

COMBOMAX 109 - Selection guide : Apartments and Condominiums

2 HOUR PEAK PERIOD:

Commercial selection guide: Count your number of units, the average total units' surface and the number of persons

The associated number under the KW column corresponds to the necessary boiler power to satisfy your needs in DHW and heating.

A fraction of the domestic water load has been added to the heating load to determine the boiler total power as mentioned by the ASHRAE Handbook



Peak-performance heating systems

Real Nbr. Of Persons	Required Gallons 2 Hours	DHW ONLY		Average Surface of 750 ft2 per unit - Buildings built after 1990 (see notes)																																
				3 units		4 units		5 units		6 units		7 units		8 units		9 units		10 units		11 units		12 units		13 units		14 units		15 units		16 units		17 units		18 units		
		QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW			
7 à 8	92	1	6	1	15	1	20	1	27																											
9 à 10	118	1	6	1	18	1	22	1	27	1	27																									
11 à 12	143	1	9			1	24	1	27	1	27	2	15	2	18																					
13 à 14	168	1	12			1	27	1	30	1	30	2	15	2	18	2	20																			
15 à 16	192	1	15					2	13	2	13	2	15	2	18	2	20	2	22																	
17 à 18	215	1	18					2	15	2	15	2	18	2	18	2	20	2	22	2	24	2	27													
19 à 20	238	1	22							2	15	2	18	2	18	2	20	2	22	2	24	2	27	2	27											
21 à 22	260	1	24									2	18	2	20	2	22	2	24	2	24	2	27	2	30	2	30									
23 à 24	282	1	27											2	20	2	22	2	24	2	24	2	27	2	27	2	30	2	30	3	22	3	22			
25 à 26	303	1	30													2	22	2	24	2	27	2	27	2	30	2	30	3	20	3	22	3	22	3	24	
27 à 28	325	2	12											2	24	2	27	2	27	2	30	2	30	3	20	3	20	3	22	3	22	3	24	3	27	
29 à 30	345	2	13													2	27	2	30	2	30	2	30	3	18	3	20	3	22	3	22	3	24	3	27	
31 à 32	366	2	15													2	30	2	30	3	18	3	20	3	20	3	22	3	22	3	24	3	24	3	27	
33 à 34	386	2	15															3	18	3	18	3	20	3	22	3	22	3	24	3	24	3	24	3	27	
35 à 36	406	2	18																	3	20	3	20	3	22	3	22	3	24	3	24	3	24	3	27	
37 à 38	426	2	18																	3	20	3	22	3	22	3	24	3	24	3	24	3	24	3	27	
39 à 40	446	2	20																		3	22	3	24	3	24	3	24	3	27	3	27	3	30		
41 à 42	465	2	20																			3	24	3	24	3	27	3	27	3	27	3	30	3	30	
43 à 44	485	2	22																					3	27	3	27	3	27	3	30	3	30	3	30	
45 à 46	504	2	22																					3	27	3	27	3	27	3	30	3	30	3	30	
47 à 48	523	2	24																							3	27	3	30	3	30	3	30	4	22	
49 à 50	541	2	27																									3	30	3	30	4	22	4	22	
51 à 52	560	2	27																										3	30	4	22	4	22	4	22
53 à 54	578	2	27																												4	22	4	22	4	24
55 à 56	597	2	30																												4	22	4	24	4	24
57 à 58	615	2	30																													4	24	4	24	
59 à 60	633	2	30																													4	24	4	27	
61 à 62	651	3	18																															4	27	

Hot water consumption evaluation based on:

- 5 minutes shower with a 3 GPM water flow
- Includes showers' load and other minimum loads as residential sinks and dishwashers.
- If the water flow is 5 GPM, then multiply the "Required Gallons" column by 1.6
- Domestic cold water higher than 40F
- Boiler water temperature at 180F
- Thermostatic mixing valve at 140F (maximum setting)

Example:

Building built in 1975
 15units
 Total of 30 persons
 Average surface of 500 ft2 per unit

 Equivalence of units = 15 units X 1.25 (1975) X 0.67 (500 ft2) = 13 units

 Selection : 3 X COMBOMAX 109-20 KW (grey colored cells)

Building heat losses evaluation based on:

- An outside temperature at -22F (-30C).
- An average surface of 750 ft2 per unit
- These values are for buildings built after 1990
- For a building built between 1970 and 1990, **multiply the number of units by 1.25**
- For a building built before 1970, **multiply the number of units by 1.5**
- For an average surface of more or less than 750 ft2, **multiply the number of units by the ratio of average surfaces (ex: if 1000 ft2, multiply per 1.33 & if 500 ft2, multiply per 0.67)**

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3 HOUR PEAK PERIOD:

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Peak-performance heating systems

Real Nbr. Of Persons	Required Gallons 3 Hours	DHW ONLY		Average Surface of 750 ft2 per unit - Buildings built after 1990 (see notes)																																	
				3 units		4 units		5 units		6 units		7 units		8 units		9 units		10 units		11 units		12 units		13 units		14 units		15 units		16 units		17 units		18 units			
				QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW	QTY	KW		
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