

THERMA PAK

HIGH-EFFICIENCY GAS BOILER



A Product of

SPACE PAK 





COMFORT WHEN YOU NEED IT

SpacePak, the originator of small duct air distribution systems, is at it again...introducing our complete heating comfort solution for residential and light commercial applications.

SpacePak's new ThermaPak, a 93% efficient condensing "combi" boiler and domestic hot water package, is the perfect solution to all your hot water needs. Its space saving wall hung design provides high efficient heating for all hydronic baseboard and radiant systems. Domestic hot water production of over 4 gallons per minute provides ample hot water for showers, laundry and even washing the dishes while eliminating the need for a separate storage tank.



HEATING... COOLING... DOMESTIC HOT WATER... AIR QUALITY



93% Efficient Gas, Wall Hung, Direct-Vent Boiler

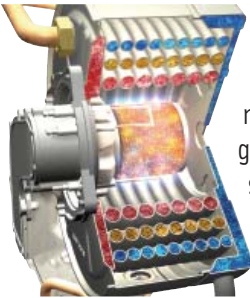
ThermaPak "combi" units offer an integrated domestic hot water coil, mounted and wired circulator pump and expansion tank all enclosed in its attractive sound-attenuated cabinet. Its panel mounted "on board" electronic control platform provides complete control over space-heating and domestic water settings.

Standard Features

- 30 MBH to 160 MBH
- Environmentally "green" – NOx 15 ppm
- 93% - Certified DOE efficiency
- 5:1 Continuous Modulation
- Major Components Fully Enclosed:
 - Circulator Pump Mounted & Wired*
 - Instantaneous Domestic Hot Water*
 - Expansion Tank & Air Vent*
- Concentric Vent Kit

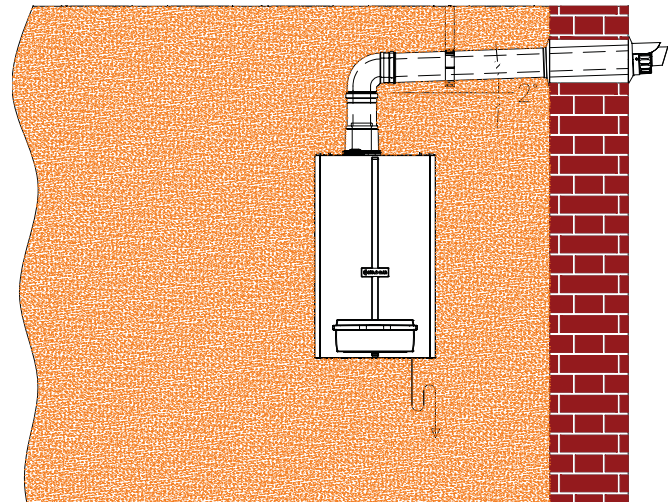
Patented Heat Exchanger

ThermaPak's patented tri-parallel flow heat exchanger and pre-mix air/gas modulation system offer full flow thru the unit with low pressure drop. A low-restriction mesh burner and negative pressure gas valve allow up to a 5:1 modulation sequence for capacity turndown providing optimal combustion for the highest operating efficiencies.



Domestic Hot Water

Instantaneous hot water without the extra expense of a separate water heater or storage tank. Efficient integral copper coil provides over 4 GPM of domestic hot water on demand. Coil is easily removed for annual cleaning providing years of trouble-free service.



Venting

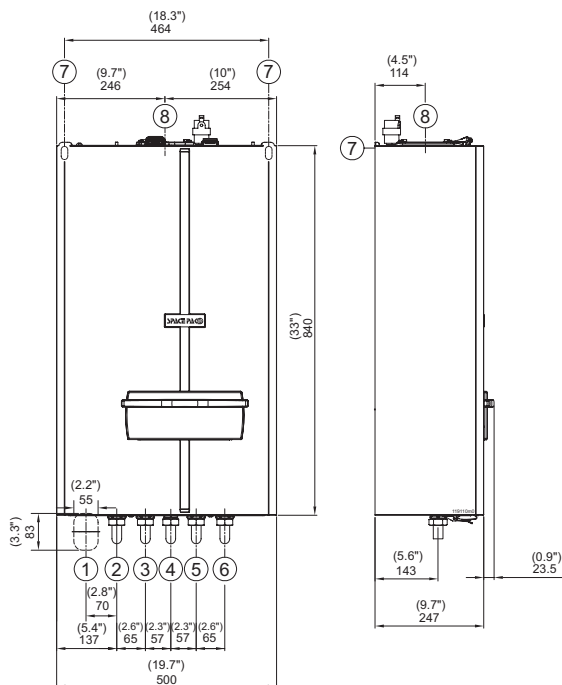
Units are designed to be used with a concentric vent kit that can be vented either vertically or side-wall for application flexibility. Concentric vent kits allow the use of outside air for combustion, lowering fuel bills by reducing air infiltration. Kits are flexible and easy to install and can be vented up to 70 equivalent feet.

