



# POOL HEATER SIZING CHART

Form 1078  
Rev. 12-01-03

SURFACE - AREA METHOD									TIME-RISE METHOD	
Pool Size Rectangular		Pool Surface Area (Sq. Ft.)	RECOMMENDED BRYAN HEATER SIZED ON SURFACE AREA						Pool Gallonage (approx.)	RECOMMENDED BRYAN HEATER SIZED ON POOL CAPACITY To Raise Temp. 1oF Per Hour (Approx.)
Width	Length		Difference Between Desired Water and Average Air Temperature							
			10°	15°	20°	25°	30°	40°		
16	36	576	N/A	N/A	N/A	N/A	N/A	DR/F350-WP	23,000	DR/F350-WP
18	36	648	N/A	N/A	N/A	N/A	N/A	DR/F350-WP	25,000	DR/F450-WP
18	40	720	N/A	N/A	N/A	N/A	DR/F350-WP	DR/F450-WP	30,000	DR/F450-WP
18	42	756	N/A	N/A	N/A	N/A	DR/F350-WP	DR/F450-WP	31,000	DR/F450-WP
20	40	800	N/A	N/A	N/A	DR/F350-WP	DR/F350-WP	DR/F450-WP	34,000	DR/F450-WP
20	42	840	N/A	N/A	N/A	DR/F350-WP	DR/F350-WP	DR/F450-WP	35,000	DR/F450-WP
20	45	900	N/A	N/A	N/A	DR/F350-WP	DR/F450-WP	DR/F450-WP	37,000	DR/F650-WP
20	50	1,000	N/A	N/A	DR/F350-WP	DR/F350-WP	DR/F450-WP	DR/F650-WP	40,000	DR/F650-WP
25	50	1,250	N/A	N/A	DR/F350-WP	DR/F450-WP	DR/F650-WP	DR/F650-WP	50,000	DR/F850-WP
25	60	1,500	N/A	DR/F350-WP	DR/F450-WP	DR/F650-WP	DR/F650-WP	DR/F850-WP	62,000	CLM120-WP
30	60	1,800	N/A	DR/F350-WP	DR/F450-WP	DR/F650-WP	DR/F850-WP	CLM120-WP	79,000	CLM120-WP
30	70	2,100	DR/F350-WP	DR/F450-WP	DR/F650-WP	DR/F650-WP	DR/F850-WP	CLM120-WP	84,000	CLM120-WP
30	75	2,250	DR/F350-WP	DR/F450-WP	DR/F650-WP	DR/F850-WP	DR/F850-WP	CLM150-WP	92,000	CLM150WP
35	75	2,625	DR/F350-WP	DR/F650-WP	DR/F650-WP	DR/F850-WP	CLM120-WP	CLM150-WP	107,000	CLM180-WP
40	75	3,000	DR/F450-WP	DR/F650-WP	DR/F850-WP	CLM120-WP	CLM120-WP	CLM180-WP	123,000	CLM180-WP
42	75	3,150	DR/F450-WP	DR/F650-WP	CLM120-WP	CLM120-WP	CLM120-WP	CLM180-WP	137,000	CLM210-WP
42	80	3,465	DR/F450-WP	DR/F850-WP	CLM120-WP	CLM120-WP	CLM150-WP	CLM210-WP	143,000	CLM240-WP
45	90	4,050	DR/F650-WP	DR/F850-WP	CLM120-WP	CLM150-WP	CLM150-WP	CLM240-WP	184,000	CLM300-WP
50	100	5,000	DR/F650-WP	CLM120-WP	CLM150-WP	CLM180-WP	CLM210-WP	CLM270-WP	217,000	RV/K350-WP
60	100	6,000	DR/F850-WP	CLM120-WP	CLM150-WP	CLM210-WP	CLM240-WP	CLM300-WP	250,000	RV/K400-WP
60	110	6,600	CLM120-WP	CLM120-WP	CLM180-WP	CLM240-WP	CLM270-WP	RV/K350-WP	275,000	RV/K450-WP
63	120	7,560	CLM120-WP	CLM150-WP	CLM210-WP	CLM240-WP	CLM300-WP	RV/K400-WP	320,000	RV/K500-WP
70	120	8,400	CLM120-WP	CLM180-WP	CLM210-WP	CLM270-WP	RV/K350-WP	RV/K450-WP	360,000	RV/K550-WP
75	130	9,750	CLM120-WP	CLM210-WP	CLM240-WP	CLM300-WP	RV/K350-WP	RV/K500-WP	400,000	RV/K550-WP
75	160	12,000	CLM150-WP	CLM240-WP	CLM300-WP	RV/K450-WP	RV/K500-WP	RV/K550-WP	445,000	RV/K600-WP
80	165	13,200	CLM180-WP	CLM270-WP	RV/K350-WP	RV/K500-WP	RV/K550-WP	RV/K600-WP	490,000	K650-WP or RV700-WP
80	175	14,000	CLM180-WP	CLM270-WP	RV/K350-WP	RV/K500WP	RV/K550-WP	K650-WP or RV700-WP	575,000	RV700-WP
100	150	15,000	CLM210-WP	CLM300-WP	RV/K450-WP	RV/K550-WP	K650-WP or RV700-WP	RV800-WP	600,000	RV800-WP

