JUNE 2025 PRODUCT CATALOG

Copeland Sanitary Heat Pumps

Comprehensive hot water solutions for commercial applications

COPELAND
Engineered for Sustainability

Heat pumps: a sustainable solution for water heating

In today's era of soaring energy costs, heat pumps are the answer to your hot water needs. Traditional methods of heating water, such as electric water heaters and fossil fuel-burning systems, are proving to be increasingly expensive and environmentally unfriendly. So, how cost-effective are heat pumps for you? Heat pumps can save you up to 70% on energy costs and also dramatically reduce carbon footprints.

To give you an idea, the average heating cost, calculated in $/kW, is far more favorable for a heat pump. While electric / LPG heating cost $6-9/kW, a heat pump costs you $2-3/kW! Imagine the savings over an entire year.

Whatever your requirements, Copeland heat pumps, with their reliability and versatility, are the perfect choice.

Adaptable water heating for homes, business and industry

Hotel

20°C to 60°C
- Sanitary
- Kitchen
- Laundry

Hospitals

60°C
- Steam baths
- Laundry

Restaurants

20°C to 60°C
- Utensil washing

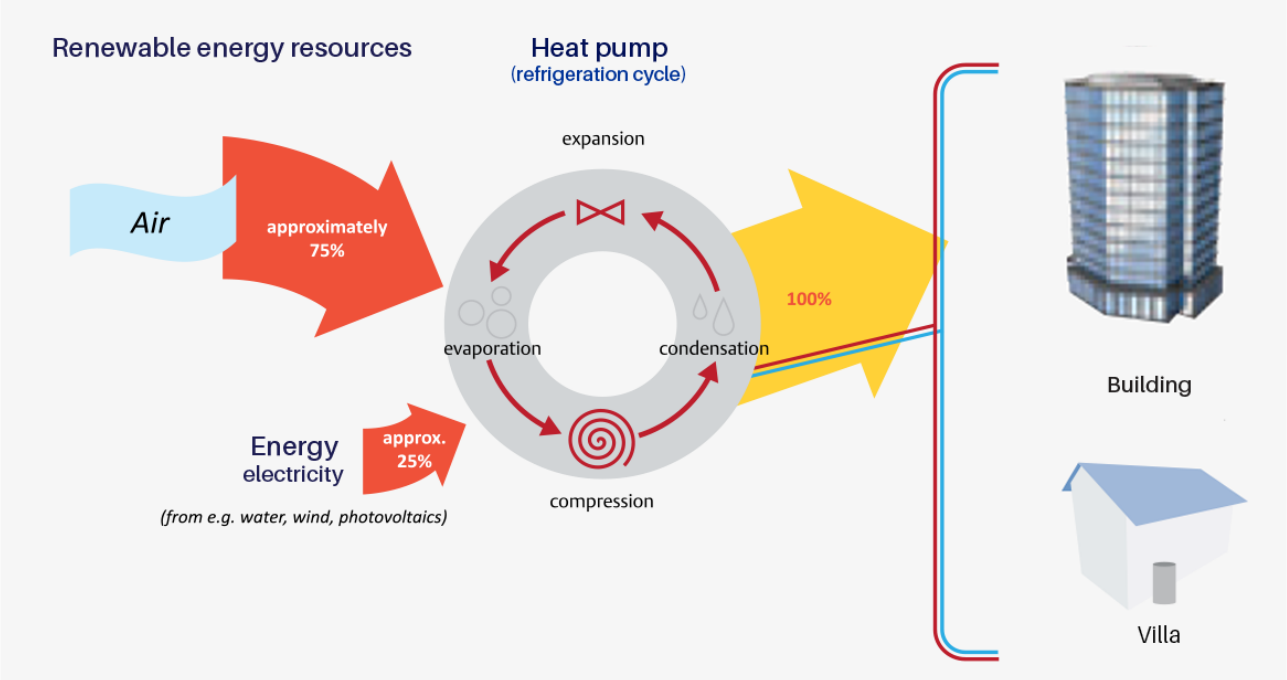
Apartments

30°C to 60°C
- Kitchen
- Shower
- Laundry

Villa

30°C to 60°C
- Steam bath

Efficient and sustainable: heat pump water heating technology



From air to comfort: understanding the heat pump process

Copeland offers several advantages over conventional water heating systems. Besides being more reliable and efficient, these systems contribute to a more sustainable environment by utilizing renewable energy sources. Combining renewable sources and applying vapor compression technology results in substantial cost savings and a more environmentally sustainable means of heating water. Reduced usage of fossil fuels also contributes to improved air quality.

