



Heat Pumps

COMFORT
WHEN YOU
NEED IT



SPACE PAK 
HYDRONICS



COMFORT WHEN YOU NEED IT

SpacePak's Solstice heat pumps are air-to-water reverse cycle heat pumps that use the comfort of Hydronics as the primary source for both heating and cooling demands. In any season, SpacePak units provide perfectly conditioned air with reliability and efficiency.

Solstice heat pumps work similar to conventional heat pumps by circulating refrigerant, which vaporizes at a low temperature in its enclosed evaporator, producing additional energy in the process. Further concentration of the conditioned warm vapor occurs in SpacePak's dual programmable compressor raising it to a temperature where it can be circulated through one of the many SpacePak hydronic air handlers for distribution to the occupied space.

Flexible Solutions

Heat pumps can be used in many types of applications from small homes with multiple thermostat driven zones, to large homes and light commercial applications.

Perfect for zoning, these units can operate in a loop that can provide conditioned air to several individual zones utilizing single or multiple air handlers, allowing total comfort control to the occupied space.

Whether radiant heating & cooling, domestic hot water, dehumidification, process cooling, or even conventional with multiple air handlers SpacePak Solstice heat pumps offer application flexibility requiring less equipment outside.

Units can be easily installed at ground level, on rooftops or even in remote locations when necessary.

High Efficiency

Solstice heat pumps utilize a condenser coil that is 30% larger than standard units and operate with a COP of up to 4. Designed for heating in colder climates, SpacePak Solstice produce up to 67,000 BTU/h, and can effectively heat in ambient temperatures as low as 0°F.

Perfect Match

SpacePak's Solstice allows custom control not obtainable by most traditional refrigerant-based systems. Heat pumps use hydronics (water) to provide unparalleled load matching by utilizing adjustable water flow, water temperature, and airflow settings.



