ATMO

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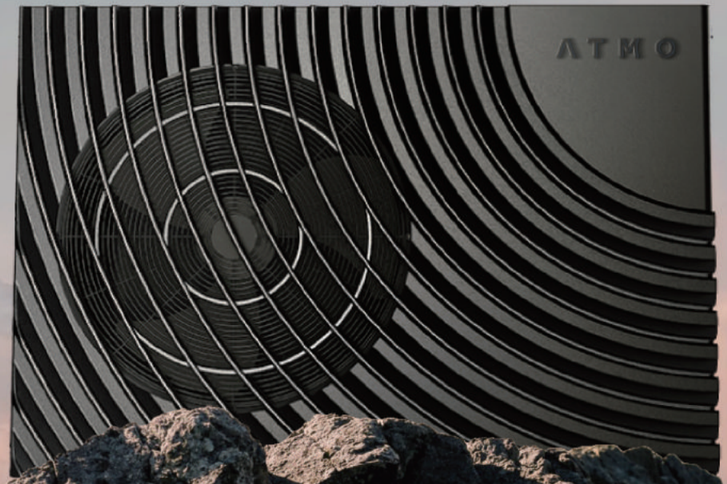
ATMO

Heat Pump

PRODUCT CATALOGUE

2024



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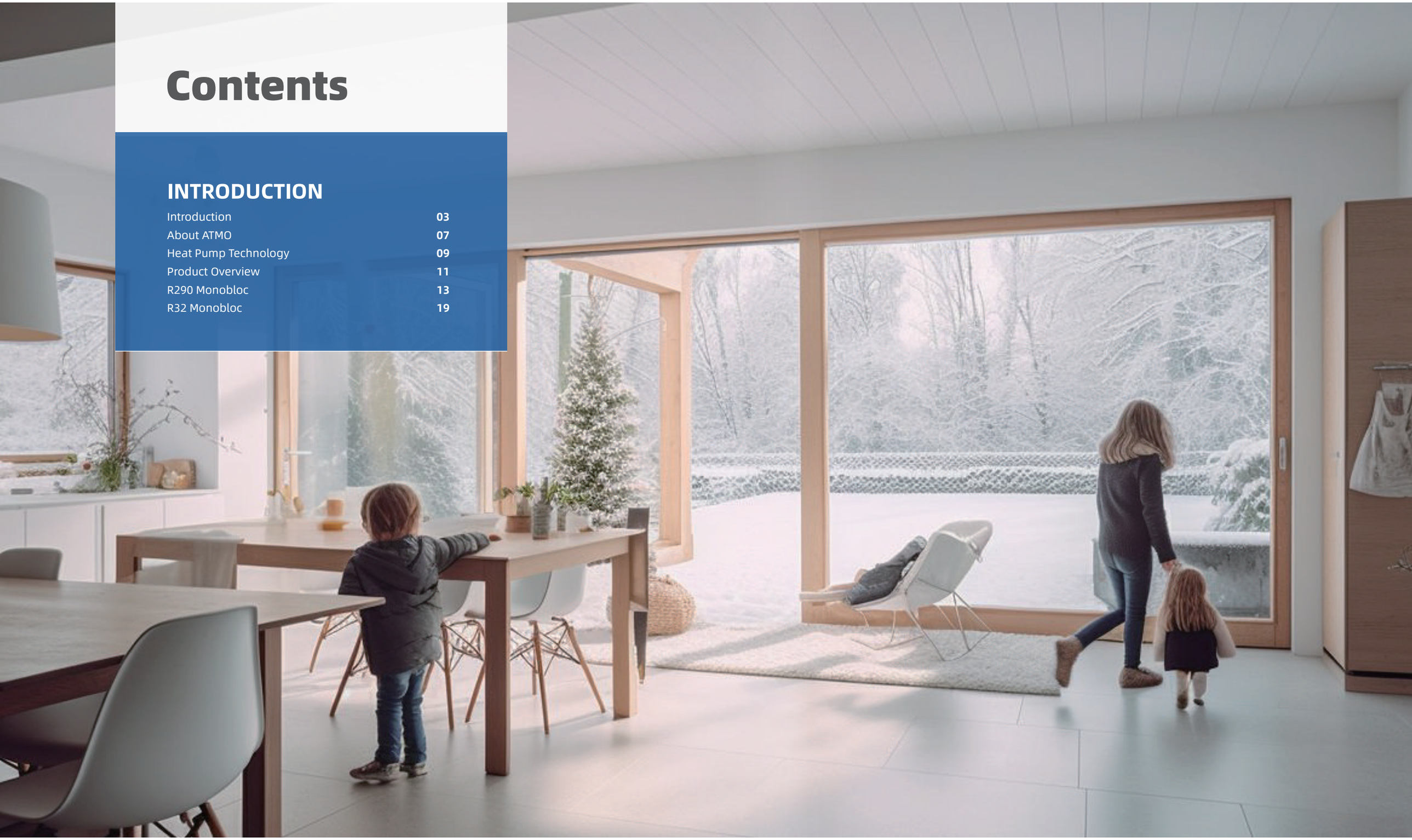
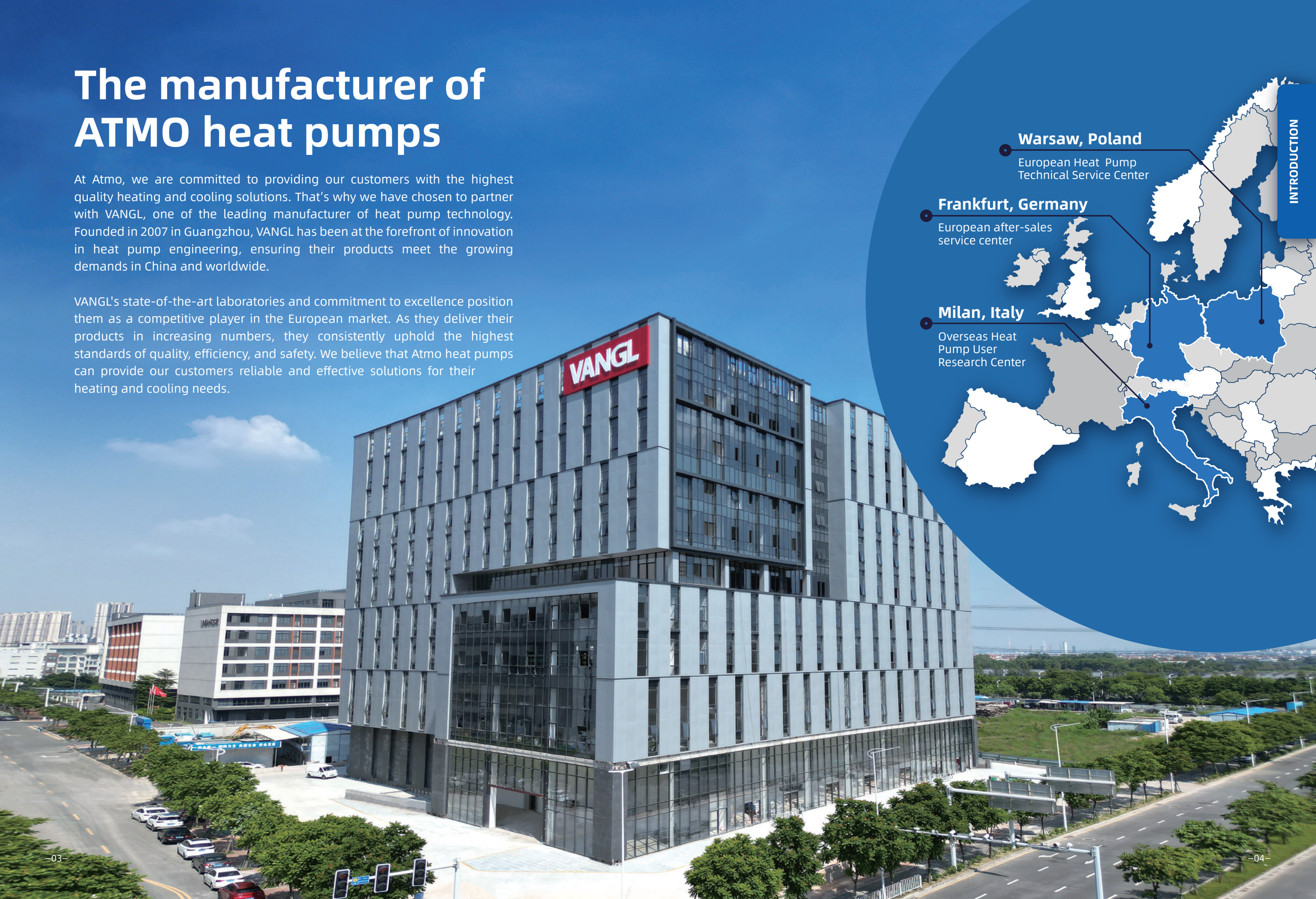