What makes Copeland heat pumps unique?

Copeland ZW scroll compressor: dedicated for commercial and pool heating requirements

The Copeland ZW scroll compressor offers an energy-efficient alternative for hot water heating and space heating, making it the ideal substitute for electric heaters or fuel-fired boilers. Leveraging Copeland's extensive experience in manufacturing over 150 million scroll compressors globally recognized for their reliability and efficiency, the Copeland ZW compressor is built on this robust foundation. Incorporating scroll heating technology and several innovative product design features, ZW scrolls have been granted a new patent for these advancements and technological innovations.

High-efficiency

Copeland scroll's efficiency is primarily derived from its axial compliance design. ZW scrolls are required to operate on a much wider range of envelope compared to standard heat pump air-conditioners. This has been accomplished by a new axial compliance pressure balance combination designed especially for ZW scrolls. It also applies a highly efficient, high power motor which can cater to extremes required by Heat pump water heating (HPWH); to generate low internal losses at mild ambient cold tank heating and provide adequate power demanded at ambient tank reheating.

60°C

HOT WATER ASSURED

HOT WATER RELIABILITY

HIGH EFFICIENCY DESIGN

LOW LIFECYCLE COSTS

LOW AMBIENT PERFORMANCE

Copeland ZW excels over traditional AC compressors

Features	Traditional AC compressor	Copeland ZW advantage
Heating capacity	Standard	Exceptional
COP	Standard	Exceptional
Highest water temperature	55°C	60°C (Heating optimized valve designed for high compression ratios)
Hot water reliability	Standard	Stronger and robust scroll design, high-power motor for operation at low ambient and higher condensing temperatures compared to AC compressors

Copeland ZW scroll compressors for water heating are engineered to cater to diverse winter ambient conditions across Southeast Asia. In tropical regions and areas with moderate winter ambients, the compressor is specifically designed without vapor injection.

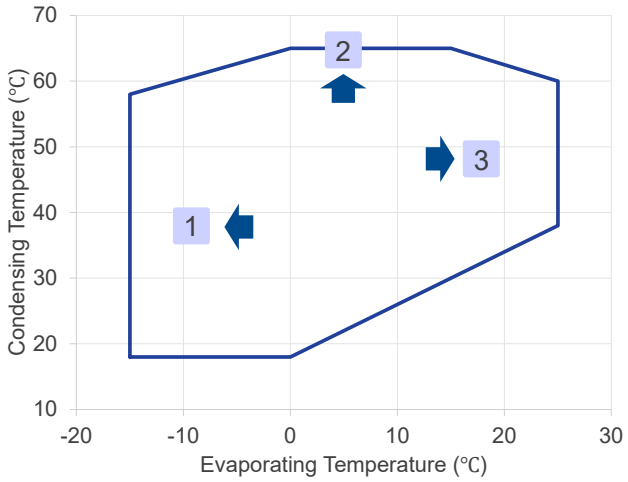
Reliable hot water

Water heating involves prolonged operating hours, especially at high load and compression ratios. The demand for hot water peaks when ambient temperatures are low, precisely when conventional heat pump capacity tends to decline. Copeland ZW compressors are specifically engineered for robust and reliable performance in more demanding applications, ensuring effective operation even in low ambient temperatures. These compressors exhibit significantly enhanced heating capacity, higher efficiency, and a minimal need to reduce water outlet temperatures.

Environmentally friendly design

Copeland ZW compressors utilize Zero ODP (Ozone Depletion Potential) refrigerants. Choosing ZW scroll compressors demonstrates a commitment to promoting green technology, contributing to both direct and indirect reductions in CO_2 emissions.

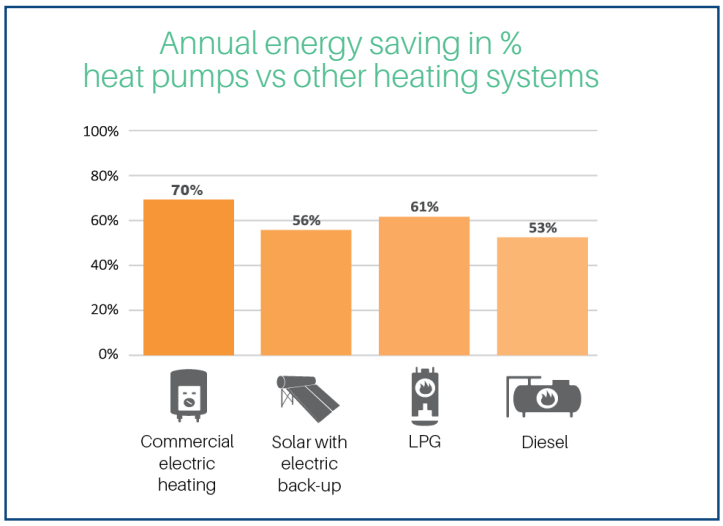
Wide compressor envelop to support customer needs