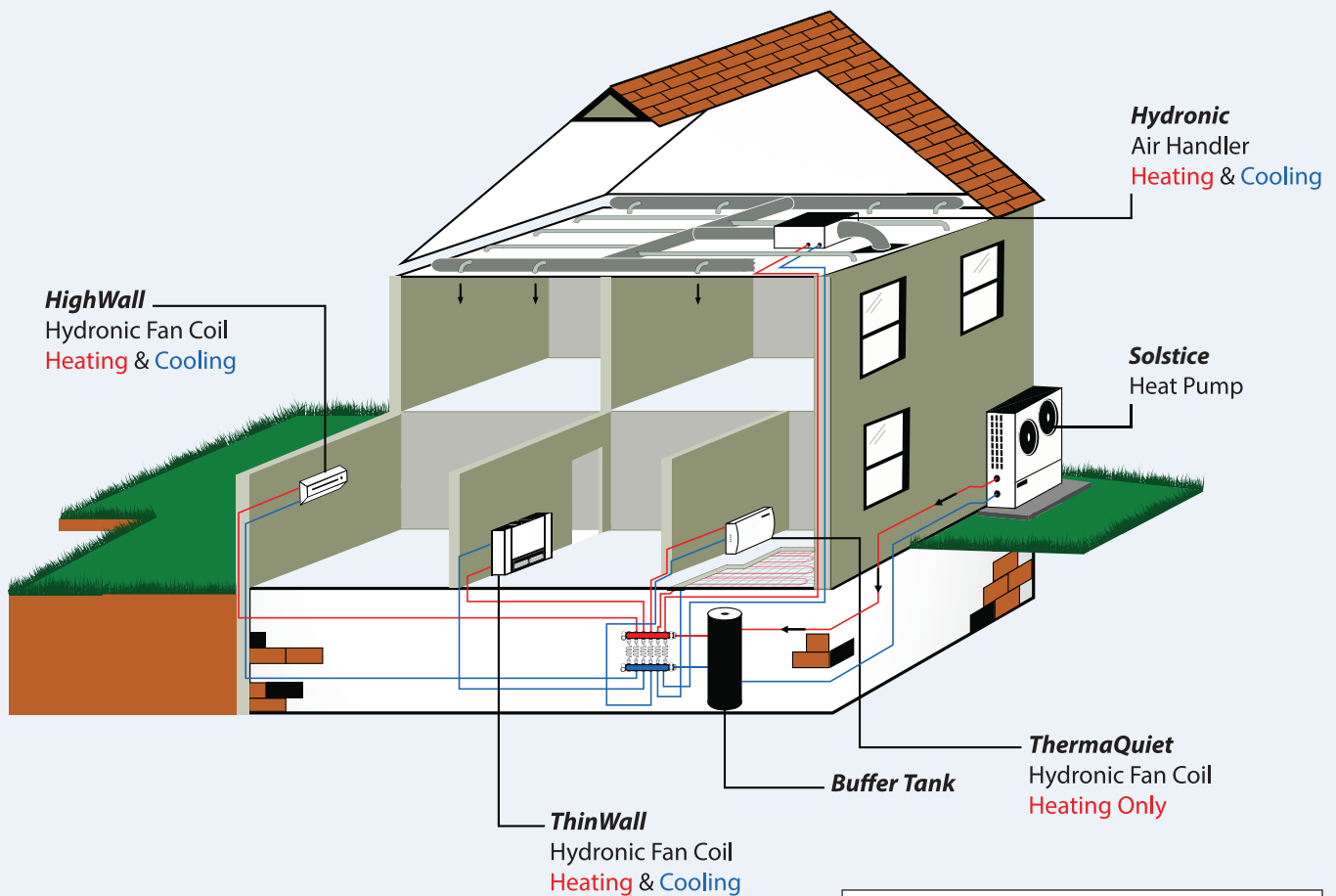
Green by Nature

An ultra safe and environmentally friendly design keeps all refrigerant sealed in its powder coated galvanized steel cabinet and outside the occupied space. Heat pump high efficiency compressors operate on R-410A but use only a fraction of the refrigerant needed by other systems, while providing superior performance and high COP and EER.

Solstice heat pumps run quieter than traditional systems with their dual fan, horizontal discharge configuration and soft start activation.



System Layout



Key:

— = Supply

— = Return

Illustration depicts heating application. In cooling applications chilled water replaces hot water supply lines.



Solstice Extreme, SpacePak's low ambient heat pump provides primary heating and cooling even in severe weather climates. Its environmentally friendly design uses EVI technology and the clean efficient characteristics of hydronics as its primary energy source to deliver perfectly conditioned air to any occupied space.

- Enhanced Vapor Injection Technology (EVI)
- 48,000 BTU/h at 0°F at 140°F Heating Supply
- 4 Ton at 95°F at 47°F Cooling Supply
- Highest R-410A COP and EER
- Simple Piping & Pumping
- Installation & Service Friendly
- Easily Zoned
- Proven Integrated Control
- Low Amp Requirements
- Outdoor Reset
- Green Hydronic Energy – No Refrigerant in Occupied Space
- Low Ambient Freeze Protection

Enhanced Vapor Injection (EVI)

The award winning EVI technology and high efficiency condenser used in SpacePak low ambient heat pumps, provides improved efficiency, reliability and heating capacities. EVI increases heating capacity by over 30%, making it the perfect compressor for severe ambient conditions (0°F) in cold climates, while maintaining the ability to cool during the summer months.

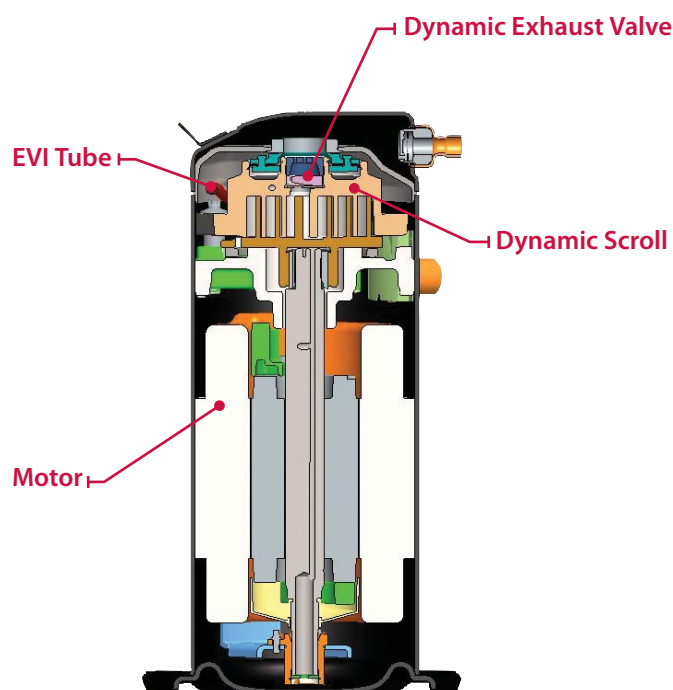
- +30% Heating Performance at 140°F Supply
- 50% Larger Condenser Coil
- Energy Efficient
- Reliable