The manufacturer of ATMO heat pumps

At Atmo, we are committed to providing our customers with the highest quality heating and cooling solutions. That's why we have chosen to partner with VANGL, one of the leading manufacturer of heat pump technology. Founded in 2007 in Guangzhou, VANGL has been at the forefront of innovation in heat pump engineering, ensuring their products meet the growing demands in China and worldwide.

VANGL's state-of-the-art laboratories and commitment to excellence position them as a competitive player in the European market. As they deliver their products in increasing numbers, they consistently uphold the highest standards of quality, efficiency, and safety. We believe that Atmo heat pumps can provide our customers reliable and effective solutions for their heating and cooling needs.



Milestones

2007

VANGL was founded in Guangzhou in China.

2009

VANGL has dedicated itself to the research and development of heat pump technology and expanding its products in overseas markets.

2010

The development of first generational domestically pioneered air source inverter heat pump split unit has began in China.

2012

The first exports of air-source water heater and swimming pool heat pump products to several European countries.

2016

VANGL obtained the nationally recognized laboratory capability assessment certificate and fully entered the heating market in northern China.

2017

Obtaining of the German TÜV European Standard Laboratory certification and the National High-Tech Enterprise Certificate.

2019

VANGL won the honor of leading brand in Chinese heat pump industry.

Official launch of the R32 heat pump in overseas market.

2020

New industrial park in Wuhan was officially completed.

VANGL overseas swimming pool heat pump sales in Europe increased significantly.

2021

Overseas environmentally friendly R32 split-type heat pump officially launched in the European market.

2022

VANGL R32 heat pumps obtained TÜV Rhein certification.

The overseas productions certified by Keymark and MCS.

2023

VANGL's eco friendly Model X R290 heat pump launched at the ISH exhibition in Germany, where it won the German Red Dot award.

The new VANGL Group headquarters in Guangzhou has been completed.

About ATMO

Our goal is to offer products that meet the highest requirements in terms of power, efficiency and safety while ensuring an affordable price for a wider range of customers. We utilize the latest technology and use first-class materials for long-lasting durability and performance which ensures longer lifetime and less waste. Our products are certified by well-known organizations such as TÜV, MCS, and Keymark, reflecting our commitment to excellence.

