
ACT
TACA
SUSTAINABILITY IS IN OUR NATURE
Heat pumps for an energy-efficient everyday life and a better world
R290
ECO friendily
ACT
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R290
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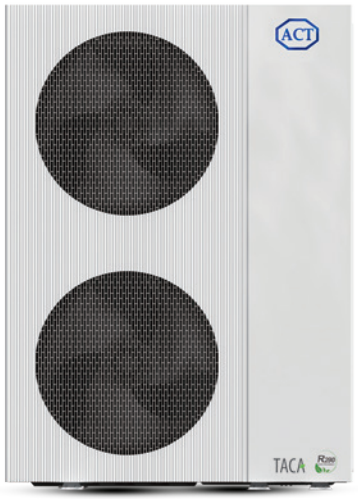
R290

ADVANCE COOL TECHNOLOGY CO.,LTD.

THE CHILLER EXPERT

INTRODUCTION

Since the introduction of ACT's first air-cooled heat pump at the end of the last century, we have been deeply committed to heat pump technology for nearly 40 years. With the continuous advancement of refrigerants, ACT has once again initiated innovations in heat pump systems. With the TACA series, ACT was one of the first manufacturers to optimally implement the environmentally friendly and highly efficient properties of the refrigerant R290, thereby expanding the potential of this refrigerant.



LOW-CARBON

Building A Sustainable Environment

For a house with a living space of 180 square meters, a family of three can be heated with conventional radiators:

Replacing a gas-fired boiler with a ACT heat pump will reduce your emissions by an average of 12261kg CO_2 per year.
Replacing an oil-fired boiler with a ACT heat pump will reduce your emissions by an average of 17113 kg CO_2 per year.

R290

Brings unbeatable benefits to our heat pumps:

The R290 heat pump features a SCOP of up to 4.9, ensuring high energy efficiency and reduced running costs. Operating between –25°C and +46°C, it provides excellent hot water comfort and legionella protection without a backup heater. With a GWP of just 3, it offers an eco-friendly heating solution, balancing minimal environmental impact with optimal performance.

R290 ECO friendly

Natural refrigerant GWP 3

One Ton Of CO_2 Is Equivalent To:

8 months	household electricity consumption	**380L**	gasoline	**100m²**	mixed forest
7500km	by car	**5000km**	economical flight	**27000km**	by train

What is GWP ?

GWP is a comparative value that indicates the greenhouse effect of a greenhouse gas to be released into the environment. The higher the value, the worse the impact on the climate.

Exemplary GWPs of some refrigerants:

The value indicates the amount of CO_2 which has an equal global warming effect.
To calculate the CO_2 impact of a refrigerant, the amount contained in the heat pump is multiplied by its GWP value.

CO_2	1
R290	3
R32	675
R410A	2,088

Exemplary calculation:

R410A
1.8 kg of R410A×2088 GWP =3760 kg CO_2

13-hour flight from London to Kuala Lumpur

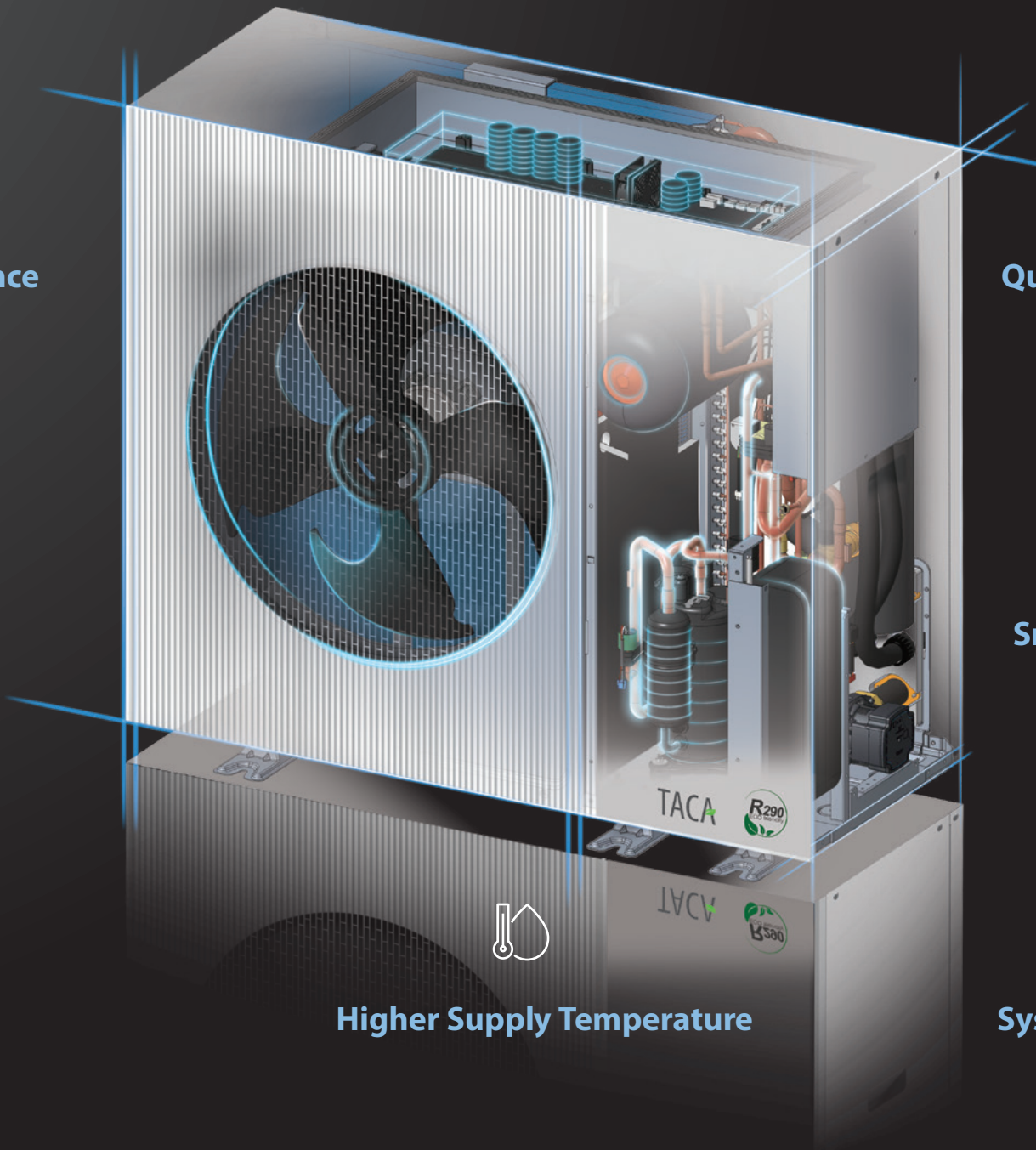
R290 (TACA)
0.6 kg of R290×3 GWP =1.8 kg CO_2

15 km drive by car

ACT's cutting-edge heat pump technology using natural refrigerant (R290) is the best testimony to its future environmental commitment:
The same heat pump, using R290, has only 0.05% of the greenhouse effect of traditional R410A .

Optimum Performance

Quiet Operation



Compact Design

Smart Control

Premium Comfort

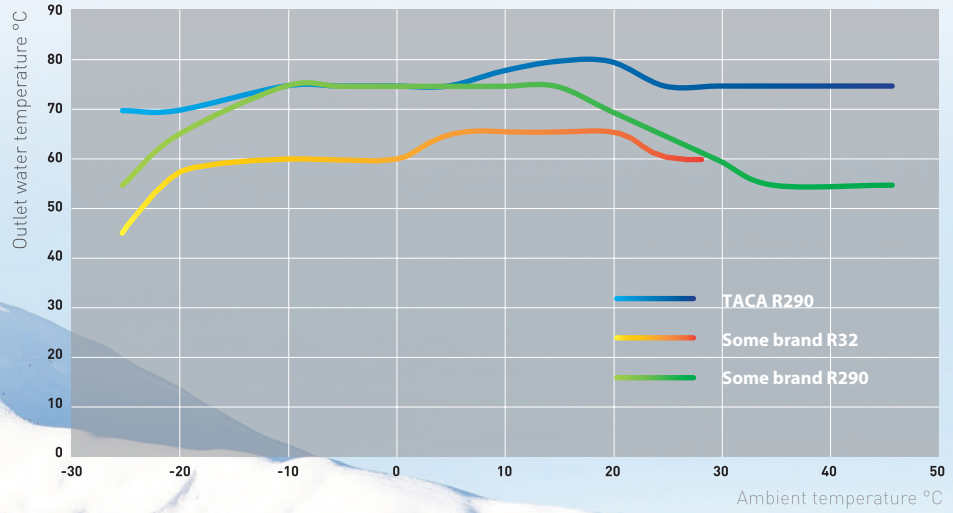
Higher Supply Temperature

System Security

HIGHER SUPPLY TEMPERATURE

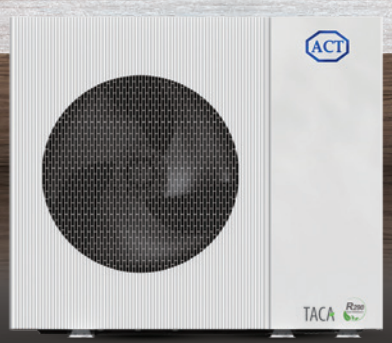
The ACT TACA heat pump supports water supply temperatures up to 80°C, making it a highly efficient replacement for fossil fuel systems in both existing and new buildings. Its compatibility with older radiators ensures reliable heating, even in systems designed for higher temperatures. Additionally, the elevated water temperature enhances sterilization, contributing to a cleaner and more sanitary environment.