Specifications

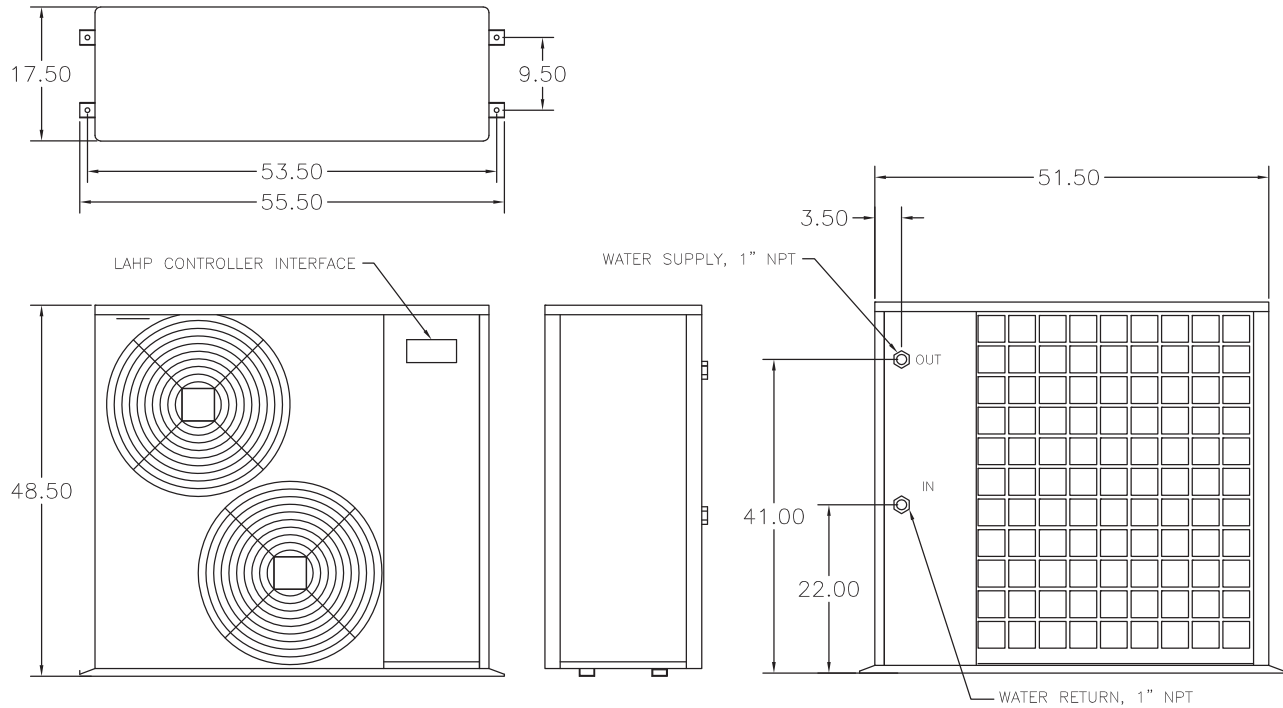
Model	LAHP - 048	COP
Heating Capacity	*48000 BTU/h 14.06 kW	2.42
Cooling Capacity	**48,000 BTU/h 13.5 kW	3.00
Voltage	230v/1ph/60Hz	
Min Supply Temp	42°F 7°C	
Max Supply Temp	140°F 60°C	
Min Water Flow	10 gpm 1.80 m3/hr	
Max Water Flow	14 gpm 3.20 m3/hr	
dP @ Max Flow	20.7 ft 62 kPa	
Heating Current	21.2 amps	
Cooling Current	23.5 amps	
Noise Level	62 dB(A)	
Compressor	Scroll X 2	
Installed Weight	386 lbs 175 Kg	

