

Heating Design

These recommendations are based on typically constructed dwellings and are for guidance only. These tables are suitable for rooms in properties constructed to meet 1982 Building Regulations. The following assumptions have been made:

- There is a satisfactory level of heating throughout the home, with at least three rooms heated by storage heaters.
- The dwelling is a house, bungalow or flat.
- The windows are single glazed.
- The rooms are 2.4m (8ft) in height (see correction factors).
- The roof is insulated with at least 100mm of insulation.

For properties that vary greatly or are of newer build construction, a more detailed calculation may be required, please contact us for further assistance. We can also provide information on halls, landings and bathrooms.

For whole property calculations and commercial designs please contact us for a more detailed design.

The storage heater loadings are based on an Economy 7/White meter tariff (i.e. a minimum 7 hours off-peak energy at night).

For other tariffs please consult us or your energy suppliers.

How to select the appropriate model

For all heaters the number in the sizing tables corresponds to the kWh or kW output e.g.

Heater required 18kWh = WMX718

Heater required 18kWh+0.9kW = WMC718 combination heater or WMF718 fan storage heater

Heater required 1.5kW = UPX1500 or UPX1500TI (as an alternative, another heater with a loading of at least 1.5kW could be used.)

Living or Dining Room – Storage plus Direct-acting Heater – Charge acceptance + rating (kWh + kW)											Correction Factors		
Room floor area not more than		Solid Wall No. of External Walls			Cavity Wall No. of External Walls			Cavity Wall With Insulation No. of External Walls			Add to/subtract from heater sizing as follows:	Storage Heater	Direct Heater
sq. ft	sq. m	1	2	3	1	2	3	1	2	3			
		ST DA	ST DA	ST DA	ST DA	ST DA	ST DA	ST DA	ST DA	ST DA			
80	8	14+0.9	20+1.2	26+1.5	12+0.8	15+1.0	20+1.3	8+0.6	10+0.7	14+0.9	Room with French or bay windows or patio doors	+6kWh	+0.5kWh
130	12	18+1.1	24+1.5	33+1.9	15+1.0	20+1.3	24+1.6	11+0.7	12+0.9	18+1.1	Dwelling is intermediate floor flat*	-4kWh	+0.3kWh
170	16	21+1.4	30+1.8	40+2.3	18+1.1	24+1.6	30+2.0	13+0.9	16+1.1	21+1.4	No other rooms have storage heating	+6kWh	
210	20	24+1.6	36+2.0	46+2.6	22+1.4	28+1.8	36+2.3	16+1.1	18+1.3	24+1.6	Room height 10ft (3m)	+6kWh	+0.5kWh
260	24	28+1.8	41+2.3	52+3.0	26+1.6	32+2.0	40+2.6	18+1.3	22+1.5	28+1.8	Room height 9ft (2.7m)	+4kWh	+0.3kWh
300	28	32+2.0	46+2.6	58+3.3	29+1.8	36+2.3	45+2.9	21+1.4	24+1.7	32+2.0	Chimney in living or dining room	+6kWh	+0.3kWh
340	32	35+2.2	50+2.8	64+3.6	32+2.0	40+2.6	48+3.2	24+1.6	28+1.9	36+2.3	High Exposure Location †	+ 20% on total loading	

ST= Storage Heating DA= Direct Acting Heater

* i.e. There are other flats immediately above AND below

Kitchen – Direct-acting Heater Only – Rating (kW)											Correction Factors		
Room floor area not more than		Solid Wall No. of External Walls			Cavity Wall No. of External Walls			Cavity Wall With Insulation No. of External Walls			Add to heater rating as follows:		
sq. ft	sq. m	1	2	3	1	2	3	1	2	3			
80	8	1.0	1.3	1.6	0.8	1.1	1.4	0.8	1.1	1.4	Room height 10ft (3m)	+0.3kWh	
110	10	1.1	1.4	1.8	0.9	1.3	1.5	0.9	1.2	1.5	Room height 9ft (2.7m)	+0.2kWh	
130	12	1.3	1.7	2.1	1.1	1.5	1.9	1.1	1.4	1.7	Chimney	+0.3kWh	
150	14	1.4	1.9	2.3	1.3	1.7	2.0	1.2	1.5	1.9	High Exposure Location †	+ 20% on total loading	
170	16	1.5	2.0	2.5	1.4	1.8	2.2	1.4	1.7	2.0			

Bedroom with a Combined Storage Heater DA= Direct Acting Heater only required											Correction Factors		
Room floor area not more than		Solid Wall No. of External Walls			Cavity Wall No. of External Walls			Cavity Wall With Insulation No. of External Walls			Add to/subtract from heater sizing as follows:	Storage Heater	Direct Heater
sq. ft	sq. m	1	2	3	1	2	3	1	2	3			
		ST DA	ST DA	ST DA	ST DA	ST DA	ST DA	ST DA	ST DA	ST DA			
80	8	DA	DA	23+1.9	DA	DA	18+1.5	DA	DA	DA	Room height 10ft (3m)	+6kWh	+0.4kWh
130	12	DA	21+1.7	29+2.4	DA	DA	23+1.9	DA	DA	DA	Room height 9ft (2.7m)	+4kWh	+0.2kWh
170	16	DA	24+2.0	34+2.8	DA	19+1.6	27+2.5	DA	DA	DA	High Exposure Location †	+ 20% on total loading	
210	20	19+1.6	28+2.3	38+3.2	DA	22+1.8	30+2.5	DA	DA	18+1.5			
260	24	22+1.8	31+2.6	42+3.5	18+1.5	24+2.0	34+2.8	DA	DA	20+1.7			

† For areas of high exposure i.e. hills, coasts, flats above 5 storeys, and areas where the winter temperature frequently drops below -1°C i.e. Scotland

Bedroom – Direct-acting Heater only – Rating (kW) C= Combined Storage Heater (WMC Range)											Correction Factors		
Room floor area not more than		Solid Wall No. of External Walls			Cavity Wall No. of External Walls			Cavity Wall With Insulation No. of External Walls			Add to heater rating as follows:		
sq. ft	sq. m	1	2	3	1	2	3	1	2	3			
80	8	0.7	0.9	1.3	0.6	0.8	1.2	0.6	0.6	0.8	Room height 10ft (3m)	+0.4kWh	
		0.9	1.1	1.5	0.7	1.0	1.3	0.6	0.8	1.0	Room height 9ft (2.7m)	+0.2kWh	
130	12	0.9	1.2	C	0.8	1.1	1.4	0.6	0.7	1.0	Chimney	+0.2kWh	
		1.1	1.4	C	1.0	1.3	C	0.8	1.0	1.3	High Exposure Location †	+ 20% on total loading	
170	16	1.1	1.4	C	0.9	1.2	C	0.7	0.9	1.2			
		1.5	C	C	1.2	1.6	C	1.0	1.2	C			
210	20	1.2	C	C	1.1	1.4	C	0.8	1.0	1.3			
		C	C	C	1.4	C	C	1.2	1.5	C			
260	24	1.4	C	C	1.2	C	C	0.9	1.2	1.5			
		C	C	C	C	C	C	1.4	C	C			

Bungalow