



Closetline®

Packaged Water Source Heat Pump - Hot Gas Reheat

- Available in sizes 0.5 to 5.0 nominal tons
- Single-stage operation up to 17.0 EER
- Horizontal or vertical configuration
- Compact footprint with easy service access
- Open or closed loop applications
- Hybrid heating and cooling operation
- CuNi heat exchanger available

Closetline® Hot Gas Reheat

Great for a Variety of Applications

The Closetline® Hot Gas Reheat series from The Whalen Company utilizes a compact cabinet, making this heat pump system the perfect solution for commercial retrofit or new construction applications.

The Closetline® series far exceeds the ASHRAE 90.1 minimum efficiency and utilizes R-410A refrigerant to reduce operating costs without compromising the environment. Closetline® water source heat pumps are popular in a variety of building applications where quiet operation in a compact footprint is a key requirement.

Hot Gas Reheat is used for humidity control and for occupant comfort. When zone cooling loads are low and the space humidity is high, conventional systems often overcool the occupied space in an attempt to remove excess humidity. By redirecting exhaust heat from the compressor to the reheat coil, the system can operate to remove unwanted moisture. The integrated reheat coil is used to add sensible heat to the air stream to maintain the temperature setpoint and occupant comfort. The Hot Gas Reheat System is more efficient because it eliminates the need for a separate unit to dehumidify the air, thereby reducing overall energy usage.



Sequence of Operation

Hot Gas Reheat Features

The hot gas reheat mode is designed to dehumidify the conditioned space with minimal change to the indoor air temperature and is controlled by a thermostat with an integral humidistat. The leaving air dry-bulb temperature is typically within 5°F of the return air temperature to maintain occupant comfort. While in dehumidification mode, operation will occur until the humidistat is satisfied or until there is a call for heating or cooling.

The moisture removal capacity of each heat pump will depend on the entering water temperature and the entering air dry-bulb and wet-bulb temperatures. Details can be found in the published performance specifications for the hot gas reheat mode.

Cooling Mode

The thermostat with its integrated humidistat is monitoring both room temperature and humidity. On a call for cooling, the compressor is energized, the reversing valve is positioned for cooling, and the unit operates in normal cooling mode. When the space temperature is satisfied, the compressor is turned off. If the humidity setpoint is not

satisfied, the unit will continue to operate in dehumidification mode.

Dehumidification Mode

On a call for dehumidification, the compressor is energized, the reversing valve is positioned for cooling, and the hot gas reheat valve opens to allow compressor discharge gas into the hot gas reheat coil. With dehumidification mode activated, the unit will cool and dehumidify the air through the evaporator coil, and then reheat the air back to room temperature using the hot gas reheat coil. When the humidity setpoint is satisfied, the hot gas reheat valve is closed, and the compressor is turned off. If there is a call for cooling, the hot gas reheat valve is closed, and the unit continues to operate in cooling mode.

Heating Mode

The thermostat with its integrated humidistat is monitoring both room temperature and humidity. On a call for heating, the compressor is energized, the reversing valve is positioned for heating, the unit operates in normal heating mode. When the heating setpoint is reached, the compressor is turned off.

Benefits that Make a Big Difference

When you consider all of the features of Whalen units, it's easy to see why they deliver so many benefits to contractors and users alike.

Humidity Control

Reduce indoor humidity while maintaining a comfortable air temperature. Higher efficiency due to eliminating the need for a separate heat source to dehumidify the air, reducing heating costs.

Compact Footprint

Compact cabinet design with quick access for ease of service. Horizontal units can be serviced through the unit bottom to virtually eliminate removing ceiling mounted units for service.

Fan Operation

Oversized blower for quiet operation. A constant torque multi-speed EC motor is standard for economical operation with soft

start and serviceable from one side.

Drain Pan

Internally trapped (vertical models), stainless steel drain pan for years of trouble-free service.

Compressor

Compact and efficient compressors, with double isolation for quiet operation.

Reliable Operation

Thermostatic expansion valve maintains maximum capacity under a wide range of operating conditions.

Coaxial Heat Exchangers

Heavy duty coaxial heat exchanger for reliability. Enhanced internal surface

treatment for increased efficiency (CuNi available).

Easy to Install

Water connections are securely mounted flush to the cabinet to eliminate the need for a backup wrench.

Electronic Control Board

Each unit ships with solid state microprocessor controls with safeties built-in for reliable protection.

Built to Last

Satin galvanized and acoustically insulated cabinet for years of quiet operation.