* at 0°F ambient, 120°F supply water (-16°C / 52°C)

** at 95°F ambient, 47°F supply water (35°C / 12°C)



Dimensions



SPL-WG0778

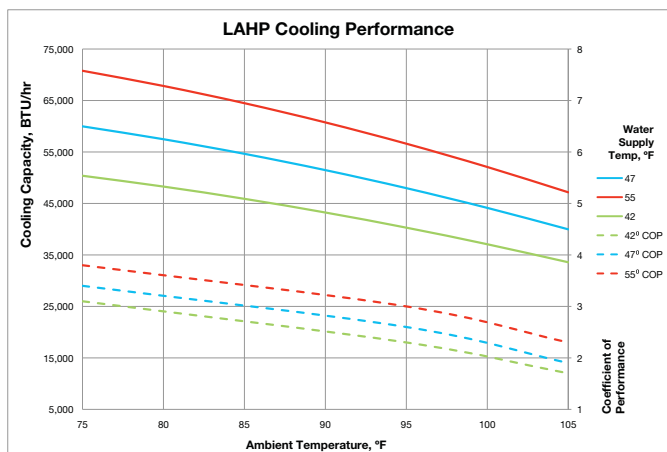
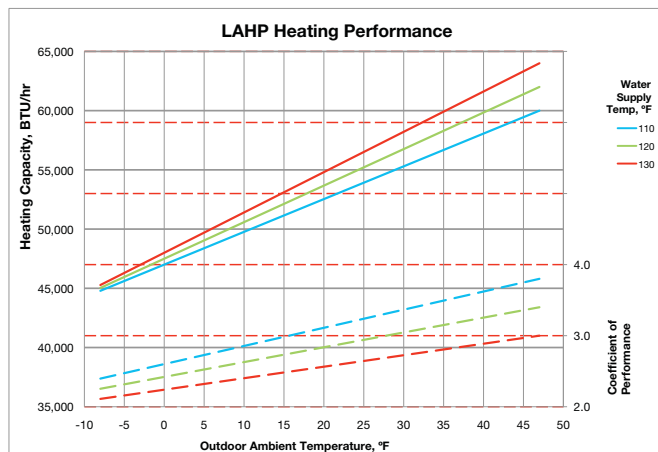
Performance

Cooling Operation at 47°F Water

Ambient Temp	Capacity BTU/hr	Electrical Power Watts	Heat Pump COP	Heat Pump EER
82°F	56,000	4,800	3.4	11.7
95°F	48,000	5,200	2.7	9.2
105°F	38,000	6,200	1.8	6.1

Heating Operation at 120°F Water

Ambient Temp	Capacity BTU/hr	Electrical Power Watts	Heat Pump COP	Heat Pump EER
45°F	61,500	5000	3.5	12.3
20°F	53,500	5437	2.8	9.8
0°F	47,500	5407	2.5	8.8





Features & Benefits

- Dual Refrigeration Circuits
- Simple Piping & Pumping
- Installation & Service Friendly
- Easily Zoned
- 30% Larger Condenser Coil than Traditional Units
- Self Diagnostic Control – Programmable
- Low Amp Requirements
- Quiet Operation – “Soft Start” Package Standard
- Green Hydronic Energy - No Refrigerant in Occupied Space
- Low Ambient Freeze Protection

Sophisticated.... but Simple Control Platform



Intelligent recovery factory programmed control platform, with state of the art self diagnostic microprocessor allow staging of compressors for seamless operation. Amp draw starts low and stays low with no spike at start-up and use a smaller breaker than other heat pump units for even more efficiency benefits.



