



Sizing RediHeat Instantaneous Water Heaters

Use the tables below to select the RediHeat model that meets the required GPM of hot water at the desired temperature.

Note: Supply pressures above 15 psi g (1 bar g) must be reduced through a pressure regulator ("H" Package).

Single wall

Desired Outlet Temp (°F)	Pressure psi g (bar g)	Winter Conditions 40 °F (4.4 °C) Inlet Water Hot Water Output (GPM)					Summer Conditions 60 °F (15.6 °C) Inlet Water Hot Water Output (GPM)				
		10 (0.69)	15 (1.03)	20 (1.38)	25 (1.72)	30+ (2.07)	10 (0.69)	15 (1.03)	20 (1.38)	25 (1.72)	30+ (2.07)
110 (43 °C)	RH-30	30	30	30	32	35	30	30	30	40	40
	RH-60	60	60	60	65	70	60	60	60	75	80
	RH-90	90	90	90	90	90	90	90	90	90	90
	RH-120	120	120	120	120	120	120	120	120	120	120
120 (49 °C)	RH-30	30	30	30	30	35	30	30	30	35	40
	RH-60	60	60	60	60	65	60	60	60	75	80
	RH-90	90	90	90	90	90	90	90	90	90	90
	RH-120	120	120	120	120	120	120	120	120	120	120
140 (60 °C)	RH-30	25	25	25	30	30	25	30	30	30	35
	RH-60	60	60	60	60	60	60	60	60	60	70
	RH-90	90	90	90	90	90	90	90	90	90	90
	RH-120	115	120	120	120	120	120	120	120	120	120
150 (66 °C)	RH-30	20	25	25	25	30	25	25	30	30	30
	RH-60	55	55	55	55	55	55	60	60	60	65
	RH-90	80	80	80	80	80	85	90	90	90	90
	RH-120	110	110	110	110	110	115	115	115	115	120
160 (71 °C)	RH-30	10	15	20	25	25	15	15	20	30	30
	RH-60	45	45	45	50	50	50	55	55	55	60
	RH-90	65	70	70	70	70	75	85	85	85	85
	RH-120	90	90	90	90	95	105	110	110	110	115

Capacities are based on water pressure ranges of 30 to 150 psi g (2.1 bar g to 10.3 bar g).

Presence of residual superheat following pressure reduction on steam supply pressures greater than 15 psi g (1 bar g) can increase capacity as shown.

Inlet steam pressure above 50 psi g (3.4 bar g) (RH-90 and RH-120) and 75 psi g (5.1 bar g) (RH-30 and RH-60) require the installation of a safety relief valve.

Units utilizing alternate tube materials will exhibit lower maximum capacities. To determine actual capacity, multiply the above values as follows: Admiralty - 0.95, Cupro Nickel - 0.81, Stainless Steel - 0.85

Double Wall

Desired Outlet Temp (°F)	Pressure psi g (bar g)	Winter Conditions 40 °F (4.4 °C) Inlet Water Hot Water Output (GPM)					Summer Conditions 60 °F (15.6 °C) Inlet Water Hot Water Output (GPM)				
		10 (0.69)	15 (1.03)	20 (1.38)	25 (1.72)	30+ (2.07)	10 (0.69)	15 (1.03)	20 (1.38)	25 (1.72)	30+ (2.07)
110 (43 °C)	RH-30D	30	30	30	30	30	30	30	30	30	30
	RH-60D	60	60	60	60	60	60	60	60	60	60
120 (49 °C)	RH-30D	30	30	30	30	30	30	30	30	30	30
	RH-60D	60	60	60	60	60	60	60	60	60	60
140 (60 °C)	RH-30D	25	25	25	25	25	25	30	30	30	30
	RH-60D	60	60	60	60	60	60	60	60	60	60
160 (71 °C)	RH-30D	10	15	20	20	20	15	15	20	20	20
	RH-60D	45	45	45	45	45	50	55	55	55	60

Capacities are based on water pressure ranges of 30 to 150 psi g (2.1 to 10.3 bar g).

Inlet steam pressure above 50 psi g (3.4 bar g) (RH-90 and RH-120) and 75 psi g (5.1 bar g) (RH-30 and RH-60) requires the installation of a safety relief valve.

Double wall units are available only with copper tubes

When steam supply pressure to the RediHeat unit exceeds 15 psi g (1 bar g) the "H" Package must be furnished with the base unit. The "H" Package consists of 1 pressure reducing valve complete with pressure pilot and 1 strainer.

1. Determine the flow of steam in lbs/hr required to meet the unit's capacity.
2. Enter chart below at supply steam pressure and continue to move across until the required capacity in lbs/hr is found. From that point move vertically and read the valve size indicated.

Example: RH-30 to heat 20 GPM water from 40-120 °F. Supply steam pressure is 100 psi g.

$$\text{Formula: } \frac{\text{GPM} \times 500 \times \Delta T (^\circ\text{F})}{946} = \text{lbs/hr}$$

$$\frac{20 \times 500 \times 80}{946} = 846 \text{ lbs/hr}$$

In this example with a 100 psi g steam supply pressure, a ¾" pressure regulator will be suitable for the required duty of 846 lbs/hr of steam.

Steam Supply Pressure psi g (bar g)	Pressure Regulator Selection Chart Capacity (lbs/hr) by valve size								
	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"
25 (1.7 bar g)	145	270	435	580	830	1,450	2,325	3,070	4,770
30 (2.1 bar g)	220	410	665	890	1,270	2,220	3,555	4,700	7,300
40 (2.8 bar g)	280	525	850	1,135	1,620	2,835	4,535	5,995	9,315
50 (3.4 bar g)	350	650	1,050	1,400	2,000	3,500	5,600	7,400	11,500
60 (4.1 bar g)	385	720	1,165	1,555	2,220	3,885	6,215	8,215	12,765
75 (5.2 bar g)	470	875	1,415	1,890	2,700	4,725	7,560	9,990	15,525
85 (5.9 bar g)	515	960	1,555	2,070	2,960	5,180	8,290	10,950	17,020
100 (6.9 bar g)	600	1,120	1,815	2,420	3,460	6,055	9,690	12,800	19,895
125 (8.6 bar g)	730	1,365	2,200	2,940	4,200	7,350	11,760	15,540	24,150
150 (10.3 bar g)	860	1,600	2,590	3,460	4,940	8,645	13,830	18,280	28,400
175 (12.1 bar g)	985	1,840	2,970	3,960	5,660	9,900	15,850	20,950	32,545
200 (13.8 bar g)	1,125	2,100	3,390	4,520	6,460	11,300	18,000	23,900	37,145
225 (15.5 bar g)	1,250	2,340	3,780	5,000	7,200	12,600	20,160	26,640	41,400
250 (17.2 bar g)	1,385	2,590	4,180	5,570	7,960	13,930	22,300	29,450	45,800

Notes:

Pressure regulators supplied are Cast Iron as standard.

½" – 2" regulators are threaded NPT as standard.

2½" – 4" regulators (for steam supply pressures up to 125 psi g (8.6 bar g)) are flanged ANSI 125 as standard.

For 2½" – 4" regulators where the steam supply pressure is above 125 psi g (8.6 bar g), consult Spirax Sarco for 150 ANSI flanged regulator pricing.