... welcome to a warm home

Calculating the right size heater to heat a room

The size of your heater is determined by the amount of heat lost in the room and the temperature you want in the room. A well insulated room, that also has excessive air gaps sealed, helps reduce your heat loss (check your floor, ceiling, door frames and windows). The amount of free heat from the sun also comes into play, but generally speaking we need heating at night and all the sun's heat has been and gone by then.

A typical NZ home has a wooden frame, a tin roof, a raised floor, wooden windows and modest insulation. This home will likely lose 80 Watts of heat per m2 in order to keep the room warm at 21 degrees Celsius. So a room that is 18m2 in size will need a heater that can provide at least 1,440 Watts of heat (18x80W).... so you would choose a 1.5kW heater.

In a better insulated house, the heat loss can be down to just 50 Watts per m2, and in this case an 18m2 room size will only need 900 Watts of heat. A poorly insulated house may lose up to 100 Watts per m2 and this would require a larger heater.

If you want to be warmer than 21 degrees Celsius then a larger heater would also be required, typically an extra 10% of heat output is needed for every extra degree of warmth needed. So setting your thermostat too high means more heat is needed and your costs will be higher (wearing extra clothing is not a bad idea). For total home comfort we would advise the use of a centrally controlled heating system that has heating controlled for each room from one point, rather than individual room heaters.

This chart will calculate the amount of heat lost based on your room size. Match the dimensions of your room and then select a heater that will match or better the heat loss.

E.g. a 4 x 7 room will lose 2,240 Watts, so you will need a 2,500 Watt heater (or 2.5kW).

WATTS (W)

												5,120	**8.0**
											4,500	4,800	**7.5**
										3,920	4,200	4,480	**7.0**
									3,380	3,640	3,900	4,160	**6.5**
								2,880	3,120	3,360	3,600	3,840	**6.0**
							2,420	2,640	2,860	3,080	3,300	3,520	**5.5**
						2,000	2,200	2,400	2,600	2,800	3,000	3,200	**5.0**
					1,620	1,800	1,980	2,160	2,340	2,520	2,700	2,880	**4.5**
				1,280	1,440	1,600	1,760	1,920	2,080	2,240	2,400	2,560	**4.0**
			980	1,120	1,260	1,400	1,540	1,680	1,820	1,960	2,100	2,240	**3.5**
		720	840	960	1,080	1,200	1,320	1,440	1,560	1,680	1,800	1,920	**3.0**
	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	**2.5**
320	400	480	560	640	720	800	880	960	1,040	1,120	1,200	1,280	**2.0**
2.0	**2.5**	**3.0**	**3.5**	**4.0**	**4.5**	**5.0**	**5.5**	**6.0**	**6.5**	**7.0**	**7.5**	**8.0**	

WALL WIDTH (M)

WALL LENGTH (M)

Please note: The chart is based on a standard ceiling height of 2.4m, standard insulation and standard window size. A heat loss of 80w/m2 has been applied. If a room has a higher ceiling, larger windows and poorer insulation you need to multiply the size by 1.25 (This then equates to a heat loss of 100w/m2). This chart is designed for guidance only, not as a detailed sizing tool. For more accurate heat loss calculations you will need to consider air changes and detailed material loss information.

Provided by Kent, please visit www.**kent**.co.nz for more information.

Vers.12/09