Specifications

Model	SCM - 036	COP	SCM - 060	COP
Heating Capacity	**44,000 BTUh 13.0 kW	3.95	**60,000 BTUh 17.0 kW	3.97
Cooling Capacity	***34,000 BTUh 10.0 kW		***46,000 BTUh 13.5 kW	
Voltage	230v/1ph/60Hz		230v/1ph/60Hz	
Min Supply Temp	36°F 2.5°C		36°F 2.5°C	
Max Supply Temp	125°F 52°C		125°F 52°C	
Min Water Flow	7 gpm 1.60 m3/hr		10 gpm 2.27 m3/hr	
Max Water Flow	12 gpm 2.75 m3/hr		15 gpm 3.41 m3/hr	
dP @ Max Flow	21 ft 63 kPa		28 ft 84 kPa	
Heating Current	13.1 amps		21.3 amps	
Cooling Current	17.6 amps		26.4 amps	
Noise Level	56 dB(A)		56 dB(A)	
Compressor	Scroll x 2		Scroll x 2	
Installed Weight	354 lbs 161 Kg		407 lbs 185 Kg	

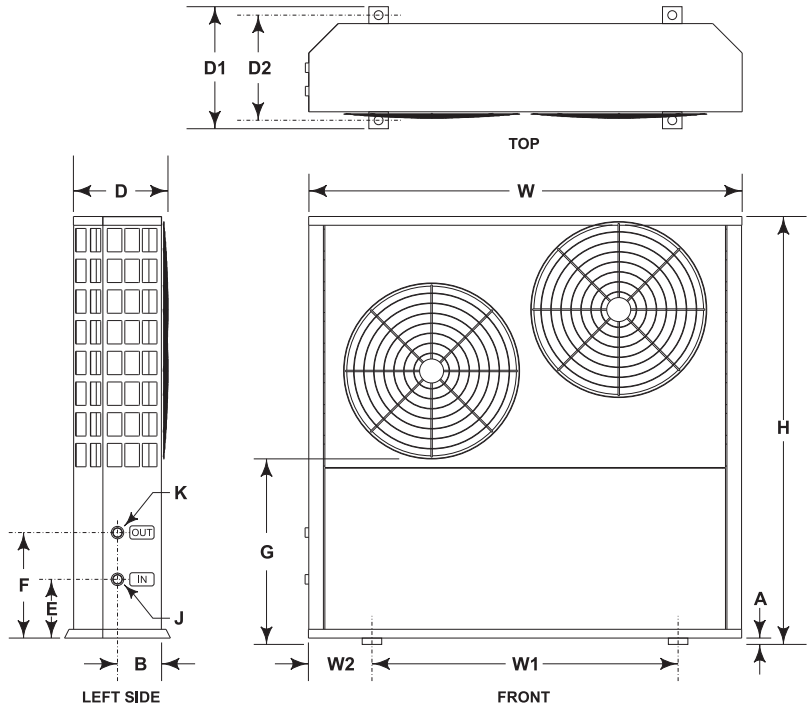
** at 95°F ambient, 47°F supply water (35°C / 12°C)

*** at 45° ambient, 115°F supply water

Dimensions

Model	A	B	D	D1	D2	E	F
	Leg height	Front to return	Cabinet depth	Mounting lug depth	Mounting lug centers	Bottom to return	Bottom to supply
SCM-036	1	10	17 3/4	17 3/8	15 3/4	5 1/2	15 1/4
SCM-060	1	10	17 3/4	17 3/8	15 3/4	5 1/2	15 1/4

Model	G	H	J	K	W	W1	W2
	Base to bottom edge of lower fan	Overall Height	Return connection	Supply connection	Overall width	Mounting lug centers	Lug center to edge
SCM-036	25	53	1" NPT	1" NPT	43 3/8	27 1/2	7 15/16
SCM-060	25	53	1" NPT	1" NPT	43 3/8	27 1/2	7 15/16



Performance

3 Ton Cooling Operation at 47°F Water

Ambient Temp	Capacity BTU/hr	Chiller Power Watts	Chiller COP	Chiller EER
82°F	38,553	2,523	4.47	15.28
95°F	29,694	3,873	2.25	7.67
105°F	22,880	4,912	1.36	4.66

