

Modular Air-to-Water Heat Pumps

Generate up to 130°F hot water at a 0°F ambient



Jetson Modular Air-to-Water Heat Pump units are air-source refrigeration units with the ability to produce chilled or heated fluid with one refrigerant-to-water heat exchanger. A refrigerant reversing valve is used to switch between cooling and heating modes.

JET17-100

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Modular Air-to-Water Heat Pumps

Decarbonization focus

Air-to-water heat pumps (AWHPs) are an emerging equipment category driven out of a desire to decarbonize HVAC systems through electrified heating solutions. Jetson Heat pump technology offers coefficients of performance (COP) far exceeding resistance-based heating thus enabling a reduced heating energy intensity.



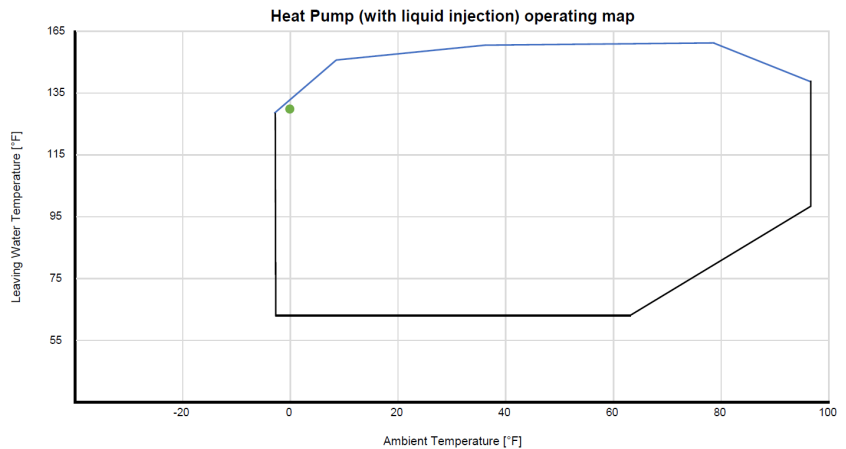
2-pipe Air-to-Water Heat Pump

Low GWP Refrigerant

All Jetson Air-to-Water Heat Pumps are available with R-454B refrigerant. Featuring a low Global Warming Potential (GWP) of merely 466 and no Ozone Depletion Potential (ODP), the R-454B refrigerant is classified as an HFO, effectively eliminating ODP and minimizing GWP.

Modularity

Heat pumps are available in **10 through 80-ton** standalone units and can be combined in modular assemblies for up to **800 tons** of cooling.



High Lift Compressors

Air-To-Water Heat Pumps equipped with liquid injection compressors can generate up to **130°F (54°C)** hot water at a **0°F (-17°C)** ambient temperature.

Jetson Air-to-Water Heat Pumps are available in a 2-pipe or 4-pipe configuration (simultaneous heating and cooling).

Modes of Operation

Cooling Mode

The refrigerant-to-water heat exchanger is the energy source for the refrigeration circuit, absorbing heat from the chilled water. The refrigerant-to-air coil is the energy sink, rejecting heat to ambient air.

Heating Mode

The refrigerant-to-air heat exchanger is the energy source in the circuit, absorbing heat from the outdoor air, while the refrigerant-to-water is the energy sink in the circuit, rejecting heat to the heating water circuit.

Heat Recovery Mode

Heat pumps typically feature a single-load refrigerant-to-water heat exchanger capable of either cooling or heating, but not both simultaneously. With the addition of a heat recovery option, a second refrigerant-to-water heat exchanger is incorporated alongside the load heat exchanger. This secondary heat exchanger is designed to heat a separate fluid loop while the primary load refrigerant-to-water heat exchanger is in cooling operation (**4-pipe system + Heat Recovery Option**).



4-pipe Air-to-Water Heat Pump with Heat Recovery Option

Features & Options

- ≡ Ranging from 10 to 80 tons as stand alone units, Jetson Air-to-Water can be installed in parallel as an array up to 10 modules.
- ≡ High efficiency scroll compressors and liquid injection scroll compressors available.
- ≡ Air-To-Water Heat Pumps equipped with liquid injection compressors can generate up to 130°F (54°C) hot water at a 0°F (-17°C) ambient temperature.
- ≡ Two-pipe or Four-pipe configuration.
- ≡ Four-pipe operation with brazed plate condenser sized for full heat recovery offers significantly more heating capacity than a desuperheater.
- ≡ Heat recovery option can provide 140°F (60°C) hot water to reheat dehumidified buildings, pre-heat laundry or pool water.
- ≡ Loop switching valves and modular hot water pipes factory installed.
- ≡ Standard uncoated or optional e-coated microchannel heat exchanger (MCHE) condenser coils for a better efficiency during defrost mode and a reduced refrigerant charge.
- ≡ Highly efficient, dual circuit brazed plate heat exchangers offer maximum performance at both full and part-load conditions.
- ≡ Intuitive, factory installed microprocessor-based controller compatible with BACnet®, Modbus®, and LonTalk®.
- ≡ Galvanized steel frame with painted epoxy finish on exterior panels minimize corrosion and promote long equipment life.
- ≡ Compressors are factory installed on rubber isolation mounts for quiet operation.
- ≡ Compressor acoustic hoods and/or sound isolating cabinets are available for sound sensitive applications.
- ≡ ASHRAE 90.1 compliant.

