TOSHIBA

ESTiA BI-BLOC R290

AIR-TO-WATER HEAT PUMPS

R290 REFRIGERANT

The Toshiba ESTIA BI-BLOC R290

sets a new standard in home heating and cooling, combining advanced technology with exceptional energy efficiency.

Enjoy a new approach to indoor comfort in all seasons.

ENVIRONMENTAL **CONSCIOUSNESS**

Global warming is a challenge that unites us all, and prioritising the decarbonisation of buildings is essential. Through continuous improvement and adoption of energy-efficient solutions, the path to a more sustainable world can be created, for the sake of mankind and our planet. With our ClimateProtect program (CP), we assign our best performing equipment with label classes ranging from CP+ to CP+++, awarding the highest rating to devices with the lowest global warming impact over their lifetime* - demonstrating high energy efficiency and the use of refrigerants with lower global warming potentials (GWP). Our new range of products, the ESTIA BI-BLOC R290 achieves for almost all models a Climate Protect class of CP++ thus demonstrating how the use of a natural refrigerant with a very low global warming potential (GWP100=0.02**), combined with excellent energy efficiency can provide a great solution for our customers – while helping to reduce the environmental impact.

CLIMATE PROTECT++

*Global warming impact calculated and compared among different product ranges based on EN 378 Total Equivalent Warming Impact (TEWI) methodology – available at www.toshiba-airconditioning.eu/environmental-vision. **According to IPCC AR6.

YOUR YEAR-ROUND **CLIMATE COMPANION**

Delivering impressive capacities in space heating and hot water production, the **ESTIA BI-BLOC R290** air-to-water heat pumps not only help to save on energy bills compared to fossil energies but also provide superior comfort. Our innovative solutions add value to your investments.

TIMELESS ELEGANCE IN DESIGN

Discover our elegant and compact models seamlessly integrating into any interior. They enhance your home with a solution that fits and elevates your living space.

COMPACT AND EASY INSTALLATION

A large variety of components and accessories are factory integrated into the units to keep them compact and easy to install in different locations. There is always a perfect spot.

HIGH ENERGY EFFICIENCY LEVELS

This top-tier efficiency rating ensures that the heat pump operates at maximum performance throughout the year. Over time, the savings on energy bills can be substantial, making it a cost-effective investment for owners.

HOT WATER WHENEVER YOU NEED

High-temperature water is supplied year-round, even in extreme cold (70°C at -10°C), and domestic hot water is produced at high outdoor temperatures (+40°C) for maximum comfort. A solution also efficient for medium temperature appliances (up to 55°C), making it ideal for combination with radiators to reduce renovation costs.

SMART HEATING AND COOLING

The main function of a heat pump is to provide heating for buildings, but it can also cool the air during warm months.

With smart cooling, the refrigerant cycle is reversed internally to actively generate a cooling capacity.

QUIET COMFORT

Investing in a silent operating solution is a smart choice for anyone looking to enhance their indoor comfort and quality of life.

Experience ideal temperatures with an indoor unit operating down to an impressive 29dB(A)[2].

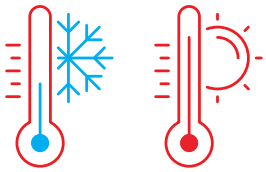
QUIET OPERATION WITH NIGHT MODE

Thanks to the night mode function, even decrease the sound level of the outdoor unit down to 30dB(A)[3] depending upon the models, to overcome disturbance to neighbours.

(1)In the range of D ➔ A+++, according to EU-regulation 813/2013 average climate for low temperature applications (W35).
(2) Sound pressure level at 2m distance (Q4). (3) Sound pressure level in Silent mode, at 5m distance, freely placed (Q2).

PLUG & PLAY SOLUTIONS **FOR ALL YOUR NEEDS**

Our systems can answer a large range of temperature requirements, enabling the integration of floor heating, radiators, fan coil units, and other emitters. **This makes them ideal for both new constructions and renovation projects.** Experience our peace of mind plug & play solutions for greater comfort.