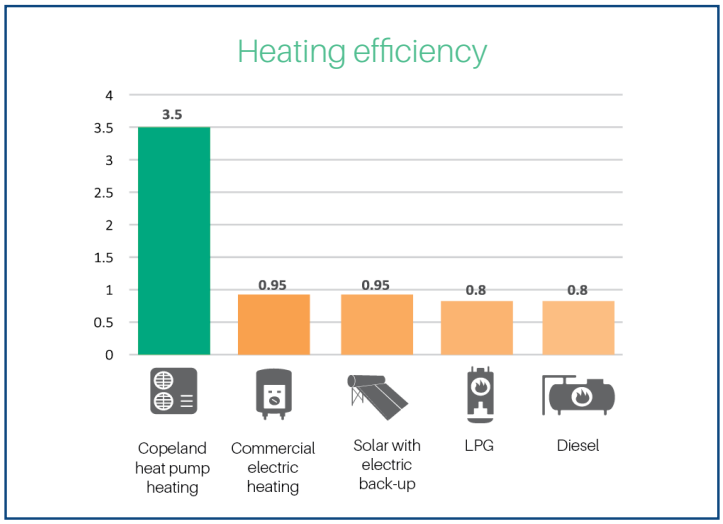


1. Support operation in low ambient conditions or challenging installation environments, with a minimum evaporation temperature extending to -15°C.
2. The maximum hot water temperature reaches 60°C
3. The maximum evaporation temperature reaches up to 25°C, ensuring reliable system performance even in hot climates

Delivering up to 70% energy savings vs traditional heating systems

Hot water qty/day	Water IN temp	Water OUT temp	Total heat energy	Number of showers/day	Commercial building
2,800 Litres	30°C	60°C	84,000 Kcal	70 Typical	

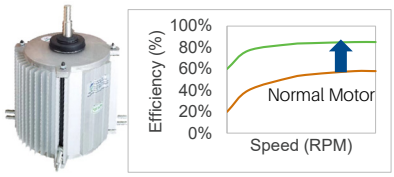


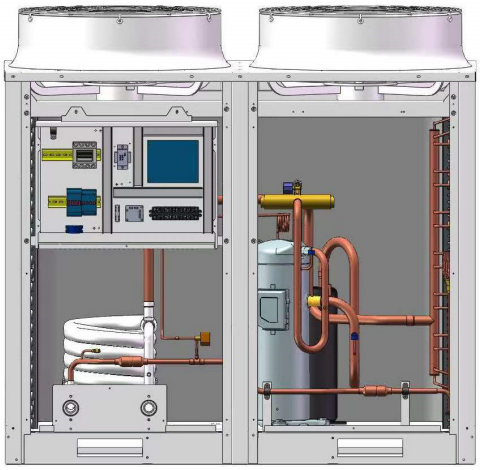


Note: The results shown in the analysis are for comparison purposes only. The assumptions and data used may change based on market conditions. Copeland is not responsible for any errors or misrepresentations in the data. If you have questions about the analysis, please contact your Copeland representative.

High quality and efficiency components selected

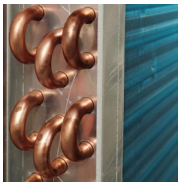
High efficiency motor





Anti-corrosion components

Aluminum plate, no worry about corrosion



High reliability EXV

Adjust the system to best performance under different conditions

High efficiency heat exchange

Stainless pipe outside and embossed copper pipe inside
Exception: 6HP equipped with high-efficiency tank

Copeland heat pumps: need of the hour

Solution to problems faced by challenges with traditional water heating methods:

- Space constraints & high real estate costs**
- Inefficiency on overcast days
- Heavy dependence on fossil fuels
- Rising energy costs
- Safety concerns & complex fuel ducting/piping

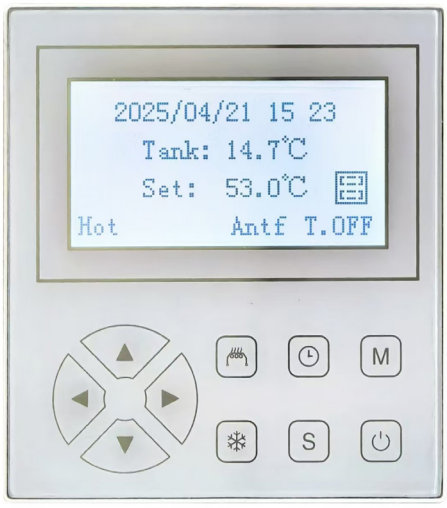
Simple to use & control: complete diagnostic capability & full electrical protection

Simple to use diagnostics features

The Copeland heat pump series is designed for simple and easy operation in various settings such as hotels, hostels, and restaurants. These units come with a 'Simple User Interface,' allowing service teams to receive advance warnings about field failures, along with simple error codes for easy diagnosis and troubleshooting. This reduces downtime and increases the life of the system.