**THERE ARE TWO GENERAL METHODS USED IN SIZING A POOL HEATER:**

- I. Surface Area and Air Temperature
- II. Water Capacity and Time-Rise

**TO SIZE HEATER - BASED ON SURFACE AREA:**

1. Determine the mean average air temperature for the coldest month in which the pool is to be used. (Available from the local weather bureau.)
2. Determine the desired pool water temperature.
3. Subtract the above two temperatures to determine the temperature difference.
4. Determine the pool surface area.
5. Under the computed temperature difference and horizontally across from the pool surface area, the correct Bryan heater model will be obtained.
6. This sizing is based on heat loss from the surface with an assumed wind velocity of 3 1/2 mph. This is normally suitable for pools sheltered by nearby fences, buildings or shrubs from prevailing winds. For more exposed areas, increase the heater capacity requirement by 1.25 for a 5 mph wind velocity and by 2.0 for a 10 mph velocity. EXAMPLE: A 1,000 sq. ft. surface area pool with a desired water temperature of 80°F, with an average lowest air temperature of 60° (20° temperature difference), in an exposed area, with an assumed wind velocity at the surface of 10 mph, rather than selecting the Model DR or F350-WP as shown in the above chart for a sheltered pool, multiply the requirement by 2.0 and select a Model DR or F650-WP.

**TO SIZE HEATER - BASED ON GALLONAGE AND TIME-RISE:**

1. Simply determine the pool capacity in gallons and select heater. The sizing on this chart is based on raising the pool temperature approximately 1°F per hour. If it is desired to raise the temperature faster, increase the heater capacity requirement accordingly. EXAMPLE: To raise the temperature to a 40,000 gallon pool 2° per hour, the heater should be approximately twice the capacity of a Model DR or F650-WP - selecting a Model CLM150-WP (1,500,000 BTU).

**TO SIZE HEATER - INDOOR POOL IN HEATED BUILDING:**

1. Determine the surface area.
2. Multiply the surface area by 125. This will be the heater BTU input required. EXAMPLE: a 40' x 75' indoor pool, 3,000 sq. ft. surface area - 3,000 x 125 = 375,000 BTU input. Select the DR or F350-WP and/or DR or F450-WP

**NOTE:**

1. To size the Bryan Electric and the Bryan Heat Exchanger Type Pool Heater, use the same method as shown above, using a heater rated with an output equivalent to the output of the gas or oil fired model shown on the chart.
2. For a mountain or winter resorts operating year round, and for pools operating in extremely cool climate areas, contact the Bryan representative for sizing recommendations.
3. For high altitude areas (above 4,000') assume requirements to be greater by 4% per each 1,000' above sea level.
4. These requirements are based generally on the recommendations of the National Swimming Pool Institute.