ESTIA BI-BLOC R290
All-In-One solution

ESTIA BI-BLOC R290
Wall-Mounted solution

Space heating for any emitters


Under floor heating


Medium or low temperature radiators

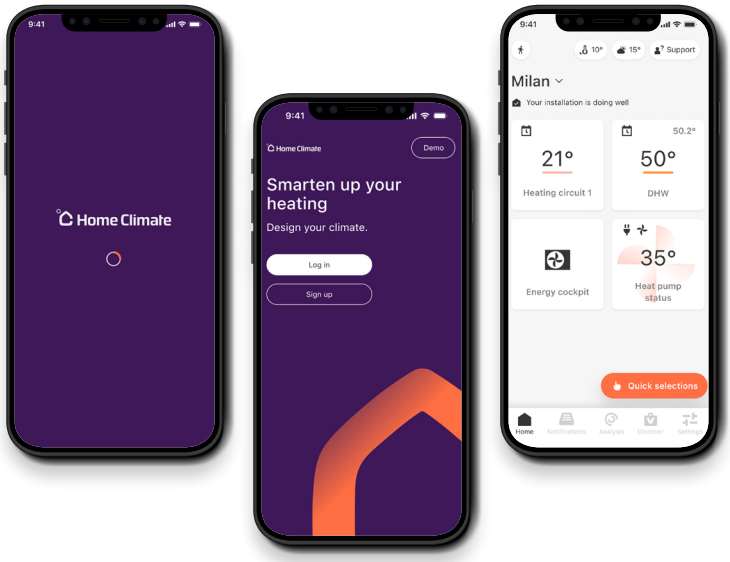

Fan coils comfort cooling & heating

Domestic hot water production

COMFORT AT YOUR FINGERTIPS
WITH THE HOME CLIMATE APP

The Home Climate App optimises home systems, reducing energy consumption while maintaining unparalleled comfort. Enjoy peace of mind and convenience, knowing your home is always comfortable and energy-efficient.

Home Climate



ADVANTAGES AT A GLANCE

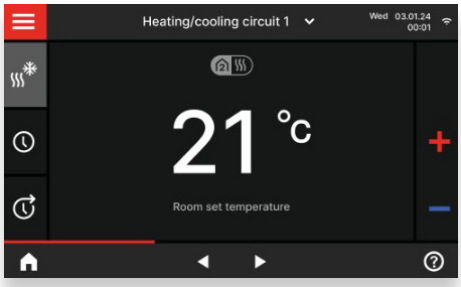
- Customise your comfort no matter where you are
- Program temperatures, heating schedules, hot water production or use the heating assistant function for full control
- Quick selection option for the most common tasks
- Helpful messages about the status of your system
- Connect your device to benefit from a remote troubleshooting support
- Works with smartphone, iOS or Android

A UNIQUE CENTRAL CONTROL TOOL FOR INSTALLERS:
ViGUIDE APP

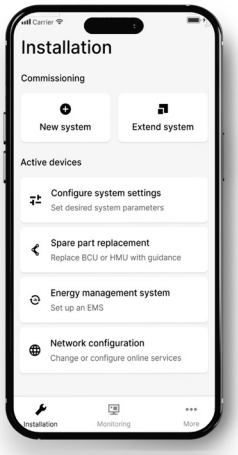
Allows convenient commissioning and spare parts replacement via Smartphone for greater peace of mind.

ADVANTAGES AT A GLANCE

- Intuitive plain text display via HMI (Human Machine Interface) or ViGuide Mobile app
- Commissioning of the whole system via the app
- Perform guided parts replacement
- Works with smartphone, iOS or Android
- Future-proof system that grows with customers' needs



HMI (Human Machine Interface)



Smartphone app (ViGuide Mobile)

TAKE ADVANTAGE **OF EXTENDED POSSIBILITIES**

Experience true extended project coverage matching any type of applications, should it be housing renovation or new builds. The system adapts to almost all available heating systems during modernization, eliminating the need for time-consuming installation work.