Our mission

To deliver high-quality and well-designed heat pump products at a competitive price, making heating solutions accessible to more homeowners and businesses.

To offer solutions that our customers can rely on.

To provide greener, healthier and more comfortable heating solution to the world.

Certificates

Laboratory

Two
Manufacturing bases

CNAS & TÜV
authorized enthalpy laboratory

17 years
Focusing on air source HP

100+
R&D staffs

-30℃ Pioneer
of low temperature inverter HP

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Laboratories

Atmo products are manufactured in a state-of-the-art facility that includes specialized laboratories, such as low-temperature lab, integrated performance lab and a high-specification noise test laboratory to continuously reduce the product's operating noise and to create a better quality life for our customers. The cryogenic laboratory can realistically simulate ambient temperatures as low as -35˚C. Only products that pass the cryogenic stable operation test can be confidently handed over to customers.

Supply Chain

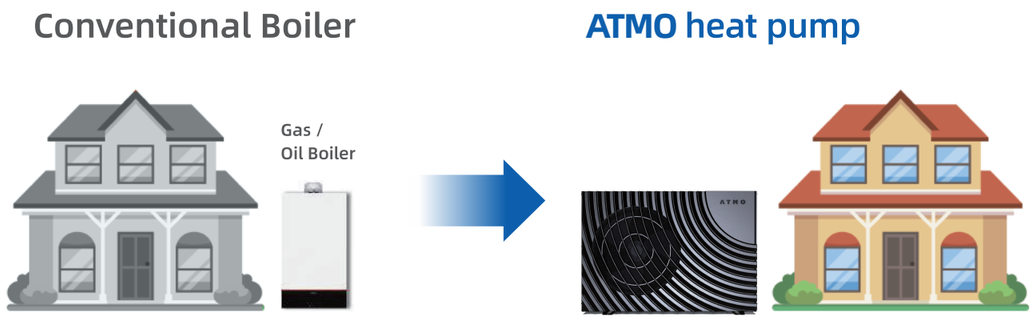
Heat pump technology is our core strength. ATMO focuses on technological research and development, adopting the most appropriate components for every heat pump. ATMO also values technical communication and collaboration with famous enterprises in the world.

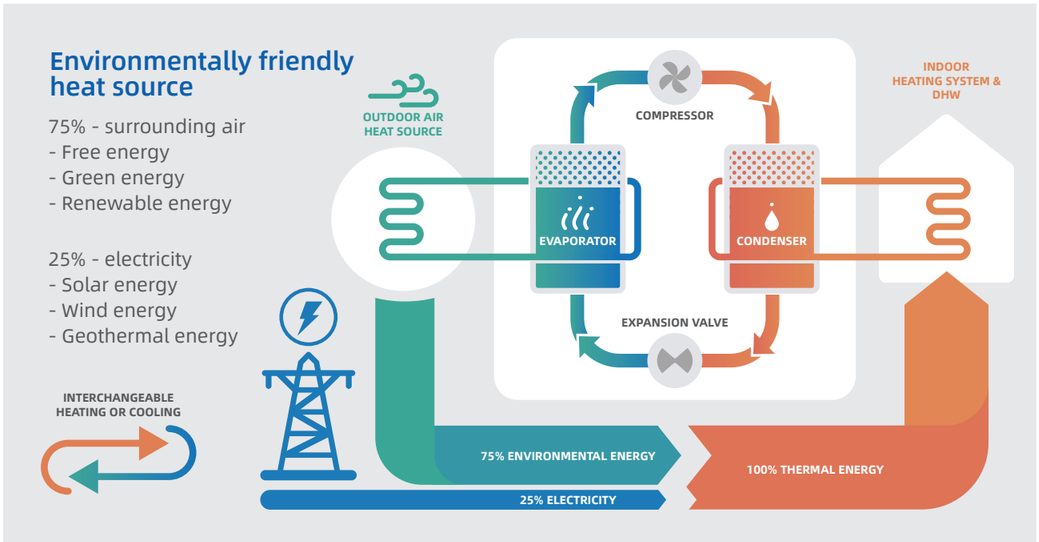
Heat Pump Technology

What Is A Heat Pump System?

Modern Technology to Replace Conventional Boilers

Historically, conventional heating systems have used either oil or gas or have been direct electric heaters. In such conventional heating systems, environmental aspects such as fossil fuel use and environmental pollution have been overlooked. In recent years, interest in these environmentally friendly devices has been increasing and in order to meet these market demands, ATMO has further developed their heat pump technology to produce the most efficient, environmentally friendly products in the industry.





Why Choose An Air-To-Water Heat Pump?

Air-to-water heat pump is renewable

Air-to-water heat pump uses less energy than furnaces, gas/electric water heater. The heat pump product absorbs energy from the surrounding air of the outdoor unit and transfers the energy into the refrigerant of the unit. The heat energy is upgraded using a refrigerant cycle and this renewable heat energy is transferred in the water by heat-exchanger.

Air-to-water heat pump has great financial benefits

Air-to-water heat pump will most likely save a lot of money on your annual fuel bills due to the unit's high COP (Coefficient of performance). For example, when the unit achives a COP of 3-4, that means it can produce 3kW to 4kW of heat for every 1kW of power consumed.