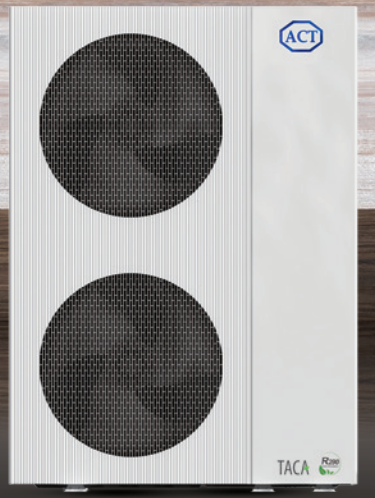
Comparison of outlet water temperature



70°C hot water under -25°C ambient temperature

75°C hot water under -10°C ambient temperature





SYSTEM SECURITY

R290 Refrigerant – Advanced Safety Solutions

Recognizing the safety differences between R290 and refrigerants like R32 or R410A, we have introduced five progressive safety protocols. These measures are specifically designed to minimize accident risks and ensure secure system operation.

Smart sensors

Less refrigerant injection

Water&gas separator

Explosion-proof components

Sealed electric control box

ACT TACA Monobloc Heat Pump – Enhanced Safety Innovations

1 Sealed Electric Control Box (IP55)

Featuring a fireproof and explosion-proof control box designed for A3 refrigerants, the fully sealed unit protects electrical components from refrigerant leaks, ensuring enhanced operational safety.

2 Explosion-Proof Electrical Systems

Integrated explosion-proof electrical components eliminate potential ignition sources, safeguarding the system.

3 Reduced Refrigerant Volume

The φ5 tubing lowers the refrigerant volume, enhancing the overall safety profile of the system.

4 Comprehensive Design with Exhaust Valve

The all-in-one design with an integrated exhaust valve ensures refrigerant stays outside the building, contributing to a safer indoor environment.

5 Advanced Leak Detection Systems

Double detection via sensors and advanced algorithms ensures that refrigerant leaks are immediately identified, optimizing operational safety.

SPECIFICATIONS

Model			TACA040KHLB	TACA060KHLB	TACA080KHLB	TACA100KHLB	TACA120KHLB	TACA140KHLB	TACA160KHLB
Power supply			220~240V-50Hz				380~415V-3N-50Hz		
Heating(A35W60)	Capacity	W	6100	7070	9490	10590	12700	14800	15900
	COP	/	4.31	4.29	4.09	3.93	3.93	3.92	3.90
Heating(A35W70)	Capacity	W	5590	6910	9090	10160	12200	14200	15200
	COP	/	3.44	3.47	3.56	3.05	3.05	3.04	3.04
Cooling(A35W18)	Capacity	W	4300	5600	7000	8600	12000	140000	16000
	EER	/	5.20	4.71	4.95	4.50	4.60	4.30	4.00
Cooling(A35W7)	Capacity	W	4100	5600	6800	7600	12000	13500	14500
	EER	/	3.42	3.01	3.21	3.04	3.05	2.90	2.75
Net weight		kg	117	117	132	132	168	168	168
Gross weight		kg	137	137	152	152	192	192	192
Net dimension(W*D*H)		mm	1100×458×945	1100×458×945	1100×458×945	1100×458×945	1100×458×1520	1100×458×1520	1100×458×1520
Packing dimension(W*D*H)		mm	1180×600×1115	1180×600×1115	1180×600×1115	1180×600×1115	1180×600×1705	1180×600×1705	1180×600×1705
Erp sound power level		dB	55	55.5	56	57.5	60	61	62
Refrigerant	Type/GWP	/	R290/3	R290/3	R290/3	R290/3	R290/3	R290/3	R290/3
	Charge	kg	0.51	0.51	0.80	0.80	1.1	1.1	1.1
Operating ambient temperature	Cooling	℃	5~46	5~46	5~46	5~46	5~46	5~46	5~46
	Heating	℃	-25~43	-25~43	-25~43	-25~43	-25~43	-25~43	-25~43
	DHW	℃	-25~43	-25~43	-25~43	-25~43	-25~43	-25~43	-25~43
Water setting temperature	Cooling	℃	5~25	5~25	5~25	5~25	5~25	5~25	5~25
	Heating	℃	22~80	22~80	22~80	22~80	22~80	22~80	22~80
	DHW	℃	20~75	20~75	20~75	20~75	20~75	20~75	20~75

*Remark : A = Ambient, W = Hot Water Leaving Temp

Follow the Account of ACT to see more

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