



Measuring Radiators to Size a Steam Boiler

[Home](#)
[Seminars](#)
[Mid-Efficiency Boilers](#)
[High Efficiency Boilers](#)
[Steam Boilers](#)
[Heat Loss](#)
[Domestic Hot Water](#)
[General Hydronics](#)
[Boiler Troubleshooting](#)
[Air-Water Heat Pumps](#)
[Charts & Graphs](#)
[About](#)
[Contact Us](#)

Sizing Radiation for Residential Steam Boilers		
Column Type Radiator	Cast Iron Cabinet Convectors	Radiant Radiator (Sunrad)
Tube Type Radiator	Cabinet Convectors Copper Element	Directions Calculating EDR
Wall Radiator	Cast Iron Baseboard	

Measuring Radiation to Determine Sq. Ft of Steam Required

Calculating the Sq. Ft. or EDR of cast iron radiation is really simple. We can calculate it for you but hate taking your money for something so simple. If you can read a ruler and have a calculator you can do this. Steam boilers are sized on connected radiation only. This means no piping. The manufacturers have deducted 33% for piping already.

- Measure the height of the radiator. This is measured from the floor not the bottom of the radiator.
- Count the number of columns or tubes of the radiator
- Count the number of sections that make up the length of the radiator
- Using the below charts enter the left column to the height of the radiator. If between two heights go the taller number
- Get the multiplier for each section going to the right to the column that has the correct number of columns or tubes per section
- Multiply the number of sections by the proper multiplier for each radiator
- Add up all the radiators and look at steam boiler literature of your choice. Choose the boiler closest to the calculation results

[Column Style Radiator](#)



Column Type Radiator					
Sq. Ft. Radiation per Section					
Height Inches	One Column	Two Column	Three Column	Four Column	Five Column
13"	----	----	----	----	3
16"	----	----	----	----	3.75
18"	----	----	2.25	3	4.25
20"	1.50	2	----	----	5
22"	----	----	3	4	----
23"	1.66	2.33	----	----	----
26"	2	2.66	3.75	5	----
32"	2.5	3.33	4.5	6.5	----
38"	3	4	5	8	----
45"	----	5	6	10	----

Click Back Button to Return

Disclaimer: The information found on this website is for informational purposes only. All preventive maintenance, service, installations should be reviewed on a per job situation. Any work performed on your heating system should be performed by qualified and experienced personnel only. Comfort-Calc or its personnel accepts no responsibility for improper information, application, damage to property or bodily injury from applied information found on this website as it should be reviewed by a professional. to property or bodily injury from applied information found on this website as it should be reviewed by a professional.

Tube Style Radiator



Tube Type Radiator					
Sq. Ft. Radiation per Section					
Height Inches	Three Tube	Four Tube	Five Tube	Window Six Tube	Seven Tube
14"	----	----	----	----	2.5
1"	----	----	----	----	3
20"	1.75	2.25	2.66	3	3.66
23"	2.00	2.5	3	3.5	----
26"	2.33	2.75	3.5	4	4.75
32"	3	3.5	4.33	5	----
32"	3.5	4.25	5	6	----

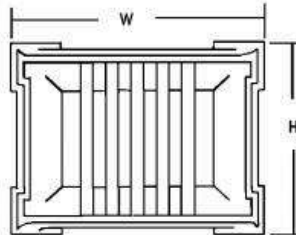
Click Back Button to Return

Disclaimer: The information found on this website is for informational purposes only. All preventive maintenance, service, installations should be reviewed on a per job situation. Any work performed on your heating system should be performed by qualified and experienced personnel only. Comfort-Calc or its personnel accepts no responsibility for improper information, application, damage to property or bodily injury from applied information found on this website as it should be reviewed by a professional.

Wall Radiator

Wall Type Radiators

Wall radiators are measured by their height, length and thickness. The following table shows the number of square feet of heating surface per section.



Sq. Ft. Radiation Per Wall Radiator Section Heating				
Type of Section	Height In.	Length or Width In.	Thickness In.	Sq. Ft. Radiation
5-A	13-5/16	16-5/8	2-7/8	5
7-A	13-5/16	21-7/8	2-7/8	7
7-B	21-7/8	13-3/16	3-1/16	7
9-A	18-5/16	29-1/16	2-7/8	9
9-B	29-1/16	18-5/16	3-11/16	9

Click Back Button to Return

Disclaimer: The information found on this website is for informational purposes only. All preventive maintenance, service, installations should be reviewed on a per job situation. Any work performed on your heating system should be performed by qualified and experienced personnel only. Comfort-Calc or its personnel accepts no responsibility for improper information, application, damage to property or bodily injury from applied information found on this website as it should be reviewed by a professional.