Air-to-water heat pump is more reliable

Air-to-water heat pump	Gas water heater	Electric water heater	Boiler
Safe to operate Easy for installation Cheap to operate	Risk of fire and explosion Lifespan of several years Expensive to operate	Risk of electric shocks Expensive to install Expensive to operate	Risk of fire and explosion Lifespan of several years Expensive to operate

Air-to-water heat pump helps to decrease your carbon footprint

Compared to gas water heaters and boilers, heat pump water heaters do not rely on combustion to generate heat, resulting in lower pollution levels and a smaller carbon footprint. Air-to-water heat pumps require only a small amount of electricity to operate the compressor and fan motor.

Comparison of the power needed to heat 1 ton water from 15˚C to 55˚C under the same conditions:

	Air-to-water HP	Gas water heater	Electric water heater	Boiler
Energy resource	Air & electricity	Gas	Electricity	Diesel oil
Calorific value	860kcal/kW·h	24,000kcal/m^3	860kcal/kW·h	10,200kcal/kg
Average efficiency	4.6	0.8	0.95	0.7
Consumption	10kW·h	2.08m^3	48.9kW·h	5.6kg

Product Overview

		R290 Monobloc	R32 Monobloc
Line-up		R290 Monobloc	R32 Monobloc
		4/7/9/12/16 kW	4/6/8/10/14/16 kW
			
Application		Heating, Cooling and DHW 75˚C 7˚C 75˚C	Heating, Cooling and DHW 65˚C 7˚C 60˚C
Energy Label		Space Heating 35˚C A+++ 55˚C A+++	Space Heating 35˚C A+++ 55˚C A++
Customer Needs	Designer & Installer	- Doesn't need refrigerant piping work - Uses existing facilities (Conventional boiler)	
		- Saves installation and commissioning time - No indoor unit (saves space)	
	End-User	- No potential risk of refrigerant leak - Easy and intuitive controls - Reliable operation and long lifetime - Low operation cost - Remote control by smartphone - Control integration between boiler and ATMOS - Quiet operation	
ATMOS Approach		- No refrigerant piping work - Interlocking operation with 3rd party boiler - High energy efficiency - Low noise mode operation with schedule setting - High corrosion resistance heat exchanger	
		- All in one concept	
Benefits		- Multiple solution (heating, cooling and DHW supply) - Energy saving by utilizing renewable energy and high efficient equipment - Economic support by incentive program - Simple replacement of existing boiler while maintaining the existing heating system - No potential risk of refrigerant leak - Quick and easy installation and commissioning - Hybrid operation with existing facilities	
		- Saving mechanical room space	

ATMO Line-up overview

Refrigerant	Type	Series	Energy efficiency class	Applications	USP
R290	MONOBLOC	PREMIER	Space heating 35˚C A+++ 55˚C A+++	Heating, Cooling and DHW 75˚C 7˚C 75˚C	Screw free design Anti-corrosion panel High loading quantity Intuitive new remote controller

4kW		6kW		7kW		8kW		9kW		10kW		12kW		14kW		16kW	
230 V		230 V		230 V		230 V		230 V		230 V	400V	230 V		400V	230 V	400V	230 V	400V
✓				✓				✓				✓		✓			✓	✓

Refrigerant	Type	Series	Energy efficiency class	Applications	USP
R32	MONOBLOC	PREMIER	Space heating 35˚C A+++ 55˚C A++	Heating, Cooling and DHW 65˚C 7˚C 60˚C	High loading quantity Two-Zone control Cascade Smart control

4kW		6kW		7kW		8kW		9kW		10kW		12kW		14kW		16kW	
230 V		230 V		230 V		230 V		230 V		230 V	400V	230 V		400V	230 V	400V	230 V	400V
✓		✓				✓				✓		✓		✓			✓	

R290 Monobloc

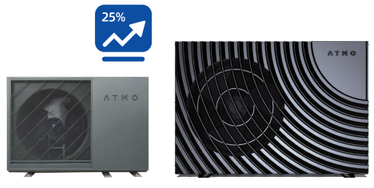
- Operation range down to -25˚C
- Maximum LWT reach 75˚C
- CozyQuiet™ technology
- Energy efficiency level: A+++ (35℃) / A+++ (55℃)

Outstanding Performance

Uncompromised Low Ambient Performance

R290 units provide exceptional performance under low ambient temperature, for example a 4kW unit can make up to 100% rated output at a -10°C ambient temperature.

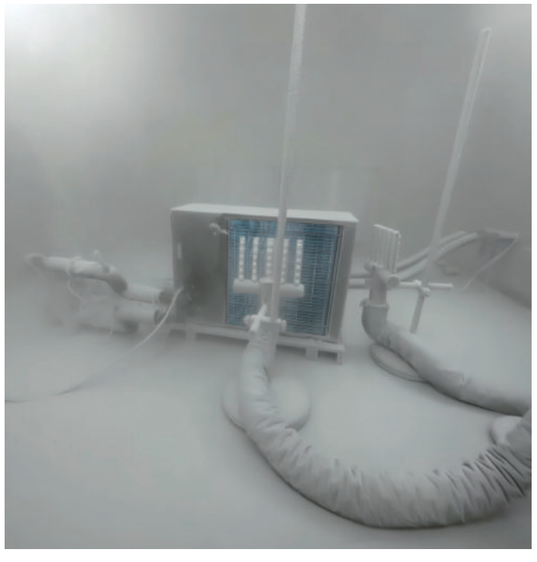
Compared to the same capacity R32 unit, R290 heat pump body size increasedd by 25%.



Higher leaving water temperature

A maximum leaving water temperature of 75°C can be reached by heat pump, which is ideal solution for retrofitting project, to replace gas boiler with radiator for space heating.

