

Global quality standard, Worldwide partnership



Commercial Heat Pump Water Heater



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The contents are for reference only, may contain errors, and subject to change without prior notice. Please refer to the name plates and the manuals of the products for updated information. TY202304



WE KNOW MORE ABOUT OUR CUSTOMERS' NEEDS

20+

LEADING THE INDUSTRY FOR
MORE THAN 20 YEARS

100+

MORE THAN 100 LEADING
TECHNOLOGIES

1000000+

USERS EXCEED ONE MILLION

ROOTED IN THE INDUSTRY FOR MORE THAN 20 YEARS,
SERVING MORE THAN 1 MILLION FAMILIES

FOR MORE THAN 20 YEARS, WE HAVE BEEN SPECIALIZED
IN DEVELOPING HEAT PUMP TECHNOLOGY TO PROVIDE
MORE SUITABLE SOLUTIONS TO USERS' NEEDS



Established in 1999, Guangdong Tongyi Heat Pump Science and Technology Corp. is one of the first and most professional heat pump manufacturers in China. Tongyi is committed to being a reliable partner, establishing the highest quality standards to ensure product and safety. Tongyi products are always at the forefront of energy efficiency.

For over 20 years of development, Tongyi has gained a high reputation in quality and reliability. Tongyi has one of the most stringent control mechanisms in place for its manufacturing processes and product quality. It has successfully obtained most of the world well known certificates, including CE, EMC, RoHS, LVD, EMD, RED, ERP, IEC, ETL, SASO, CCC, ETC for its products and ISO9001, ISO14001, ISO45001 approvals for the production management.

We value your feedback. We continuously strive to meet the highest standards to satisfy our client's demands. Through rigorous monitoring and relentless after-sales service, customer feedback is collected and swiftly incorporated into our products. Tongyi is always looking to simplify processes putting customers in the center to improve our units and after-sales service.

Guangdong Tongyi Heat Pump Science and Technology Co., Ltd

1999
Established and launched products in this year.

2000
Successfully developed high efficiency heat pump air conditioner.

2001
ISO 9001 certified for the first time.

2002
Products are CE CB certified and exported to Europe.

2003
Honored the title of Trusted Quality Products Enterprise.

2004
Promote air source heat pump water heater in domestic market.

2005
Denominated the name of "Air Source Heat Pump Water Heater" in Chinese "Kong Qi Neng" Water Heater in China, and recognized by the industry.

2006
Start to provide heat pump training course twice per year for the industry.

2007
Joined in the National Standard of Heat Pump Water Heater Drafting Committee.

2008
Recognized as high-tech enterprises by the government.

2009
Inverter Heat Pump for Radiant heating and cooling supplied in Japan market.

2010
Obtained deflector-type heat dissipation device patent and triple-function heat pump patent.

2011
Successfully developed wrap-around aluminum microchannel heat exchanger and introduced the technology to production.

2012
Qualified for the rebate program of Energy-saving Products launched by the government.

2013
Launched clean production plan.

2014
Awarded Excellent quality brand enterprise.

2015
New series of DC inverter heat pump made great success in both domestic and overseas market.

2016
Participated in Beijing coal-to-electricity project, replace coal boiler with TONGYI heat pump for suburb house heating.