Cabinet Convectors - Cast Iron Element

To calculate the Sq. Ft. of radiation for cabinet convectors you must first determine if the heating element inside the cabinet is copper or cast iron. Use the proper chart. This is simple, Measure the cabinet depth, height and width. Use the charts to acquire the Sq. Ft of Steam. Example: if the cabinet is 26" high, 6-1/2" deep and 43-1/2" long the sq. ft. of steam would be 39.8. Add together all convectors and other radiation and choose your boiler.



Convectors Cast Iron Element							
Front outlet and sloped Outlet Type							
Cabinet Depth	Cabinet Length	Cabinet Height					
		18"	20"	24"	26"	32"	38"
4-1/2"	18-1/2"	8.4	9.1	10.5	11.0	11.8	12.3
	23-1/2"	10.9	11.8	13.5	14.2	15.2	15.9
	28-1/2"	13.3	14.4	16.5	17.4	18.6	19.4
	33-1/2"	15.8	17.1	19.7	20.6	22.1	23.0
	38-1/2"	18.2	19.7	22.7	23.8	25.5	26.5
	43-1/2"	20.6	22.3	25.7	26.9	28.9	30.1
	48-1/2"	23.1	25.0	28.7	30.1	32.3	33.6
	53-1/2"	25.5	27.6	31.8	33.3	35.7	37.2
	58-1/2"	28.0	30.3	34.8	36.5	39.1	40.7
	63-1/2"	30.5	33.0	37.9	39.7	42.5	44.3
6-1/2"	18-1/2"	12.3	13.5	15.4	16.2	17.5	18.2
	23-1/2"	15.9	17.4	19.9	20.9	22.6	23.5
	28-1/2"	19.5	21.3	24.4	25.6	27.7	28.8
	33-1/2"	23.1	25.2	28.9	30.4	32.9	34.1
	38-1/2"	26.7	29.2	33.4	35.1	38.0	39.4
	43-1/2"	30.3	33.1	37.9	39.8	43.1	44.7
	48-1/2"	33.9	37.0	42.4	44.5	48.1	50.0
	53-1/2"	37.5	40.9	46.8	49.2	53.3	55.3
	58-1/2"	41.1	44.8	51.3	53.9	58.4	60.6
	63-1/2"	44.7	48.7	55.8	58.7	63.5	65.9
8-1/2"	18-1/2"	---	17.1	19.4	20.4	22.5	23.7
	23-1/2"	---	22.2	25.0	26.4	29.1	30.6
	28-1/2"	---	27.2	30.7	32.4	35.7	37.5
	33-1/2"	---	32.2	36.3	38.4	42.3	44.5
	38-1/2"	---	37.2	42.1	44.3	48.9	51.4
	43-1/2"	---	42.3	47.8	50.3	55.5	58.4
	48-1/2"	---	47.3	53.5	56.3	62.0	65.3
	53-1/2"	---	52.3	59.2	62.3	68.6	72.3
	58-1/2"	---	57.3	64.9	68.3	75.2	79.2
	63-1/2"	---	62.3	70.6	74.3	81.8	86.1
10-1/2"	18-1/2"	---	20.6	23.4	24.6	27.3	28.8
	23-1/2"	---	26.7	30.3	31.8	35.3	37.2
	28-1/2"	---	32.8	37.2	39.0	43.3	45.7
	33-1/2"	---	38.9	44.2	46.3	51.4	54.2
	38-1/2"	---	45.0	51.1	53.6	59.5	62.7
	43-1/2"	---	51.1	58.0	60.8	67.5	71.2
	48-1/2"	---	57.2	64.9	68.1	75.6	79.6
	53-1/2"	---	63.3	71.8	75.4	83.6	88.1
	58-1/2"	---	69.4	78.7	82.6	91.6	96.6
	63-1/2"	---	75.5	85.6	89.8	99.7	105.1

Click Back Button to Return

Disclaimer: The information found on this website is for informational purposes only. All preventive maintenance, service, installations should be reviewed on a per job situation. Any work performed on your heating system should be performed by qualified and experienced personnel only. Comfort-Calc or its personnel accepts no responsibility for improper information, application, damage to property or bodily injury from applied information found on this website as it should be reviewed by a professional.

Cabinet Convector Copper Element

To calculate the Sq. Ft. of radiation for cabinet convectors you must first determine if the heating element inside the cabinet is copper or cast iron. Use the proper chart. This is simple, Measure the cabinet depth, height and width. Use the charts to acquire the Sq. Ft. of Steam. Example: if the cabinet is 26" high, 6-1/4" deep and 36-1/2" long the sq. ft. of steam would be 36. Add together all convectors and other radiation and choose your boiler.