Intelligent defrost logic is based on actual frost conditions, considering multiple factors simultaneously. Avoiding common issues such as leaving frost unremoved, defrosting when not necessary, and incomplete frost removal. The logic has been extensively validated and proven through rigorous testing in simulated snowfall laboratories.



Environment-Friendly Design

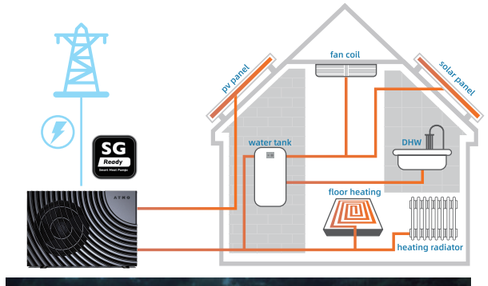
Thanks to the high-efficiency twin rotary compressor, a 25% larger evaporator and plated heat exchanger as well as optimized refrigerant flow and air channel design, ATMO 4/7/9/12kW models can achieve energy A+++ efficiency rating for both 35/55°C water temperature conditions.

The R290 heat pump unit is capable of adjusting its capacity based on different electrical signals

When receiving a free electricity signal, the unit will operate in boost mode to store heat in the DHW tank.

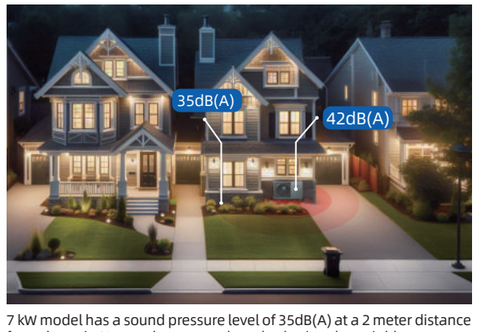
When receiving a normal price signal, the unit will run with high efficiency to balance the capacity output and power consumption.

When receiving a high price signal, the unit will operate in limited time and provide only space heating function.



In compliance with strict noise protection regulations in European countries to prevent disturbances to neighbors, ATMO has introduced the R290 heat pump with CozyQuiet™ technology.

Thanks to the acoustically optimized fan, vibration reduction blocks, three layers of acoustic cotton, sound insulation Metal shell, double layer vibration absorbing rubber foots and last but not least , the specially designed 2-Stage Quiet Operation Program, ATMO R290 Heat pumps boast remarkably low noise emmissions.



7 kW model has a sound pressure level of 35dB(A) at a 2 meter distance from the unit. No need to worry about bothering the neighbours.

Multi-layer Safety Protection

Independent Ventilation Channel and Explosion-proof PCBs: The ATMO R290 heat pump is equipped with an Independent Ventilation Channel design for the E-boxes. This design incorporates a separate ventilation channel with a fresh air intake to prevent refrigerant accumulation in both E-boxes and facilitate the cooling of electrical components. Additionally, the PCBs are designed to meet explosion-proof standards, featuring components such as sealed relays, ceramic gas discharge tubes, ceramic fuses, and more.

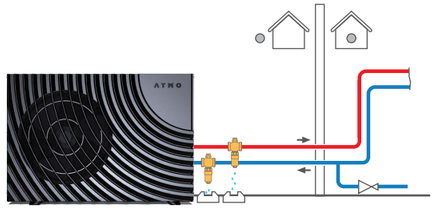
- **Sealed relay**
  - Spark-free
  - Protection against dust and moisture
  - Longer lifespan

- **Ceramic gas discharge tube**
  - Higher withstand voltage
  - Higher operating temperature
  - Increased durability
  - Improved safety

- **Ceramic fuse**
  - High temperature endurance
  - Better mechanical strength
  - Better arc suppression
  - Enhanced safety

Anti-freeze protection: The ATMO R290 heat pumps incorporate an anti-freeze protection that activates when the water temperature falls below 5˚C. The system will maintain the water temperature at around 15˚C. In addition, the external anti-freeze valve will mechanically open when the water temperature drops below 3˚C with an accuracy of ± 1˚C. TThis feature protects the system from freeze-damage and unnecessary drainage.

Working with anti-freeze valve

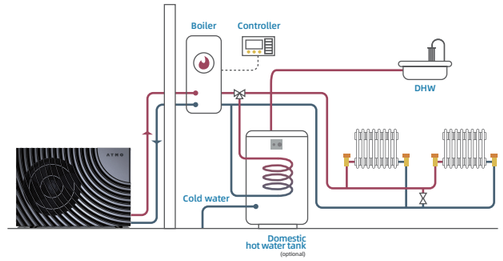


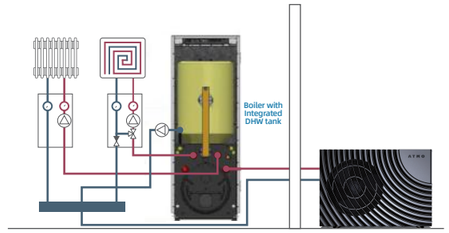
Water Temp. below 3°C

Easy Extensions

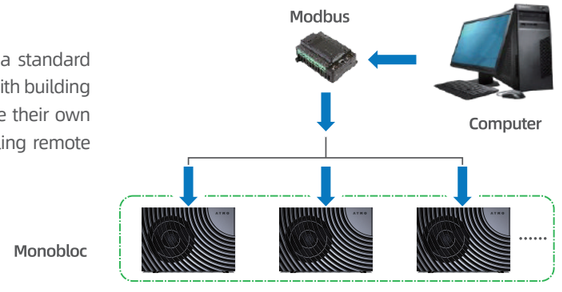
Cascade application: The Atmo cascade function can combine up to 8 units in a single system, achieving a maximum capacity of 128 kW. This intelligent cascade application distributes the load efficiently across the units based on the building's actual capacity requirements. Additionally, it can simultaneously provide both air conditioning and domestic hot water (DHW).