INDIVIDUAL HOUSING

COLLECTIVE HOUSING

4.8*
SCOP UP TO

4.1**
SEER UP TO

Thanks to high SEER and SCOP, the ESTIA BI-BLOC R290 air-to-water heat pumps minimize the energy required for both heating and cooling, ensuring high comfort and energy savings throughout the year.

For mid-temperature applications, the SCOP is up to 3.7 (W55).

Indoor units available in 4 versions: All-In-One and Wall-Mounted, each in 1-phase and 3-phase.

Outdoor units available in 9 versions: 4-16kW 1-phase and 10-16kW 3-phase. All connectible to the indoor units.

Fast and easy installation of the indoor unit thanks to the patented hydraulic system.

50%

Around 50% fewer elements to install thanks to factory integrated key components such as the defrost buffer tank, bypass valve, domestic hot water valve and expansion vessel included in the indoor unit for time-saving installation.

PEACE OF MIND

Robust operations in all situations thanks to the patented hydraulic concept managing defrost and water flow volume between the indoor and the outdoor units.

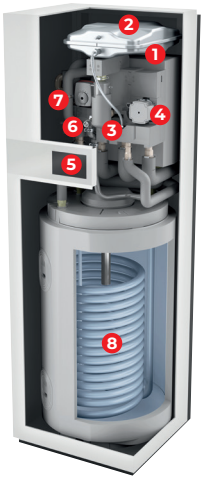
*According to EN14825, average climatic conditions, low temperature application (W35). **According to EN14825, average climatic conditions (A35/W18).

EASY INSTALLATION
AND COMMISSIONING

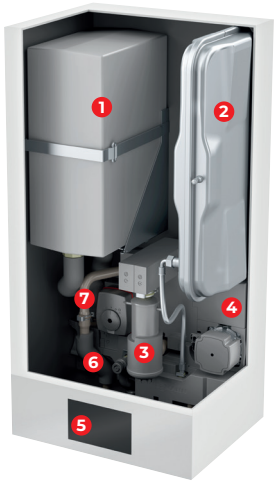
Technical progress enhances our lives daily, bringing new ideas that change the world. With ESTIA BI-BLOC R290 air-to-water heat pumps, you can enjoy year-round comfort with the confidence that your system is designed to keep you safe and secure.

AN ARRAY OF
INTEGRATED COMPONENTS

All about the benefits of the inclusion of multiple components that are well-coordinated and function as a unified system.



1. Heating water buffer tank (16 litre capacity)
2. Diaphragm expansion tank (10 litre capacity)
3. Heating water instantaneous water heater
4. Secondary pump (high-efficiency circulation pump)
5. Heat pump control with 7-inch color touch display
6. Safety valve
7. 4/3-way valve heating/Domestic hot water/Bypass
8. Hot water tank (190 litre capacity)



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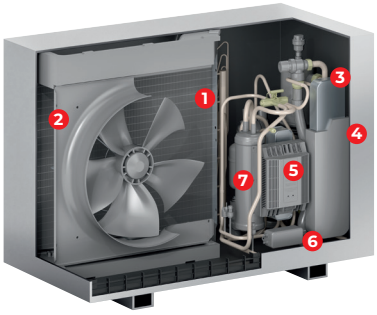
6. Safety valve
7. 4/3-way valve heating/DHW heating/Bypass



1. Coated evaporator
2. Low noise fans (DC speed controlled)
3. Safety air/gas separator (propane safety)
4. Plate heat exchanger (condenser)
5. Plate heat exchanger (sub cooler)
6. DC-Inverter (refrigerant cooled)
7. Speed controlled double rotary compressor

TECHNOFOCUS

NEW PATENTED
HYDRAULIC SYSTEM

The innovative patented hydraulic system significantly reduces installation time by incorporating pre-assembled hydraulic components, including the buffer tank, expansion vessel, and overflow valve. This advanced system ensures robust operation of the heat pump under all conditions, thereby eliminating the need for modifications to the existing installation.