- Simple to use and control LED display for parametric control and fault analysis
- Schedule your heat pump daily
- Complete electrical protection
- Computer connectivity through RS485
- Weatherproof enclosure
- Automatic defrost module for low ambient operations

System control



Mode key: Press it to access the function menu from the main interface.

ON/OFF key: Press it to power the heat pump on or off.

Enter key: Press it briefly to access the unit status inquiry from the main interface

Defrost key: Press and hold for 3 seconds to manually start or stop the defrosting process.

Auxiliary electrical heater key: Press and hold for 4 seconds to turn the auxiliary electric heater on or off.

Clock key: Press it briefly to access the clock settings

System protector/end user

- Ground protection
- High discharge pressure cut-off (manual reset)
- Low pressure cut-off
- Water tank temperature
- Overload protection
- Over current protection
- Over temperature protection
- Any part / sensor failure
- Controller communication error
- Daily usage programming capability
- Communication port - to connect to laptop (RS485)
- Memory to last 8 errors occured

Component protection

Compressor

- Single phase, phase missing/reversal
- High discharge temperature

Fan motors

- High temperature

Complete electrical protection for field issues

- Single phasing/ phase missing & reversal protection
- Compressor overload protector

Defrost patent and protection functions

Intelligently optimized defrosting system maintains high-efficiency heating performance under low-ambient conditions.

Facility certifications

- ISO 9001
- ISO 14001
- ISO 45001

Independent refrigerant circuit and back-up mode to maintain hot water supply

Maximum connection of 16 modules

In case one system issue happened, other system will start.

In case one circuit issue happened, other circuits can keep running

Better efficiency compared to ordinary heat pump

Achieve dual-grade-1 energy efficiency while ensuring long-lasting, high-performance heating.

	Rated condition (20 °C ambient)		Nominal condition (7 °C ambient)	
	Heating capacity (kW)	COP (kW/kW)	Heating capacity (kW)	COP (kW/kW)
6HP	21	4.62	16.5	3.7
10HP	40.5	4.7	30.5	3.91
15HP	55	4.66	45.3	3.91
20HP	76.5	4.69	60	3.92

Product line-up for sanitary heat pump

XSTI-F06A-TFM-Y01

XSTI-F10A-TFM-Y01

XSTI-F15A-TFM-Y01

XSTI-F20A-TFM-Y01

Technical specification

Model		Unit	6HP	10HP	15HP	20HP
			XSTI-F06A-TFM-Y01	XSTI-F10A-TFM-Y01	XSTI-F15A-TFM-Y01	XSTI-F20A-TFM-Y01
Power Supply		PH/V/Hz	3/380-400/50	3/380-400/50	3/380-400/50	3/380-400/50
Rated test condition (20°C)	Heating Capacity	kW	21.0	40.5	55.0	76.5
	Power	kW	4.6	8.6	11.8	16.3
	COP	W/W	4.62	4.70	4.66	4.69
	Hot water delivery	L/H	450	870	1182	1644
Unit Max Input Power		kW	7.7	15.0	20.0	30.0
Unit Max Operation current		A	13.2	27.0	35.8	54.0
Water Pressure Loss		KPa	38	75	80	85
Ambient Temperature		°C	-10~45	-10~45	-10~45	-10~45
Maximum water temperature		°C	60	60	60	60
Refrigerant			R-410A	R-410A	R-410A	R-410A
Size		mm	820X813X1160	1450X850X1390	1450X850X1390	1900X950X2080
IP Grade			IPX4	IPX4	IPX4	IPX4
Protection against electric shock			I	I	I	I
Sound		dB(A)	61	62	65	67
Pipe connection		mm	DN32	DN40	DN40	DN50
Weight		Kg	220	252	310	513