Hybrid appication: ATMO R290 heat pumps can be easily integrated with various types of boilers. A third-party boiler Modbus programmable controller intelligently determines whether to use the gas boiler, the heat pump, or a combination of both, optimizing efficiency based on the specific conditions.

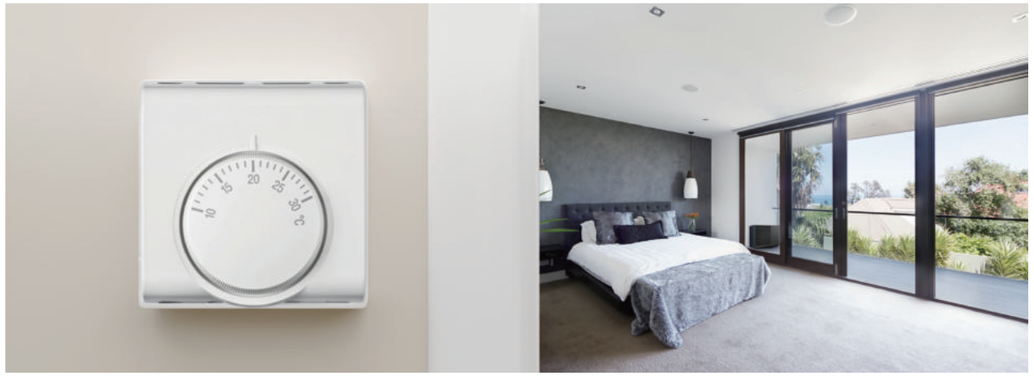




Modbus BMS: The ATMO R290 heat pumps feature a standard Modbus communication protocol for easy integration with building management systems (BMS). This allows clients to use their own control systems to integrate ATMO heat pumps, enabling remote monitoring and control.



Third party thermostat: Third-party thermostats can be used to control the R290 heat pump, allowing for single or dual-zone management based on the settings of the ATMO controller. Clients can easily turn the unit on or off and switch between different operation modes using these thermostats.



Smart Control

Multi-functional controller:

Colorful display with applications

By using the energy report function, you will be able to see how much energy you are using on a daily, monthly and yearly basis. With this function users can analyze their energy consumption and optimize it.

Real scenarios display

When clients install the controller for the first time and select either single zone or dual zones, the home page will display the actual application scenario based on their settings. This user-friendly design helps the end user understand the status of Zone 1, Zone 2, and the domestic hot water (DHW) application.

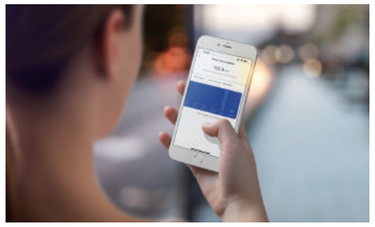
ATMO smart APP+ remote service platform

ATMO smart APP: the APP can automatically recognize the multi-function controller settings single zone/ dual zones/ third party thermostats. Water or room temperatures can be monitored by the ATMO App, which can be connected to the controller.

The smart APP control brings a lot of convenience to users. Temperature adjustment, mode switching, and timer setting, remote OTA updates can all be managed from your smartphone. Additionally, you can access power consumption statistics and fault records anytime, anywhere.

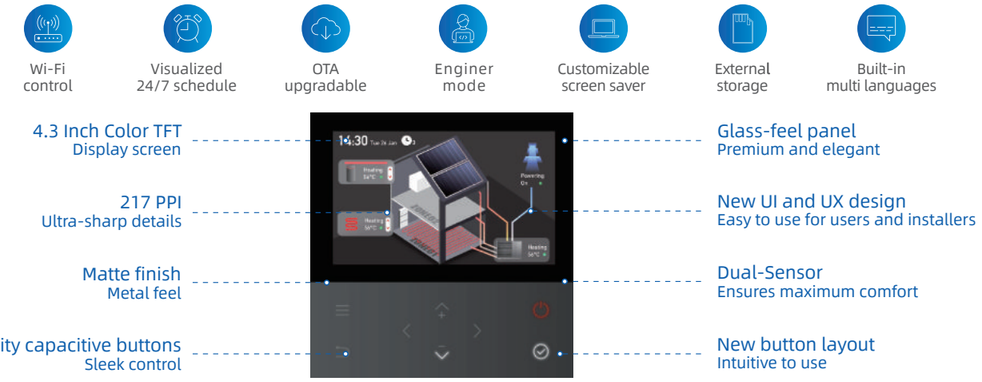
ATMO remote service platform: the remote platform defines a clear hierarchy that outlines each role's level of authority and access privileges within the unit.

Clients can use the webpage to monitor all heat pump units available on the market in real time. The system displays the operating parameters of the units on actual refrigerant and water circuits, making it easier to understand the system's status and helping clients quickly identify and resolve any issues.



