TABLE 1. COST DOLLARS PER TON FOR A COMPLETE SYSTEM, INCLUDING HEATING AND COOLING COILS, FAN, DUCTS, REFRIGERATION EQUIPMENT, TEMPERATURE CONTROLS, ETC.*

1	2	3	4	5	6	7	8	9	10	11	12	13
			Unit Costs		Total Cost[a]			Unit Costs[b]				
Refrigeration Tons	Floor Area sq ft	Air Distributed cu ft	Refrigeration Equipment per Ton	Fans, Heating Coils, Etc. per cfm	Refrigeration Equipment	Air Handling Equipment	Total	Per Ton	Per Sq Ft Floor	Per cfm	Evaporative Condenser Per Ton[c]	Cooling Towers Per Ton[c]
25	8,333	12,500	250	1.05	6,250	13,100	19,350	775.00	2.32	1.55	190.00	
50	16,666	25,000	224	0.98	11,200	24,500	35,700	730.00	2.15	1.43	155.00	
75	25,000	37,500	212	0.95	15,900	35,700	51,600	690.00	2.07	1.38	120.00	
100	33,332	50,000	204	0.92	20,400	46,000	66,400	664.00	1.99	1.33	90.00	52.00
150	50,000	75,000	195	0.91	29,200	68,200	97,400	650.00	1.95	1.30	60.00	50.00
200	66,664	100,000	192	0.90	38,200	90,000	128,200	641.00	1.93	1.28		48.00
250	83,333	125,000	187	0.88	46,800	110,000	156,800	628.00	1.88	1.25		46.00
300	100,000	150,000	182	0.86	54,600	129,000	183,600	612.00	1.84	1.23		44.00
400	133,328	200,000	165	0.84	66,000	168,000	234,000	585.00	1.76	1.17		42.00
500	166,666	250,000	158	0.82	79,000	205,000	284,000	568.00	1.71	1.14		40.00

* These cost figures (based on 1950 prices which may be adjusted by using current building cost index) cover only the average type of comfort air conditioning in open spaces as in department stores, or for industrial air conditioning involving large areas. Where a multiplicity of small spaces must be individually controlled, as in office buildings, hotels and apartment houses, these costs do not apply.

[a] Includes only final water, drain and electrical connections within the equipment room.

[b] Columns 9, 10, and 11 represent costs where well water or city water is available for condensing purposes. Where conservation of water is required, add column 12 or 13 to column 9 to obtain total cost per ton.

[c] Does not include cost of structural reinforcin if required to support the weight of cooling towers or evaporative condensers.

7. Insulation of pipes, ducts and equipment.
8. Building alterations, furring-in ducts and pipes, structural work, etc.

To estimate the first cost of any system prior to installation, the best procedure is to determine the heating and cooling load, and then after thorough engineering study, select the type of system. The installed cost of systems will vary widely, depending upon the type of equipment selected, and the design of the distribution system, equipment and labor costs in the locality, demands for the particular installation, etc. A reasonable approximate cost may be determined for a selected design in a given locality from the sum of the estimated unit costs of the component parts of the system. A reasonably precise estimate of the cost of the components may be obtained from cost records of recent installations of a comparable design, or from quotations submitted by manufacturers and contractors.

Approximate costs are given in Table 1 for mechanical air handling systems including heating and cooling coils for distributing 1½ cfm per square foot of floor area and refrigeration equipment based upon a requirement of one ton for every 333 sq ft of floor area. Different types of service demand may change the floor area per ton of refrigeration and air volume per square foot between wide limits and, consequently the table should be used with caution.

Other first costs may be incurred because of the installation of the air conditioning or heating and ventilating system. These will include such items as electrical work, plumbing, miscellaneous piping, building alterations, cutting, patching, furring-in of ducts or pipes, foundations, structural supports, remodeling or redecorating after installation, consulting engineer's fees, licenses, and permits. As these costs vary widely no approximations are practicable. Therefore, each case must be considered individually. If a quotation can be secured from a manufacturer or contractor covering the complete job, it will usually include the items which have been mentioned.

The length of the amortization period to be used depends upon (1) the type and remaining life of the building or space for which the system is to be used; (2) the type of equipment to be employed as a part of the system; (3) the character of the business; and (4) the lease or ownership conditions.

Depreciation, due to deterioration or obsolescence, must be considered in arriving at the amortization period. Maintenance and deterioration usually have the effect of offsetting one or the other. If a long depreciation period is to be used, then the item for maintenance, repair, and the replacement of wearing parts must be greater than for a short depreciation period.

In determining the length of the amortization period, the owner's accounting practices will have considerable bearing upon the number of years used in the calculation. For taxation purposes, this period depends upon the use and the service to which the equipment is placed. At the present time indications are that varying interpretations on depreciation will be made by the *Bureau of Internal Revenue*. While most air conditioning equipment may be considered as having a normal, useful life of 20 years for depreciation purposes, no final value for depreciation should be determined without consultation with the owner's tax consultant or perhaps