Performance curve

			Ambient Temperature						
			-7°C	0°C	7°C	10°C	15°C	20°C	27°C
XSTI-F06A-TFM	Capacity (kW)	20°C rise	12.3	15.5	18.8	19.7	21.3	23.1	24.9
		25°C rise	11.7	15.0	18.3	19.2	20.7	22.7	24.3
		30°C rise	11.2	14.5	17.9	18.8	20.4	22.2	23.8
		35°C rise	10.8	14.0	17.2	18.2	19.9	21.7	23.1
		40°C rise	10.2	13.7	17.1	18.0	19.6	21.4	22.7
	COP (kW/kW)	20°C rise	3.50	4.30	5.08	5.20	5.38	5.59	5.72
		25°C rise	3.11	3.95	4.71	4.83	5.02	5.30	5.39
		30°C rise	2.86	3.63	4.38	4.51	4.73	4.99	5.09
		35°C rise	2.56	3.30	3.98	4.14	4.40	4.69	4.75
		40°C rise	2.35	3.07	3.76	3.90	4.13	4.40	4.46
XSTI-F10A-TFM	Capacity (kW)	20°C rise	21.9	27.7	33.5	35.2	38.1	41.3	44.5
		25°C rise	20.8	26.7	32.6	34.3	37.0	40.6	43.4
		30°C rise	20.0	25.9	31.9	33.6	36.4	39.7	42.5
		35°C rise	19.2	25.0	30.8	32.6	35.5	38.8	41.2
		40°C rise	18.3	24.4	30.5	32.2	35.0	38.2	40.5
	COP (kW/kW)	20°C rise	3.31	4.07	4.81	4.92	5.09	5.29	5.41
		25°C rise	2.94	3.73	4.45	4.57	4.75	5.02	5.10
		30°C rise	2.70	3.44	4.14	4.27	4.48	4.73	4.82
		35°C rise	2.42	3.12	3.77	3.92	4.17	4.43	4.49
		40°C rise	2.22	2.90	3.55	3.69	3.91	4.16	4.22
XSTI-F15A-TFM	Capacity (kW)	20°C rise	28.0	35.5	42.9	45.1	48.7	52.9	57.0
		25°C rise	26.7	34.2	41.7	43.9	47.4	52.0	55.6
		30°C rise	25.5	33.2	40.8	43.0	46.6	50.8	54.4
		35°C rise	24.6	32.0	39.4	41.7	45.5	49.7	52.7
		40°C rise	23.4	31.2	39.0	41.2	44.8	48.9	51.8
	COP (kW/kW)	20°C rise	3.26	4.01	4.74	4.84	5.01	5.21	5.33
		25°C rise	2.89	3.68	4.39	4.50	4.68	4.94	5.02
		30°C rise	2.66	3.39	4.08	4.21	4.41	4.65	4.74
		35°C rise	2.39	3.07	3.71	3.86	4.10	4.37	4.42
		40°C rise	2.19	2.86	3.50	3.63	3.85	4.10	4.15
XSTI-F20A-TFM	Capacity (kW)	20°C rise	43.8	55.4	67.1	70.5	76.1	82.6	89.0
		25°C rise	41.7	53.4	65.2	68.5	74.1	81.2	86.8
		30°C rise	39.9	51.9	63.8	67.2	72.8	79.4	85.0
		35°C rise	38.4	50.0	61.6	65.2	71.1	77.6	82.4
		40°C rise	36.6	48.8	61.0	64.4	70.0	76.4	81.0
	COP (kW/kW)	20°C rise	3.30	4.07	4.80	4.95	5.12	5.29	5.41
		25°C rise	2.93	3.73	4.44	4.59	4.81	5.02	5.10
		30°C rise	2.70	3.44	4.13	4.32	4.50	4.73	4.82
		35°C rise	2.42	3.11	3.76	3.92	4.17	4.43	4.49
		40°C rise	2.23	2.90	3.54	3.69	3.91	4.16	4.22

About Copeland

Copeland is a global leader in sustainable heating, cooling, cold chain and industrial solutions. We help commercial, industrial, refrigeration and residential customers reduce their carbon emissions and improve energy efficiency. We address issues like climate change, growing populations, electricity demands and complex global supply chains with innovations that advance the energy transition, accelerate the adoption of climate friendly low GWP (Global Warming Potential) and natural refrigerants, and safeguard the world's most critical goods through an efficient and sustainable cold chain. We have over 18,000 employees, with feet on the ground in more than 40 countries - a global presence that makes it possible to serve customers wherever they are in the world and meet challenges with scale and speed. Our industry-leading brands and diversified portfolio deliver innovation and technology proven in over 200 million installations worldwide. Together, we create sustainable solutions that improve lives and protect the planet today and for future generations.

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