2017
Established Tongyi Air Source Heat Pump Research Institute.

2018
Launched new DC EVI heat pump for domestic house heating and cooling in MCE Milan.

2019
Served the hot water project of Daxing international airport (Asian top airport)

2020
Launched new DC EVI heat pump for commercial heating and cooling.

2021
Moved to new headquarters in Guangzhou.



China Certificate for Energy Conservation Product



ISO45001:2007 Occupational Health and Safety Management



ISO14000:2004 Environmental Management System Certification Certificate



ISO9001:2008 Certificate of Quality Management System



Drafting enterprise for National Standard of Heat Pump Water Heater



ETL



CE



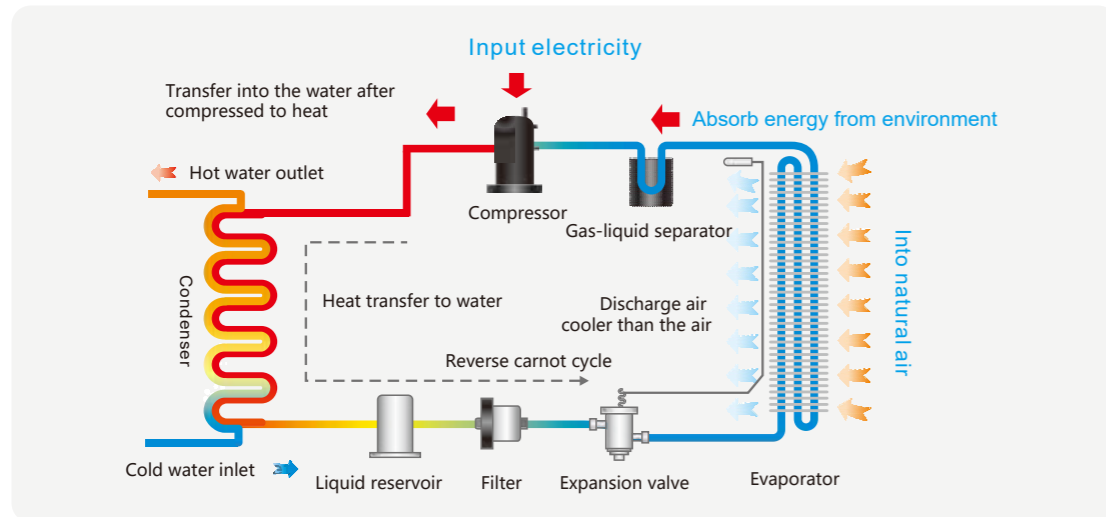
CE

- ISO45001:2007 Occupational Health and Safety Management System Certification Certificate

- ISO14000:2004 Environmental Management System Certification Certificate

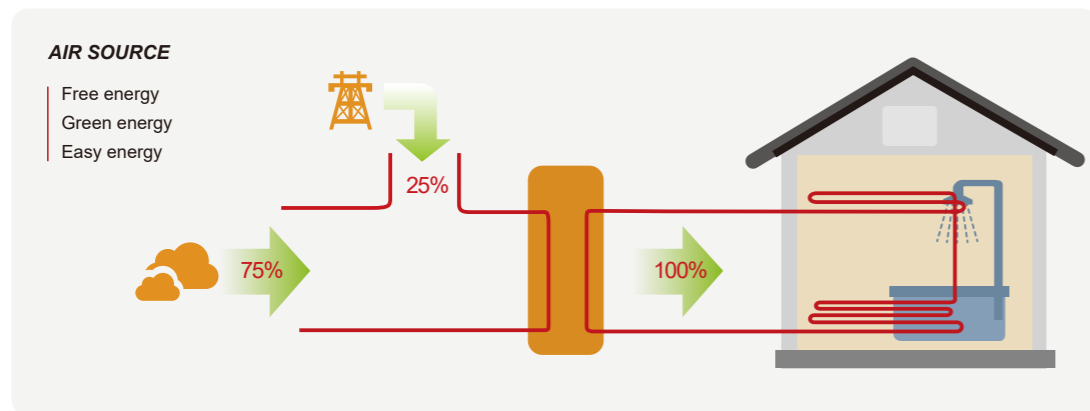
- ISO9001:2008 Certificate of Quality Management System

