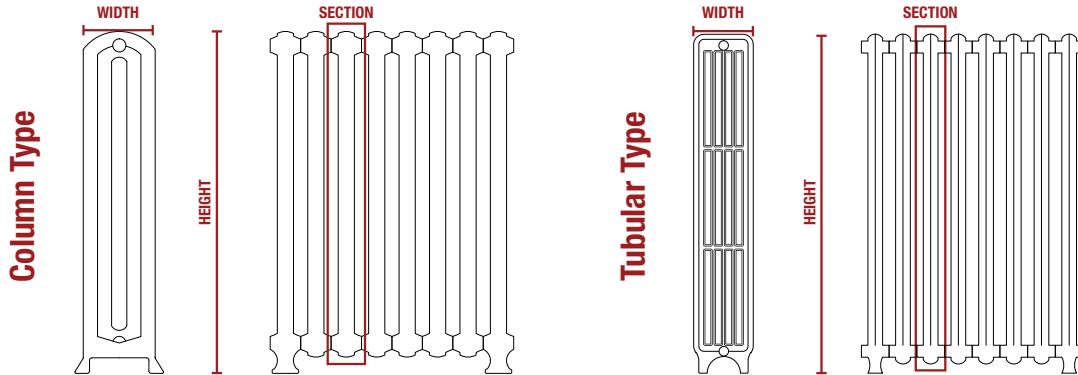


## 32 Calculating Existing Cast Iron Radiator Output in BTU's/Hr



To find the output of a cast iron radiator, you need to know the surface area in square feet of the radiator. Follow these steps to calculate the square feet of radiation. NOTE: Column and Tube cast iron radiators are the two main types.

**Step #1. Calculate the square footage of one section of the radiator.**

- Measure height of section
- Measure width of section
- Find square feet of section in Chart # 1 for COLUMN or Chart # 2 for TUBE type radiator

**Step #2. Multiply the square feet of the one section by the number of sections. Equals the cast iron radiator's total square foot of radiation.**

**Step #3. Multiply the total square foot of the radiator by the BTU output per square foot according to the heating supply temperature, Chart #3**

Please note that a house heated with all cast iron radiators, the supply temperature generally does not exceed 140F or 90Btu's per square foot output for the cast iron radiator.

### 1. Sq. Ft. Radiation Per Section for COLUMN TYPE Radiators

HEIGHT (inches)	4-1/2" WIDE ONE COLUMN	7-1/2" WIDE TWO COLUMN	9" WIDE THREE COLUMN	11-1/2" WIDE FOUR COLUMN	13" WIDE FIVE COLUMN
13	-	-	-	-	3
16	-	-	-	-	3-3/4
18	-	-	2-1/4	3	4-1/4
20	1-1/2	2	-	-	5
22	-	-	3	4	-
23	1-2/3	2-1/3	-	-	-
26	2	2-2/3	3-3/4	5	-
32	2-1/2	3-1/3	4-1/2	6-1/2	-
38	3	4	5	8	-
45	-	5	6	10	-

### 2. Sq. Ft. Radiation Per Section for TUBE TYPE Radiators

HEIGHT (inches)	5" WIDE THREE TUBE	7" WIDE FOUR TUBE	8-3/4" WIDE FIVE TUBE	9-3/4" WIDE SIX TUBE	12-1/2" WIDE SEVEN TUBE
14	-	-	-	-	2-1/2
17	-	-	-	-	3
20	1-3/4	2-1/4	2-2/3	3	3-2/3
23	2	2-1/2	3	3-1/2	-
26	2-1/3	2-3/4	3-1/2	4	4-3/4
32	3	3-1/2	4-1/3	5	-
38	3-1/2	4-1/4	5	6	-

### 3. Heat Emissions for Cast Iron Radiators

DESIGN OR AVERAGE WATER TEMPERATURE	HEAT EMISSION RATES BTUH PER SQ. FT.	DESIGN OR AVERAGE WATER TEMPERATURE	HEAT EMISSION RATES BTUH PER SQ. FT.
110° F	30	180° F	170
120° F	50	185° F	180
130° F	70	190° F	190
140° F	90	195° F	200
150° F	110	200° F	210
160° F	130	205° F	220
170° F	150	210° F	230
175° F	160	215° F	240