5 Ton Cooling Operation at 47°F Water

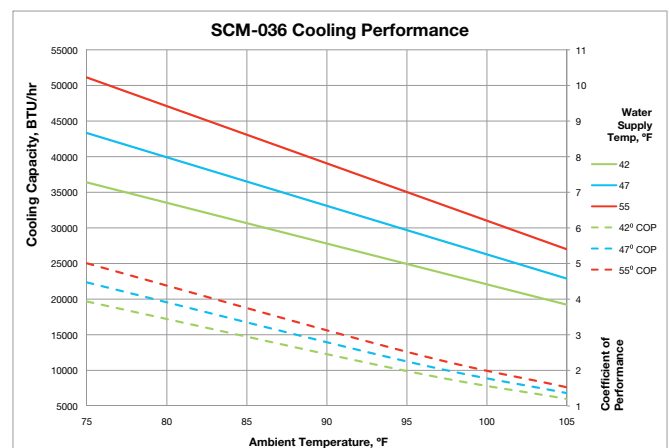
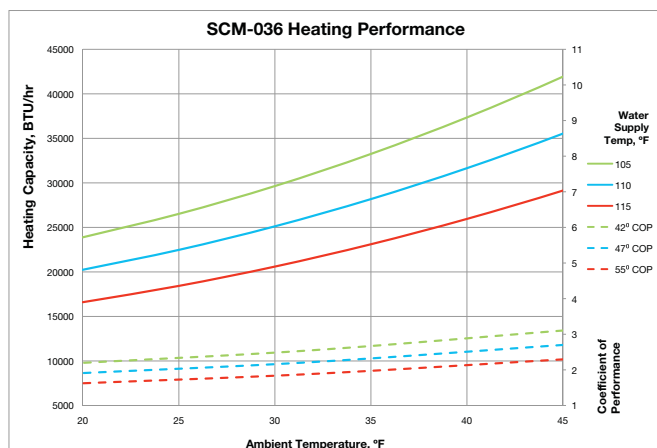
Ambient Temp	Capacity BTU/hr	Chiller Power Watts	Chiller COP	Chiller EER
82°F	61,526	5,150	3.50	11.95
95°F	54,621	5,881	2.72	9.29
105°F	45,668	6,643	2.01	6.87

3 Ton Heating Operation

Ambient Temp	Water Supply Temp.	Capacity BTU/hr	Chiller Power Watts	Chiller COP
45°F	115°F	35,536	3,855	2.70
32°F	110°F	26,295	3,472	2.22
20°F	105°F	20,245	3,103	1.91

5 Ton Heating Operation

Ambient Temp	Water Supply Temp.	Capacity BTU/hr	Chiller Power Watts	Chiller COP
45°F	115°F	60,256	6,919	2.55
32°F	110°F	42,770	5,927	2.11
20°F	105°F	24,769	4,125	1.76



Solstice BT

Hydronic buffer tanks are used as both hydraulic separators and hydronic buffer tanks.



As a hydraulic separator, BT's separate the hydronic from the energy source loop (heat pump / boiler) from the hydronic flow in the distribution system (air handlers / emitters). Hydraulic separation is used primarily in systems where flow rates from the source to the distribution vary or with applications utilizing variable speed pumps. The heating or cooling source can be hydraulically decoupled from the distribution system.

BT's are used as hydronic buffer tanks in systems having several low BTU cooling or heating loads calling at different times or systems operating below the design load condition.

BT's store the additional system volume and energy currently not utilized by the system for use on additional calls for heat leading to more efficient system performance and longer equipment life.

There are four connections (1 1/2 NPT) built into the BT units. Two connections can be piped to the heat pump / boiler, and two connections can be piped to the distribution system.

All tanks are durable stainless steel construction with R12 insulation and offered in 26 and 40 gallons with (2) 3kW electric heating elements.

AirCell – Air Distribution

AirCell is a high efficiency, self-contained air distribution module designed for cooling, heating and fresh air ventilation. Perfect for hotels, dormitories and hospitals, AirCell can be seamlessly linked together to fit any size application with minimal effort.



HighWall – Heating & Cooling

HighWall fan coils are the perfect indoor complement to our low ambient heat pumps, providing optimum heating and cooling in one classic design.



ThinWall – Heating & Cooling

ThinWall fan coils are the ultra-sleek alternative to high wall fan coils or can be used in conjunction with them for optimum flexibility.



ThermaQuiet – Heating Only

Engineered specifically for low-temperature hydronic applications, ThermaQuiet fan coils are an ideal complement to today's high efficiency condensing boilers, heat pumps, and solar equipment.



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