- Enterprise supported by The National Innovation Fund

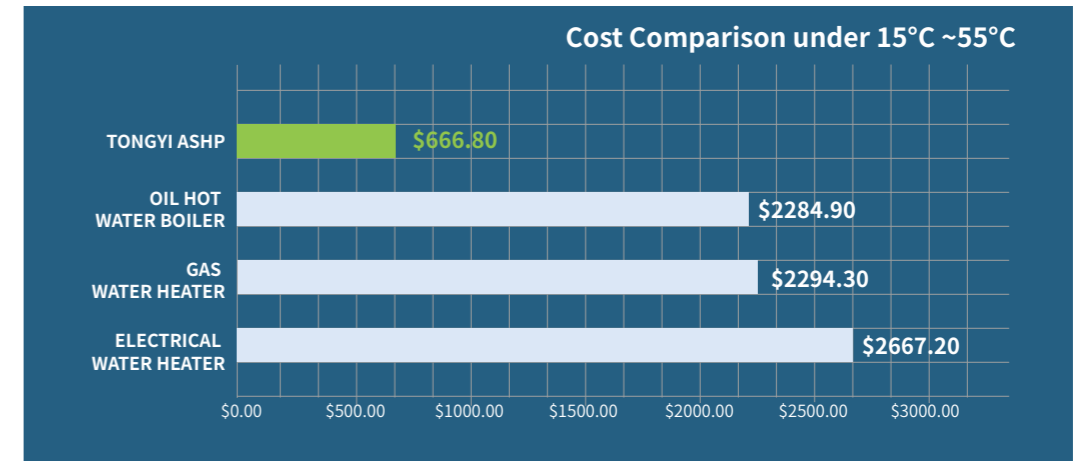
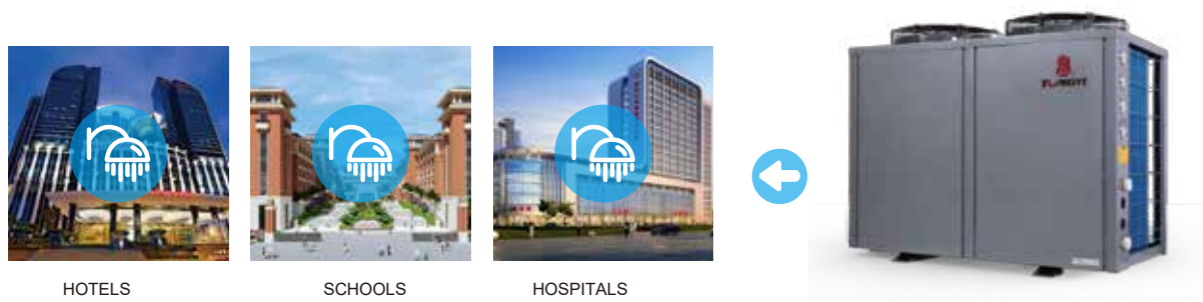


ENERGY EFFICIENT APPLICATION

TONGYI Heat Pump offers the best solution for home heating and hot water supply with TY's inverter technology. It is 4 times more energy efficient than boiler system by absorbing energy from the outdoor environment.



VARIOUS APPLICATION



ASHP VS other heating methods

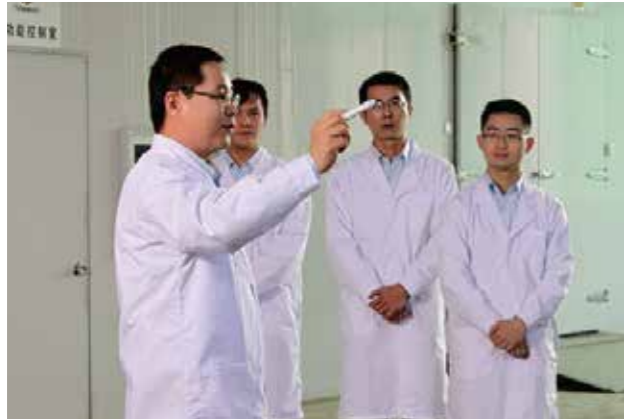
Heating Methods	Tongyi ASHP	Oil/Gas hot water boiler	Electrical water heater
Type of energy consumption	Electricity	Oil/Gas	Electricity
Safety Risk	Low	High	Middle
Environmental impact	Non-pollution	Heavily polluted	Non-pollution
Estimated product lifetime	10-12 Years	5-8 Years	5-8 years
Installation site	NO limits	Special room	Special room
floor space	Small	Large	Middle
Safety performance	Safe and reliable	Flammable, explosive goods	Heating pipe aging, leakage
Noise Level	Low	High	Low
Failure Detection Way	Automatic	2-3 technician	1 electrician
Labor costs	Without specific person	2-3 people labor	1 people labor
Other cost	No	Annual examine and approve cost	Annual exmine cost

Under same condition, Daily hot water demand 1000L, Heating water from 15°C to 55°C, comparison for running cost