Jetson's Air-to-Water Heat Pumps offer versatility and sustainability. They adapt to your project's needs, efficiently providing hot water for heating using our innovative chiller technology. Say goodbye to fossil fuel reliance and hello to a cleaner future with Jetson.



2-pipe Performance

(10 Tons/190 MBH to 80 Tons/880 MBH)

2-pipe			ACCS015	ACCS030*	ACCS060*	ACCS080	
Performance	Cooling	Cooling Capacity	Ton	14.83	28.48	56.87	73.25
		Input Power	Kw	18.00	32.82	65.12	86.90
		EER	Btu/W*h	9.89	10.41	10.48	10.12
	Heating	Heating Capacity	MBH	192.78	359.04	718.07	883.88
		Input Power	Kw	18.39	32.47	64.43	79.47
		COP Heating	W/W	3.77	3.96	3.96	3.78
Compressor	Type	Liquid Injection (High Lift)					
	Quantity	No.	2	2	4	2	
	Circuits	No.	2	2	2	2	
Refrigerant	Type	R-454B					
Air-side Heat Exchanger	Coil Type	Aluminum Microchannel					
	Fan Type	Variable Speed/Fixed Speed					
	Fan Quantity	No.	1/0	1/1	2/2	2/2	
Water-side Heat Exchanger	Type	Brazed Plate					
	Flow Rate Cooling	gpm	35.48	68.16	136.08	175.36	
	Flow Rate Heating	gpm	38.85	72.40	144.79	177.64	
Electrical	Voltage	V/pH/Hz	460/3/60				
	RLA	Amps	14	25	25	68	
	MCA	Amps	37	65	124	171	
	MOP	Amps	50	80	125	225	
Dimension	Length	Inches	57.30	86.40	86.40	86.40	
	Width	Inches	39.40	39.40	76.50	76.50	
	Height	Inches	86.60	86.60	86.60	86.60	
Weight	Shipping Weight (+/-5%)	lbs	1364.00	2030.00	3056.00	3178.00	

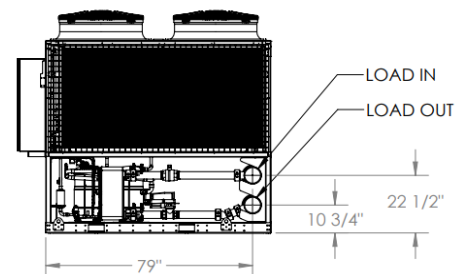
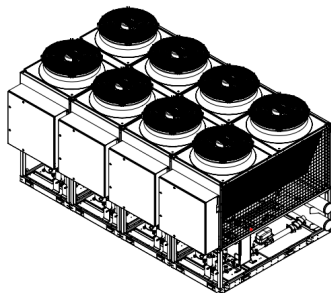
Rated Cooling Performance: EWT/LWT 54°F/44°F @ outdoor air 95°F/87°F (db/wb)

Rated Heating Performance: EWT/LWT 95°F/105°F @ outdoor air 47°F/43°F (db/wb)

* High Efficient Option

Note : ACCS (stand-alone) units when installed as an array, the model changes to ACCM.

Contact sales@JetsonHVAC.com or your local Jetson representative for a specific performance.



**Array of (4) 2-pipe 30-ton ACCM Heat Pumps:
Nominal 120 tons, 8 compressors, 8 circuits**

4-pipe Performance

(30 Tons/360 MBH to 80 Tons/880 MBH)