Other new functions

New color controller (Optional)



Specification

Model name			4 kW	7 kW	9 kW	12kW	16 kW
Power supply		V/Ph/H	220-240 / 1 / 50	220-240 / 1 / 50	220-240 / 1 / 50	220-240 / 1 / 50	380-415 / 1 / 50
Heating[1]	Capacity	kW	4.0	7.2	9.3	12.1	15.7
	COP		5.05	4.88	4.90	4.84	4.60
Heating[2]	Capacity	kW	4.0	7.1	9.0	12.1	15.2
	COP		3.70	3.68	3.70	3.83	3.52
Heating[3]	Capacity	kW	4.0	7.0	9.2	12.1	15.0
	COP		3.05	3.00	3.10	3.21	2.83
Cooling[4]	Capacity	kW	4.0	7.1	8.6	12.1	15.3
	EER		4.50	4.86	4.30	4.43	4.21
Cooling[5]	Capacity	kW	3.9	6.8	8.7	12.0	14.5
	EER		3.10	3.40	3.00	2.51	2.47
Seasonal space heating energy efficiency class	LWT at 35℃		A+++	A+++	A+++	A+++	A+++
	LWT at 55℃		A+++	A+++	A+++	A+++	A++
Refrigerant	Type		R290	R290	R290	R290	R290
	Charged	kg	0.61	0.83	1.0	1.27	1.65
GWP value			3	3	3	3	3
Equivalent CO_2		Ton	0.002	0.002	0.003	0.004	0.005
Compressor	Type		Twin rotary DC inverter	Twin rotary DC inverter	Twin rotary DC inverter	Twin rotary DC inverter	Twin rotary DC inverter
	Brand		SHANGHAI HIGHLY	Mitsubishi	SHANGHAI HIGHLY	SHANGHAI HIGHLY	SHANGHAI HIGHLY
	Quantity		1	1	1	1	1
Fan motor	Motor type		BLDC	BLDC	BLDC	BLDC	BLDC
	Motor Brand		Panasonic	Panasonic	Panasonic	Panasonic	Panasonic
	Quantity		1	1	1	2	2
Sound power level[6]		dB	53.6	54.3	56.8	60.2	65.2
Water resistance			IPX4	IPX4	IPX4	IPX4	IPX4
Water pipe connection	Inlet/Outlet	mm	Φ33	Φ33	Φ33	Φ33	Φ33
Net/Gross weight	Net/Gross	kg	101/116	122/137	134/149	150/160.5	169/183
Dimension(L×W×H)	Net	mm	1155×422×803	1223×461×854	1223×461×854	1155x419x1365	1155x419x1365
	Packing	mm	1260×488×982	1285×495×1040	1285×495×1040	1310x478x1560	1310x478x1560
Operating temperature	Cooling	℃	-5 to 43	-5 to 43	-5 to 43	-5 to 43	-5 to 43
	Heating	℃	-25 to 35	-25 to 35	-25 to 35	-25 to 35	-25 to 35
	DHW	℃	-25 to 43	-25 to 43	-25 to 43	-25 to 43	-25 to 43

Note:

1、Outdoor air temperature 7℃ DB ,85% R.H ; EWT 30℃,LWT 35℃

2、Outdoor air temperature 7℃ DB ,85% R.H ; EWT 40℃,LWT 45℃

3、Outdoor air temperature 7℃ DB ,85% R.H ; EWT 47℃,LWT 55℃

4、Outdoor air temperature 35℃ DB ,85% R.H ; EWT 23℃,LWT 18℃

5、Outdoor air temperature 35℃ DB ,85% R.H ; EWT 12℃,LWT 7℃

6、Test standard:EN12102-1

R32 Monobloc

- Operation range down to -25˚C
- Maximum LWT reach 65˚C
- Single point maximum COP 5.01
- Energy efficiency level: A+++ (35℃) / A++ (55℃)

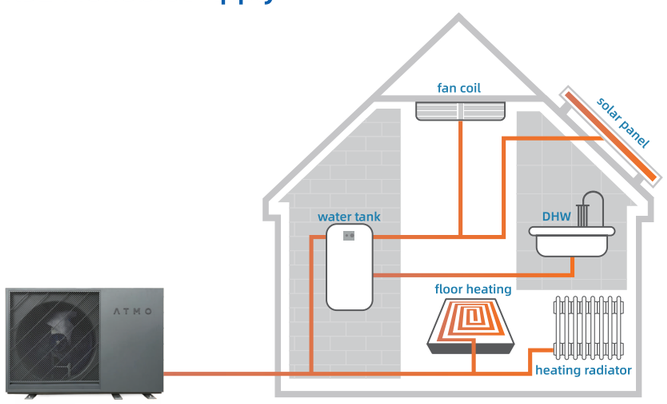
Introducing the R32 Monobloc

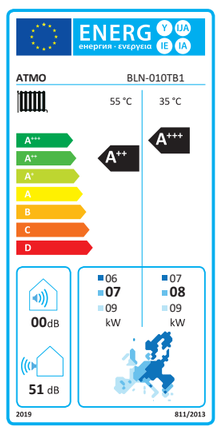
Solutions for House heating/cooling and domestic hot water in one system.

R32 monobloc is an integrated system which provides house hetaing/cooling as well as domestic hot water, offering a complete and convenient solution which can replace the needs for traditional gas or oild boilers, or work together with them.

Monobloc								
Model(kw)	4kw	6kw	8kw	10kw	12kw	14kw	16kw	20kw
220~240-1ph	✓	✓	✓	✓	✓	✓	✓	
380~415-3ph					✓	✓	✓	✓

R32 Monobloc Apply





PRODUCTS

Eco-consciousness

R32 efficiently works even in small volume compared to existing R410A refrigerant, which decreases the potential hazard of global warming. Furthermore, R32 refrigerant is easy to replace.

Lower GWP (Global Warming Potential) and carbon emission: reduces up to 75% of CO^2 compared to R410A.