The specific heat of water (Kcal/Kg.°C)				1
heat value(Kcal)=specific heat of water (kcal/(kg.°C)) × daily water requirement(kg) xwater temp difference(°C)				40000
Heating Methods	Tongyi heat pump	Electrical water heater	liquid gas water heater	Oil water heater
Fuel	Electricity	Electricity	Liquid gas	Gas
Combustion value	860	860	8667	8700
Unit	Kcal/h	Kcal/h	Kcal/(m3.h)	Kcal/(Kg.h)
Efficiency(%)	380	95	80	75
Demand for energy	12.2	49	5.8	5.2
Unit	Degree	Degree	m³	Kg
Fuel price (\$)	0.15	0.15	1.09	1.20
Amount fuel cost (\$)	1.82	7.32	6.28	6.25
Running cost (\$/Year)	666.8	2667.2	2294.3	2284.9

Notes: The price on the form as per market price at the time, the energy consumption of other types of heat source as per national standard of energy efficiency, specific data might be a gap. Please refer to the local condition.

Professional R&D Team



Master of Core Technology

TONGYI is one of the first and most professional heat pump manufacturers in China. We are in cooperation with 3 top universities in China on various HVAC research topics.

Parts & Components Inspection

We monitor our entire supply chain for all the main parts and accessories strictly. 100% of the parts and components undergo rigorous incoming inspection at our factory.



Professional Design Procedure

From the beginning of product development, a wide range of details are taken into account: easy installation, user friendliness, cutting-edge design, high functionality, full-scale tests, and the use of more than 56 different technologies. Always aiming to provide our customers with highest standard products.

Process Control

In our production line we strictly control all processes. From the first step until the units are packed and ready to ship. Through relentless monitoring, we record all processes and developments to ensure the products are reliable and in conformity with product-specifications.



Professional R&D Team

Cooperating with several top universities in China, Tongyi attracts young talents every year and has established a government-recognized R&D Center with a team of highly-qualified engineers.

Finished-Product Inspection

We implement 100% inspection on the finished products before shipping. We implement an additional double sample inspection for all units shipped to the overseas market.



Product Features

Scroll compressor

World famous scroll compressor with low energy consumption and high energy efficiency output, which effectively shortens the heating water time and double extend the useful life of the unit.
TONGYI heat pump can increase over 20% heating capacity even though works under severe weather.



EEV, precise flow control

Wide working temperature range, faster and more accurate refrigerant flow control than capillary and mechanical expansion valve. Best choice to achieve higher efficiency and energy-saving.

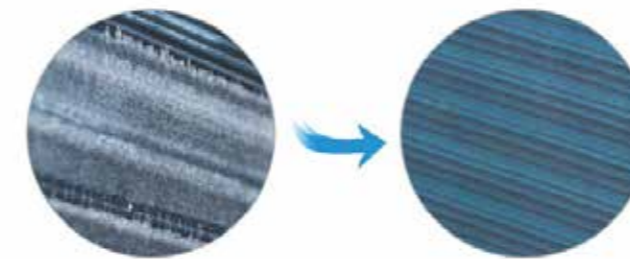


Internal thread tube in tube heat exchanger

Internal thread tube in tube heat exchanger, dual cycle and multi path way
Coaxial and spiral design;
* double wall design applies for double wall series

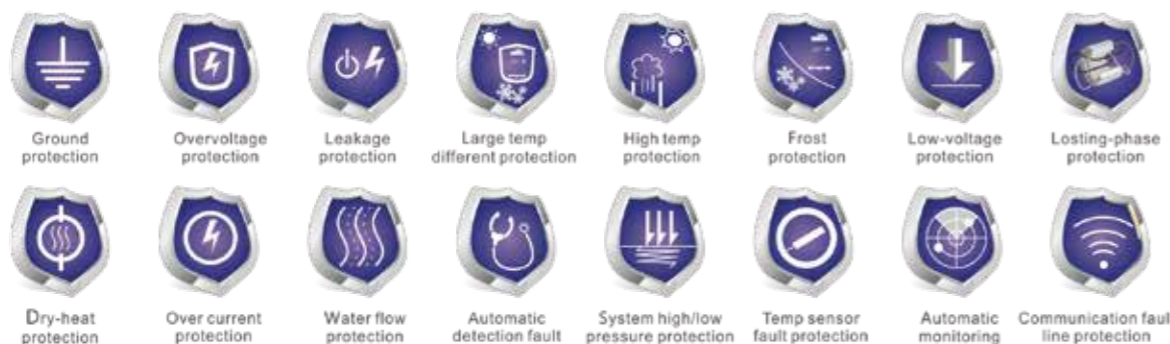
Auto-defrosting program and anti-freeze

Intelligent defrosting technology, which can determine the time of defrosting according to the operating conditions of the unit (running time, exhaust temperature), ambient temperature and thickness of frost, so as to achieve intelligent defrosting when it is necessary, which greatly shortens the defrosting time by more than 20% and ensures the high heating capacity.



