and Deterioration)*

	LIFE IN YEARS
1. HEAT PRODUCING EQUIPMENT	
(a) Boilers.....	15
(b) Stokers and burners.....	10
2. HEAT DISTRIBUTING EQUIPMENT	
(a) Piping—copper.....	20
(b) Piping—iron.....	10
(c) Radiation—concealed.....	12
(d) Radiation—direct.....	10
(e) Valves and specialties.....	5
3. AIR HANDLING EQUIPMENT	
(a) Filters—automatic.....	8
(b) Heating and cooling coils.....	10
(c) Spray humidifiers and dehumidifiers.....	10
(d) Fans.....	10
(e) Air conditioning units.....	10
(f) Motors.....	15
(g) Electrical starting equipment.....	8
(h) Pneumatic control systems.....	10
(i) Electric control systems.....	8
4. AIR DISTRIBUTING EQUIPMENT	
(a) Ductwork.....	20
(b) Outlets, grilles.....	20
(c) Duct insulation.....	10
(d) Painting.....	
5. REFRIGERATING EQUIPMENT	
(a) Centrifugal refrigerating machines.....	15
(b) Reciprocating refrigerating machines.....	10
(c) Motors and starters (see Item 3 above).....	
(d) Piping—copper.....	20
(e) Piping—steel.....	15
(f) Pumps.....	15
6. WATER SAVING DEVICES	
(a) Evaporative condensers.....	10
(b) Cooling towers.....	10
(c) Wells.....	Varies Widely

* Modern Air Conditioning, Heating and Ventilating, W. H. Carrier, R. E. Churne and W. A. Grant (Pitman Publishing Corp. 1940, p. 66).

used, then the item for maintenance, repair and replacement of wearing parts must be greater than for a short depreciation period.

Obsolescence depends mainly on time required for the equipment to become out-moded. Air conditioning, particularly, would probably suffer more from obsolescence in small plants than in large establishments. In addition the obsolescence of the building or property in which the equipment is installed may have a similar effect upon the equipment.