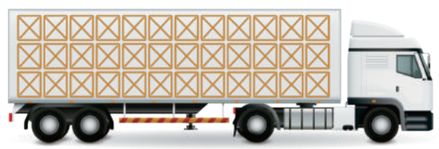
Structure innovation

Single fan compact structure design for 4~16kW models with lower noise level and more loading quantity.

Three cabinets design that is more compact and cost-efficient.

Three layer loading can fit 135 pcs for 4-6-8kW model in a 40HQ container.

Single fan structure greatly reduces noise



Loading 3 layers

Electric backup heater and leading brand components

- Panasonic motor
- Mitsubishi compressor
- Alfa Laval heat exchanger
- 3kW electric backup heater as standard
- Wilo water pump

Multi-function wired controller and APP control

- Icon languages
- Built-in wifi module supports APP control
- Modbus protocol and network flexibility
- Check the running state of heat pump, zone switch, operation mode and temperature

Extremely silent

- Two level of silent mode provides more comfort
- Silent mode: minimum sound pressure level 55dB

Two-zone control

For different room thermostats, the leaving water temperature may vary. The two-zone control function ensures that each thermostat allows its respective zone to operate at the designated temperature, enhancing comfort and saving energy.

• Specification

Model name			KS-40W/EN8BP	KS-60W/EN8BP	KS-80W/EN8BP	KS-100W/EN8BP	KS-120W/EN8BP	KS-140W/EN8BP	KS-160W/EN8BP	KS-100W/ENS8BP	KS-120W/ENS8BP	KS-140W/ENS8BP	KS-160W/ENS8BP
Power supply		V/Ph/H	220-240/1/50							380-415/3/50			
Heating[1]	Capacity	kW	4.0	6.0	7.9	10.2	12.1	14.5	15.9	10.21	12.06	14.47	15.91
	COP		5.25	5.13	4.50	5.01	4.70	4.84	4.65	5.01	4.70	4.84	4.65
Heating[2]	Capacity	kW	4.2	6.0	8.3	10.2	12.1	14.5	15.9	10.20	12.10	14.50	15.90
	COP		3.77	3.70	3.18	3.65	3.60	3.72	3.43	3.65	3.60	3.72	3.43
Heating[3]	Capacity	kW	4.1	6.1	7.7	9.6	12.3	13.8	15.8	9.60	12.30	14.10	15.80
	COP		2.84	2.86	2.58	2.98	2.77	3.12	2.58	2.98	2.77	3.12	2.58
Cooling[4]	Capacity	kW	4.0	6.2	8.2	10.1	11.9	14.1	15.7	10.01	11.85	14.14	15.72
	EER		5.19	4.91	4.65	4.14	4.36	4.56	3.90	4.14	4.36	4.56	3.90
Cooling[5]	Capacity	kW	4.3	6.3	7.6	8.8	11.6	14.3	16.0	8.78	11.58	14.30	16.00
	EER		3.24	3.14	2.97	2.96	2.80	2.80	2.61	2.96	2.80	2.80	2.61
Seasonal space heating energy efficiency class	LWT at 35℃		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
	LWT at 55℃		A++	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
Refrigerant	Type		R32	R32	R32	R32	R32	R32	R32	R32	R32	R32	R32
	Charged	kg	1.03	1.03	1.3	1.5	1.75	2.1	2.1	1.5	1.75	2.1	2.1
GWP value			675	675	675	675	675	675	675	675	675	675	675
Equivalent CO_2		Ton	0.695	0.695	0.878	1.013	1.181	1.417	1.417	1.013	1.181	1.417	1.417
Compressor	Type		Twin rotary DC inverter							Twin rotary DC inverter			
	Brand		Mitsubishi							Mitsubishi			
	Quantity		1	1	1	1	1	1	1	1	1	1	1
Fan motor	Motor type		BLDC							BLDC			
	Motor Brand		Panasonic							Panasonic			
	Quantity		1	1	1	1	1	1	1	1	1	1	1
Sound power level[6]		dB	56	58	59	60	64	65	68	60	64	65	68
Water resistance			IPX4										
Water pipe connection	Inlet/Outlet	mm	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33	Φ33
Net/Gross weight	Net/Gross	kg	76/91	78/93	80/93.5	93/108	97/117	117/136	117/136	100/117	109/126	131/150	131/150
Dimension (L×W×H)	Net	mm	1125×370×703	1125×370×703	1125×370×703	1135×396×803	1135×396×803	1203×436×860	1203×436×860	1135×370×803	1135×370×803	1203×435×860	1203×435×860
	Packing	mm	1200×425×865	1200×425×865	1200×425×865	1260×488×982	1260×488×982	1285×495×1040	1285×495×1040	1260×488×982	1260×488×982	1285×495×1040	1285×495×1040
Operating temperature	Cooling	℃	-5 to 43							-5 to 43			
	Heating	℃	-25 to 35							-25 to 35			
	DHW	℃	-25 to 43							-25 to 43			

Note:
1、Outdoor air temperature 7℃ DB ,85% R.H ; EWT 30℃,LWT 35℃
2、Outdoor air temperature 7℃ DB ,85% R.H ; EWT 40℃,LWT 45℃
3、Outdoor air temperature 7℃ DB ,85% R.H ; EWT 47℃,LWT 55℃
4、Outdoor air temperature 35℃ DB ,85% R.H ; EWT 23℃,LWT 18℃
5、Outdoor air temperature 35℃ DB ,85% R.H ; EWT 12℃,LWT 7℃
6、Test standard:EN12102-1