Ratings and Engineering Data

Technical Data	
Nominal heat input	160,000 Btu/hr
Minimum heat input	30,000 Btu/hr
Efficiency	93%*
*DOE Heating capacity is based on standard test specified by the United States Department of Energy.	
D.H.W. heat output	142,400 Btu/hr
Instantaneous D.H.W. production (75°F rise)	4 gal/min
Maximum heating temperature	190°F
Maximum heating pressure	30 Psi
Maximum pressure of domestic hot water circuit	125 Psi
Capacity of expansion tank	2.64 gal
Nominal power supply voltage	120/60 V/Hz
Electric power	170 W
Flue gas pipes diameter (split) (polypropylene)	3"
Flue gas pipes max. length (split) (polypropylene)	300 ft
Flue gas pipes diameter (concentric) (polypropylene)	2.36" / 3.94"
Flue gas pipes max. length (concentric) (polypropylene)	70 ft
CO contents (0% O with natural gas)	15 p.p.m.
NOx contents (0% O with natural gas)	15 p.p.m.
Dimensions LxDxH(approximate)	20" x 10" x 33"
Connections (supply - return - D.H.W. - D.C.W. - gas)	3/4"
Weight	100 lbs

* AFUE (DOE Seasonal Efficiency) %

Dimensions



N°	Description	Connections
		Thermo Pak
1	Area for power supply cable	/
2	Heating supply connection	3/4" SWEAT
3	DHW connection	3/4" SWEAT
4	Gas connection	3/4" NPT
5	DCW connection	3/4" SWEAT
6	Heating return	3/4" SWEAT
7	Position for boiler support	/
8	Flue discharge/air intake connection	/

Hydronic Coil Heating Capacity (MBH)

AC-WPAK-60					
GPM	Entering Water Temperature (F)				
	120	140	160	180	200
2	20.5	30.0	39.1	48.1	57.2
4	25.2	35.6	46.1	56.6	67.1
6	26.6	37.4	48.3	59.2	70.2
8	27.2	38.2	49.3	60.4	71.6
10	27.5	38.7	49.9	61.1	72.3

At 550CFM and 70°F Entering Air Temperature

AC-WPAK-90					
GPM	Entering Water Temperature (F)				
	120	140	160	180	200
2	26.8	39.2	51.6	63.4	75.2
4	36.0	50.8	65.7	80.8	95.8
6	39.0	54.9	70.9	87.0	103.1
8	40.4	56.8	73.3	89.9	106.5
10	41.2	57.9	74.7	91.5	108.4

At 850CFM and 70°F Entering Air Temperature

AC-WPAK-120					
GPM	Entering Water Temperature (F)				
	120	140	160	180	200
2	31.7	46.2	61.2	75.1	89.0
4	45.6	64.2	83.0	102.0	120.9
6	50.6	71.2	92.0	112.9	133.8
8	53.1	74.7	96.4	118.2	140.1
10	54.6	76.7	98.9	121.2	143.6

At 1150CFM and 70°F Entering Air Temperature

Water Pressure Drop (in feet @ 180°)			
GPM	AC-WPAK-60	AC-WPAK-90	AC-WPAK-120
2	0.4	0.4	0.5
4	1.4	1.6	1.7
6	3.0	3.3	3.7
8	5.2	5.7	6.3
10	7.9	8.7	9.6

To calculate Leaving Air Temperature (LAT) use the following formula:

$$LAT = (BTUH / (1.08 \times CFM)) + 70$$

THERMA PAK

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