

TABLE 1. COLUMN-TYPE CAST-IRON RADIATOR

HEIGHT Inches	GENERALLY ACCEPTED RATING PER SECTION ^a					
	One Column		Two Column		Three Column	
	Sq Ft	Btu/hr	Sq Ft	Btu/hr	Sq Ft	Btu/hr
15			1½	360		
18			2	480	2½	540
20	1½	360	2½	540		
22			2½	560	3	720
23	1½	400	2½			
26	2	480	2½	640	3½	900
32	2½	600	3½	800	4½	1080
38	3	720	4	960	5	1200
45			5	1200	6	1440
	Four Column		Five Column		Six Column	
	Sq Ft	Btu/hr	Sq Ft	Btu/hr	Sq Ft	Btu/hr
13					3	720
16					3½	900
18	3	720	4½	1120	4½	1080
20					5	1200
22	4	960				
26	5	1200	7	1680		
32	6½	1560				
38	8	1920	10	2400		
45	10	2400				

^a These ratings are based on steam at 215 F and air at 70 F. They apply only to installed radiators exposed in a normal manner; not to radiators installed behind enclosures, grilles, or under shelves. For Btu per hour ratings at other temperatures, divide table values by factors found in Table 7.

TABLE 2. LARGE-TUBE CAST-IRON RADIATORS

Sectional, cast-iron, tubular-type radiators of the large-tube pattern, that is, having tubes approximately 1½ in. in diameter, 2½ in. on centers.

NUMBER OF TUBES PER SECTION	CATALOG RATING PER SECTION ^a		HEIGHT	WIDTH	SECTION CENTER SPACING ^b	LEG HEIGHT ^c TO TAPPING
	Sq Ft	Btu/hr				
3	1½	420	20	4½	2½	4½
	2	480	23		2½	4½
	2½	560	26		2½	4½
	3	720	32		2½	4½
4	3½	840	38	6¼-6½	2½	4½
	2½	540	20		2½	4½
	2½	600	23		2½	4½
	2½	660	26		2½	4½
5	3½	840	32	8-8½	2½	4½
	4½	1020	38		2½	4½
	2½	640	20		2½ ^d	4½
	3	720	23		2½ ^d	4½
6	3½	840	26	9-10¾	2½ ^d	4½
	4½	1040	32		2½ ^d	4½
	5	1200	38		2½ ^d	4½
	6	1440	38		2½	4½
7	3	720	20	11¾-12¾	2½	4½
	3½	840	23		2½	4½
	4	960	26		2½	4½
8	5	1200	32		2½	4½
	6	1440	38		2½	4½
	7	1680	44		2½	4½

^a These ratings are based on steam at 215 F and air at 70 F. They apply only to installed radiators exposed in a normal manner; not to radiators installed behind enclosures, grilles, or under shelves. For Btu per hour ratings at other temperatures, divide table values by factors found in Table 7.

^b Maximum assembly 60 sections. Length equals number of sections times 2½ in.

^c Where greater than standard leg heights are required, this dimension shall be 6 in., except for 7-tube sections, in heights from 13 to 20 in., inclusive, for which this dimension shall be 4½ in. Radiators may be furnished without legs.

^d For 5-tube hospital-type radiation, this dimension is 3 in.

hr (Btuh), 1000 Btu per hr (Mbh), or in square feet equivalent direct radiation (EDR) (e.g., 240 Btuh for steam = 1 sq ft EDR).

RADIATORS

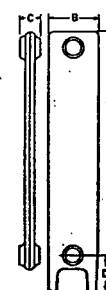
Column and large-tube radiators are no longer manufactured, but since many of these units are still in use, Tables 1 and 2 are included to provide principal dimensions and average ratings.

The small-tube type radiators, with a spacing of 1½ in. per section, occupy less space than the older column and large-tube radiators, and are particularly suited for installation in recesses.

After a study of the demand for various sizes of radiators, the Institute of

TABLE 3. SMALL-TUBE CAST-IRON RADIATORS

NUMBER OF TUBES PER SECTION	CATALOG RATING PER SECTION ^a		SECTION DIMENSIONS				
			A Height ^c	B Width		C Spacing ^b	D Leg Height ^c
				Minimum	Maximum		
	Sq Ft	Btu/hr	In.	In.	In.	In.	In.
3 ^d	1.6	384	25	3¼	3½	1¾	2½
4 ^d	1.6	384	19	4¾	4¾	1¾	2½
	1.8	432	22	4¾	4¾	1¾	2½
	2.0	480	25	4¾	4¾	1¾	2½
5 ^d	2.1	504	22	5¾	6¾	1¾	2½
	2.4	576	25	5¾	6¾	1¾	2½
6 ^d	2.3	552	19	6¾	8	1¾	2½
	3.0	720	25	6¾	8	1¾	2½
	3.7	888	32	6¾	8	1¾	2½



^a These ratings are based on steam at 215 F and air at 70 F. They apply only to installed radiators exposed in a normal manner; not to radiators installed behind enclosures, grilles, or under shelves. For Btu per hour ratings at other temperatures, divide table values by factors found in Table 7.

^b Length equals number of sections times 1½ in.

^c Overall height and leg height, as produced by some manufacturers, are one inch greater than shown in Columns A and D. Radiators may be furnished without legs. Where greater than standard leg heights are required this dimension shall be 4½ in.

^d Or equal.

Boiler and Radiator Manufacturers, in cooperation with the Division of Simplified Practice, National Bureau of Standards, established Simplified Practice Recommendation R174-47, Cast Iron Radiators, for small-tube cast-iron radiators. Table 3 shows the size and dimensions now being manufactured.

Wall radiators are hung from wall brackets and are well adapted to use in factory buildings. Tests have shown that the heat emitted from a wall-type radiator may be reduced from 5 to 10 percent if the radiator is placed near the ceiling with the bars horizontal and in an air temperature exceeding 70 F. Installation of wall radiators at the ceiling is not recommended because the resulting large temperature gradients between floor and ceiling make it difficult to heat the living zone satisfactorily. Dimensions and heat emission rates of wall radiators for normal wall installations are given in Table 4.

Pipe Coils

Pipe coils are sometimes used in factory buildings and are usually placed under windows or along heavily-exposed walls. The heat emission of such pipe coils may be obtained from Table 5.