Multi-protections

The system runs safely, steadily and reliably thanks to our full protection: high temperature protection, compressor overload & overheat protection, power phase sequence & over/under voltage protection, etc.



Intelligent Controller Display



- Human intelligent control
- Long distant control
- Multiple timing functions
- Internet control support
- Automatic power-off memory function
- Automatic diagnose, error code for trouble
- Available to inquiry any parameter
- Convenient maintenance

Remote control

BMS contact point / modbus support(with RS485) to Amazon cloud, realize remote control function optional.

Product Features

High-performance FM

It use outer rotor axial flow silent fan with five-leaf balanced aluminum alloy wind wheel. It has the advantages of corrosion resistance, large air volume and low noise.



Patent louvered casing

TONGYI' s patent louvered casing can better for waterproof,wind-proof and dust-proof. Patent no.:CN201030670236.9.



Unique hydrophilic fin coil heat exchanger

Large amount for air inlet,Air exchangers(fin-coil)with hydrophilic coating are strongly anti-corrosive and perform at high efficiency.



Commercial Heat Pump



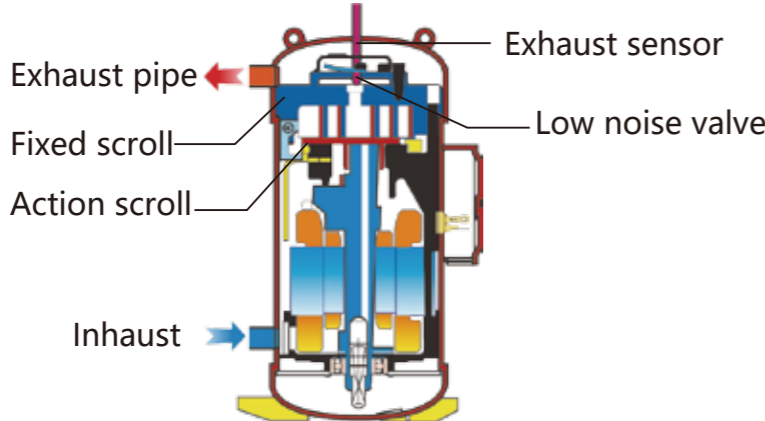
Model		KX180S EP-2/A	KX260S EP-2/A	KX380S EP-2/A	KX450S EP-2/A
Type		Split type	Split type	Split type	Split type
Rated heating capacity	kW	18.00	26.00	36.00	45.00
Rated input power	kW	4.31	6.26	8.65	10.76
COP		4.18	4.15	4.16	4.18
Runing current	A	6.5	11.2	15.4	19.2
Operating ambient temp.	°C	-15~43°C	-15~43°C	-15~43°C	-15~43°C
Max outlet water temp.	°C	60	60	60	60
Power supply	V/Ph/Hz	380V/3Ph/50Hz	380V/3Ph/50Hz	380V/3Ph/50Hz	380V/3Ph/50Hz
Running vottage	V	342V~418V	342V~418V	342V~418V	342V~418V
Noise	dBA	58	60	62	65
Compressor		Copeland	Copeland	Copeland	Copeland
Defrosting		Auto	Auto	Auto	Auto
Refrigerant		R410a	R410a	R410a	R410a
Water proof		IPX4	IPX4	IPX4	IPX4
Unit Size	mm	840×840×938	840×840×938	1503×723×1208	1503×723×1308
Net weight	kg	140	165	293	300

Rated test condition: Ambient temperature DB20°C/WB15°C, to heat initial water temperture from 15°C to 55°C.