Convectors Copper Element							
Front outlet and sloped Outlet Type							
Cabinet Depth	Cabinet Length	Cabinet Height					
		18"	20"	24"	26"	32"	38"
4-1/2"	20-1/2"	10.4	11.3	13.1	13.4	14.0	14.6
	24-1/2"	12.8	13.9	16.1	16.4	17.2	18.0
	28-1/2"	15.2	16.5	19.2	19.5	20.4	21.3
	32-1/2"	17.6	19.1	22.2	22.5	23.6	24.6
	36-1/2"	19.7	21.7	25.2	25.6	26.8	28.0
	40-1/2"	22.3	24.3	28.2	28.6	30.0	31.3
	44-1/2"	24.7	26.9	31.2	31.7	33.2	34.7
	48-1/2"	27.1	29.5	34.2	34.7	36.4	38.0
	56-1/2"	31.9	34.7	40.2	40.8	42.8	44.7
	64-1/2"	36.6	39.9	46.2	46.9	49.2	51.7
6-1/2"	20-1/2"	15.3	16.3	18.4	18.8	19.6	20.6
	24-1/2"	18.8	20.1	22.6	23.1	24.1	25.3
	28-1/2"	22.3	23.8	26.9	27.4	28.6	30.1
	32-1/2"	25.8	27.6	31.1	31.7	33.2	34.8
	36-1/2"	29.3	31.3	35.4	36.0	37.7	39.6
	40-1/2"	32.8	35.1	39.6	40.3	42.2	44.3
	44-1/2"	36.3	38.9	43.8	44.6	48.7	49.9
	48-1/2"	39.8	42.6	48.1	48.9	51.2	53.8
	56-1/2"	46.8	50.1	56.6	57.5	60.6	63.3
	64-1/2"	53.9	57.7	65.0	66.2	69.3	72.7
8-1/2"	20-1/2"	18.7	20.0	22.5	23.0	24.4	25.8
	24-1/2"	22.9	24.5	27.7	28.8	30.0	3.7
	28-1/2"	27.2	20.1	32.8	33.5	35.6	37.7
	32-1/2"	31.5	33.7	38.0	38.8	41.2	43.6
	36-1/2"	35.8	38.3	43.2	44.1	46.8	49.5
	40-1/2"	40.1	42.9	48.3	49.4	52.4	55.5
	44-1/2"	44.3	47.4	53.3	54.6	58.0	61.4
	48-1/2"	48.6	52.0	58.7	59.9	63.6	67.3
	56-1/2"	57.2	61.2	69.0	70.5	74.8	79.2
	64-1/2"	65.7	70.3	79.4	81.0	86.0	91.0
10-1/2"	20-1/2"	20.4	22.0	25.0	25.7	27.4	29.3
	24-1/2"	25.2	27.1	30.9	31.7	33.8	36.2
	28-1/2"	30	32.3	36.8	37.7	40.2	43.1
	32-1/2"	34.8	37.4	42.6	43.7	46.6	50.0
	36-1/2"	39.6	42.6	48.5	49.8	53.1	56.9
	40-1/2"	44.4	47.7	54.4	55.8	59.5	63.7
	44-1/2"	49.2	52.9	60.3	61.8	65.9	70.6
	48-1/2"	53.9	58.0	66.1	67.8	72.3	77.5
	56-1/2"	63.5	68.3	77.9	79.9	85.2	91.2
	64-1/2"	73.1	78.6	89.6	91.9	98.0	105.0

To return click back Button

Disclaimer: The information found on this website is for informational purposes only. All preventive maintenance, service, installations should be reviewed on a per job situation. Any work performed on your heating system should be performed by qualified and experienced personnel only. Comfort-Calc or its personnel accepts no responsibility for improper information, application, damage to property or bodily injury from applied information found on this website as it should be reviewed by a professional.

9A Cast Iron Baseboard



3.4 sq ft per lineal ft.

To return click back Button

Disclaimer: The information found on this website is for informational purposes only. All preventive maintenance, service, installations should be reviewed on a per job situation. Any work performed on your heating system should be performed by qualified and experienced personnel only. Comfort-Calc or its personnel accepts no responsibility for improper information, application, damage to property or bodily injury from applied information found on this website as it should be reviewed by a professional.

Radiant Radiator Also Known as Sunrad



Width	Height	SQ FT per Section
5"	20"	2.25
7.5"	20"	3.40

To return Click Back Button

Disclaimer: The information found on this website is for informational purposes only. All preventive maintenance, service, installations should be reviewed on a per job situation. Any work performed on your heating system should be performed by qualified and experienced personnel only. Comfort-Calc or its personnel accepts no responsibility for improper information, application, damage to property or bodily injury from applied information found on this website as it should be reviewed by a professional.