4-pipe			ACCS030*	ACCS060*	ACCS080	
Performance	Cooling	Cooling Capacity	Ton	28.48	56.87	73.25
		Input Power	Kw	32.82	65.12	86.9
		EER	Btu/W*h	10.41	10.48	10.12
	Heating	Heating Capacity	MBH	361.28	722.3	886.75
		Input Power	Kw	30.83	61.08	75.55
		COP Heating	W/W	3.43	3.47	4.03
	Heat Recovery	Cooling Capacity	Ton	29.09	58.64	77.85
		EER	Btu/W*h	13.41	13.72	13.72
		Heating Capacity	MBH	437.91	878.64	1166.52
Combined COP		W/W	8.86	9.04	9.05	
Compressor	Type	Liquid Injection (High Lift)				
	Quantity	No.	2	4	4	
	Circuits	No.	2	2	2	
Refrigerant	Type	R-454B				
Air-side Heat Exchanger	Coil Type	Aluminum Microchannel				
	Fan Type	Variable Speed/Fixed Speed				
	Fan Quantity	No.	1/1	2/2	2/2	
Water-side Heat Exchanger	Type	Braze Plate				
	Flow Rate Cooling	gpm	68.16	136.08	175.36	
	Flow Rate Heating	gpm	72.4	145.54	178.76	
	Flow Rate Cooling (Heat Recovery)	gpm	69.6	140.27	186.30	
Water-side Heat Recovery Condenser	Type	Braze Plate				
	Flow Rate Heating (Heat Recovery)	gpm	88.24	177.00	235.1	
Electrical	Voltage	V/pH/Hz	460/3/60			
	RLA	Amps	25	25	68	
	MCA	Amps	65	124	157	
	MOP	Amps	80	125	175	
Dimension	Length	Inches	86.40	86.40	86.40	
	Width	Inches	39.40	76.50	76.50	
	Height	Inches	86.60	86.60	86.60	
Weight	Shipping Weight (+/- 5%)	lbs	2030.00	3056.00	3178.00	

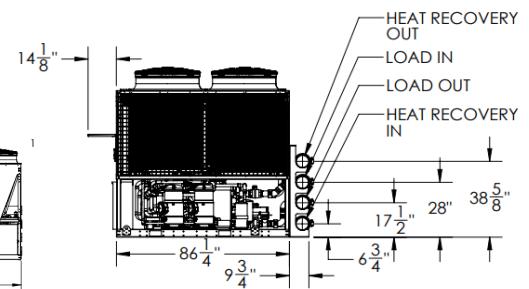
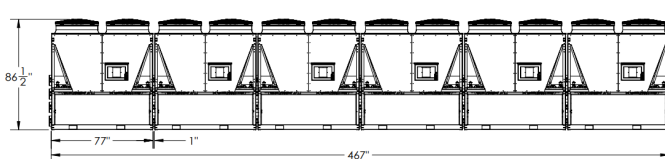
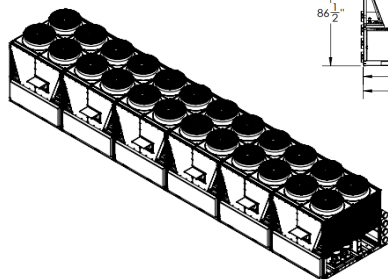
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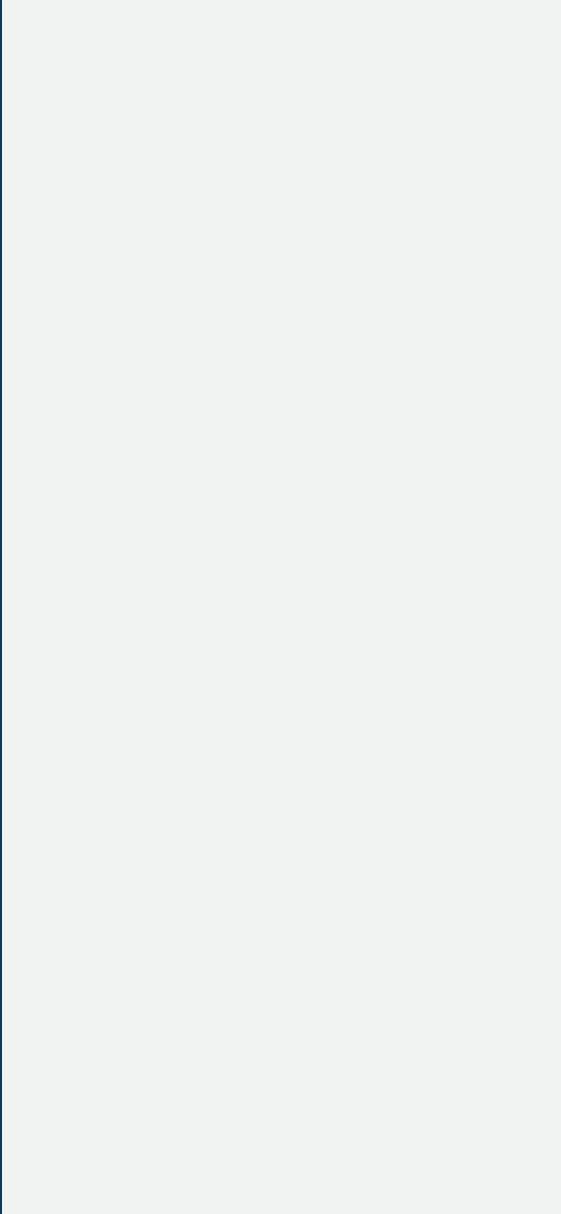
* High Efficient Option

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Array of (6) 4-pipe 30-ton ACCM Heat Pumps + Heat Recovery:
Nominal 240 tons, 24 compressors, 16 circuits



Jetson
by **MODINE**

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