EVI Product Features

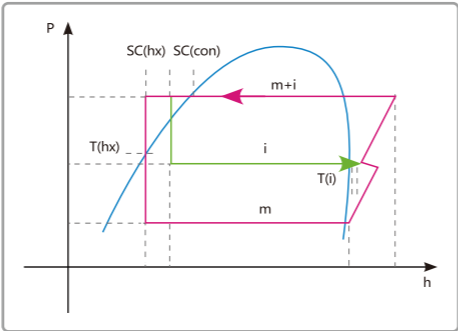
Scroll compressor

Tongyi Thermal Engineering and Technology R&D Center have made outstanding achievement in New Generation Heat Pump Product-Tongyi Low Temperature Heat Pump Product-Tongyi Low Temperature Heat Pump Water Heater. This new type, through enhanced vapour injection(EVI) technology, is mainly applied cold and severe climate and district. This heat pump COP overpasses 20% in such low temperature environment than normal heatpump; COP 1.8 under ambient temperature Minus 59F.



EVI Technology

Adopting EVI(Enhanced Vapor Injection) design, the operating range of the heat pump is expanded to produce the required hot water in extremely cold climates. Compared to conventional heat pumps, heat pumps with EVI design can be extended from -15 °C low temperature environment to -30 °C environment for use. At the same time, EVI design improves subcooling and refrigerant flow in low temperature environment, and improves capacity and energy efficiency.



EVI Commercial Heat Pump



Model		KX180S DEP-2/A	KX350S DEP-2/A	KX500S DEP
Heating Capacity,kW	Rated Heating Capacity A20/15 W15/55°C	18	35	52
Input Power,kW		4.3	8.3	11.8
Heating Capacity,kW	Nominal Heating Capacity A7/6 W9/55°C	14	27	42
Input Power,kW		3.9	7.6	11.5
Power Supply,V/Ph/Hz		380/3/50	380/3/50	380/3/50
Max Input Power,kW		6.9	13.3	18.9
Max Input Current,A		11.8	23.0	32.6
Max Outlet Temp,°C		60	60	60
Water Yield,L/h		262	505	785
Water Flow Rate,m³/h		3.6	6.9	10.3
Water Pressure Drop,kPa		≤27	≤27	≤30
Water Connection		DN25	DN40	DN40
Noise Level,dB(A)		58	62	65
N.W,kg		151	310	360
Unit Size,mm		840×840×938	1503×723×1208	1900×1100×955
Working temp. range,°C		-30~43°C	-30~43°C	-30~43°C

Note 1.Rated heating capacity: test condition ambient temp.DB20°C/WB15°C,to heat initial water temp.from 15°Cto 55°C.
2.Nominal heating capacity: test condition ambient temp.DB7°C/WB6°C,to heat initial water temp.from 9°Cto 55°C.

DAXING INTERNATIONAL AIRPORT



- Category: Hot water-Transportation
- Model: TONGYI EVI Commercial Air source HP
- Description: supply of hot water for aircraft maintenance. Also supply hot water for China southern airline VIP bathroom. Providing hot water in low ambient temperature.

BEIJING OLIMPYC STADIUM



- Category: Hot water-stadium
- Selected model:TONGYI EVI Commercial air source heat pump
- Description:TONGYI Commercial heat pump water heater, supply hot water for restroom in bird nest stadium.

SAIC MOTOR FACTORY



- Category: Hot water- Factory
- Selected model:TONGYI EVI Commercial air source heat pump water heater
- Description:TONGYI Commercial EVI heat pump water heater, supply hot water for staffs



Shangri-La



Hilton



Le Meridien



Marriott



Four Season



Double Tree



Mercure



NARADA



Holiday Inn



Langham



Novotel



Conrad



Guizhou Astronomical Telescope Project



ZOOMLION



SOFITEL



Taj Mahal hotel



Unilever



Alibaba



Bulgari



Westin



Shenzhen Universiade



Hangzhou Asia Games



St Regis



Pullman



To help achieve the carbon neutrality with the heat pump technology

From 1999 up to now, the contribution of Tongyi HeatPump to the energy conservation and CO2 emission reduction, is equal to growing **100 million** trees for the society!

750,000 tons

Saved coal consumption more than 750,000 tons

3.2 million kilograms

Reduced nitride emissions more than 3.2 million kilograms!

3 billion kilograms

Reduced carbon dioxide emissions more than 3 billion kilograms!

12.5 million kilograms

Reduced sulfur dioxide emissions more than 12.5 million kilograms!