Closetline® CAS Reheat Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 80°F / 67°F					Entering Air - 78°F / 65°F					Entering Air - 75°F / 63°F				
			TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)
CAS*K006A (0.5)	86	1.00	1.53	0.22	0.39	2.87	5.75	1.29	0.12	0.39	2.64	5.27	1.06	-0.18	0.39	2.39	4.79
		1.25	1.61	0.29	0.39	2.94	4.71	1.36	0.16	0.39	2.69	4.31	1.12	-0.24	0.39	2.44	3.90
		2.00	1.72	0.35	0.39	3.04	3.04	1.46	0.19	0.39	2.77	2.77	1.20	-0.28	0.38	2.50	2.50
CAS*K009A (0.75)	86	1.50	4.04	1.47	0.74	6.56	8.74	3.61	1.39	0.74	6.12	8.16	3.19	0.62	0.74	5.71	7.61
		1.88	4.24	1.55	0.73	6.72	7.17	3.78	1.47	0.73	6.26	6.68	3.35	0.66	0.73	5.83	6.22
		2.50	4.46	1.74	0.72	6.92	5.54	3.98	1.65	0.72	6.44	5.15	3.53	0.74	0.72	5.99	4.79
CAS*K012A (1.0)	86	2.00	6.08	2.60	1.03	9.59	9.59	5.55	2.50	1.03	9.05	9.05	5.02	1.49	1.02	8.52	8.52
		2.50	6.26	2.87	1.02	9.73	7.79	5.71	2.76	1.01	9.17	7.34	5.17	1.64	1.01	8.63	6.90
		3.00	6.60	2.91	1.01	10.04	6.69	6.01	2.79	1.01	9.45	6.30	5.44	1.67	1.01	8.87	5.92
CAS*K015A (1.25)	86	2.50	5.01	1.82	0.87	7.97	6.38	4.33	1.50	0.87	7.29	5.83	3.69	0.34	0.87	6.66	5.33
		3.13	5.21	2.03	0.86	8.14	5.21	4.51	1.67	0.86	7.44	4.76	3.85	0.38	0.86	6.78	4.34
		3.75	5.22	2.15	0.85	8.13	4.34	4.51	1.77	0.85	7.42	3.96	3.85	0.41	0.85	6.76	3.61
CAS*K018A (1.5)	86	3.00	6.59	2.25	1.22	10.74	7.16	5.85	2.12	1.22	10.00	6.67	5.14	0.80	1.21	9.28	6.18
		3.75	6.85	2.47	1.20	10.96	5.84	6.09	2.33	1.20	10.19	5.43	5.34	0.88	1.20	9.44	5.03
		4.50	7.11	2.49	1.20	11.20	4.98	6.32	2.35	1.20	10.40	4.62	5.54	0.88	1.20	9.62	4.28
CAS*K024A (2.0)	86	4.00	10.24	4.21	1.45	15.19	7.60	9.36	3.68	1.44	14.29	7.15	8.50	1.64	1.44	13.41	6.70
		5.00	10.83	4.54	1.43	15.73	6.29	9.91	3.97	1.43	14.78	5.91	9.00	1.77	1.42	13.84	5.54
		6.00	10.93	4.86	1.42	15.79	5.26	10.00	4.24	1.42	14.83	4.94	9.08	1.89	1.41	13.88	4.63
CAS*K030A (2.5)	86	5.00	7.80	2.73	1.91	14.32	5.73	6.95	2.24	1.88	13.36	5.34	6.02	0.16	1.83	12.28	4.91
		6.25	8.13	3.15	1.89	14.58	4.66	7.24	2.59	1.86	13.58	4.35	6.27	0.18	1.81	12.46	3.99
		7.50	9.44	3.37	1.88	15.87	4.23	8.41	2.77	1.85	14.73	3.93	7.28	0.20	1.81	13.46	3.59
CAS*K036A (3.0)	86	6.00	10.82	3.49	2.07	17.88	5.96	9.35	3.17	2.05	16.36	5.45	7.98	0.42	2.04	14.95	4.98
		7.50	11.32	3.72	2.05	18.30	4.88	9.79	3.38	2.03	16.72	4.46	8.35	0.45	2.02	15.25	4.07
		9.00	12.03	3.85	2.04	18.98	4.22	10.40	3.50	2.02	17.31	3.85	8.87	0.46	2.01	15.74	3.50
CAS*K042A (3.5)	86	7.00	15.52	5.07	2.93	25.53	7.29	13.81	4.75	2.91	23.73	6.78	12.14	1.64	2.88	21.98	6.28
		8.75	16.26	5.57	2.87	26.06	5.96	14.46	5.22	2.85	24.18	5.53	12.72	1.80	2.82	22.35	5.11
		10.50	16.52	5.76	2.87	26.30	5.01	14.70	5.40	2.84	24.39	4.65	12.92	1.87	2.82	22.54	4.29
CAS*K048A (4.0)	86	8.00	13.48	1.20	3.30	24.75	6.19	10.96	0.80	3.38	22.51	5.63	8.56	-2.17	3.45	20.34	5.08
		10.00	13.77	1.28	3.28	24.95	4.99	11.20	0.86	3.36	22.66	4.53	8.74	-2.32	3.43	20.44	4.09
		12.00	13.88	1.37	3.27	25.03	4.17	11.29	0.92	3.35	22.71	3.79	8.81	-2.48	3.42	20.47	3.41
CAS*K060A (5.0)	86	10.00	23.17	8.06	4.51	38.56	7.71	20.90	7.88	4.66	36.80	7.36	18.42	2.10	4.77	34.68	6.94
		12.50	23.80	7.78	4.49	39.14	6.26	21.47	7.60	4.65	37.32	5.97	18.92	2.02	4.75	35.13	5.62
		15.00	25.90	7.54	4.47	41.15	5.49	23.36	7.37	4.62	39.12	5.22	20.58	1.96	4.72	36.70	4.89

Behind every unit that carries the Whalen name is a singularity of purpose: the engineering and manufacturing of products that improve the quality of life for our customers.

Our long-term commitment to this endeavor assures you of systems that are distinctive in **concept**, **performance**, **reliability** and **value**.

The number of industry “firsts” from Whalen is impressive. They include:

- The industry’s first vertical stack valveless fan coils
- The first vertical stack heat pump offering
- The first removable chassis closet-type heat pumps
- The first AHRI-listed water-cooled air conditioning units with hydronic heat

Let us put Whalen innovation to work for you, too. Find out how our approach to your project will deliver a “perfect fit” solution – and make your life easier.

Need to locate a sales representative? Whalen’s sales rep locator tool was designed to help you easily find a Whalen sales representative within the United States and Canada.

whalencompany.com/relocator



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WL080 rev. 08-20