PATENTED SAFETY
GAS SEPARATOR

The outdoor unit has an integrated safety device that consists of a patented air/gas separator according to DIN EN 60335-2-40 to make sure that no propane can enter the building via the water pipes.

TOSHIBA

		1-Phase						3-Phase		
	Unit	HWP-401HW-E	HWP-601HW-E	HWP-801HW-E	HWP-1001HW-E	HWP-1301HW-E	HWP-1601HW-E	HWP-1001H8W-E	HWP-1301H8W-E	HWP-1601H8W-E
Seasonal space heating energy efficiency low temperature										
Energy efficiency class - Low temperature	-	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
Seasonal space heating energy efficiency (ηs)		176	180	175	190	178	178	190	178	178
SCOP	-	4.5	4.6	4.4	4.8	4.5	4.5	4.8	4.5	4.5
Nominal heating power P-rated	kW	4	5.5	6.5	9.8	12.4	13.7	9.8	12.4	13.7
Under floor heating Air +7°C Water 35°C										
Range heating capacity (Min. - Max.)	kW	2.1 - 4.0	2.1 - 6.0	2.1 - 8.0	2.6 - 12.0	3.0 - 13.4	3.3 - 14.9	2.6 - 12.0	3.0 - 13.4	2.6 - 14.9
Nominal heating capacity	kW	4	4.8	5.6	7.3	8.1	9.1	7.3	8.1	9.1
COP	-	5	4.9	4.7	5	5	4.9	5	4.9	4.9
Under floor heating Air-7°C Water 35°C										
Range heating capacity (Min. - Max.)	kW	1.7 - 3.8	1.7 - 5.6	1.7 - 6.5	2.3 - 9.7	2.8 - 11.1	3.0 - 12.4	2.3 - 9.7	2.8 - 11.1	2.4 - 12.4
Nominal heating capacity	kW	3.8	5.6	6.5	9.7	11.1	12.4	9.7	11.1	12.4
COP	-	3	2.8	2.7	3	2.8	2.8	3	2.8	2.8
Under floor heating Air -15°C Water 35°C										
Range heating capacity (Min. - Max.)	kW	1.5 - 3.0	1.5 - 4.4	1.5 - 5.2	2.8 - 7.7	3.3 - 8.9	3.0 - 9.7	2.8 - 7.7	3.3 - 8.9	2.8 - 9.7
Heating capacity	kW	3	4.4	5.2	7.7	8.9	9.7	7.7	8.9	9.7
COP	-	2.4	2.3	2.3	2.4	2.3	2.4	2.4	2.3	2.4
Radiators heating Air +7°C Water 45°C										
Max. heating capacity	kW	5.5	7.2	8 4	10.7	13.2	14.9	11.7	13.2	14.9
Radiators heating Air -7°C Water 45°C										
Max heating capacity	kW	3.7	5.3	6.4	8.2	10.7	12.2	9.2	10.7	12.2
Radiators heating Air -15°C Water 45°C										
Max. heating capacity	kW	2.9	4.2	5	7.3	8.4	9.4	7.3	8.4	9.4
Radiators heating Air -20°C Water 45°C										
Max. heating capacity	kW	2.4	3.6	4.3	6.3	7.3	8.2	6.3	7.3	8.2
Seasonal space heating energy efficiency mid temperature										
Energy efficiency class - Medium temperature	-	A++	A++	A++	A++	A++	A++	A++	A++	A++
Seasonal space heating energy efficiency (ηs)	%	127	141	137	145	141	141	145	141	141
SCOP	-	3.3	3.6	3.5	3.7	3.6	3.6	3.7	3.6	3.6
Nominal heating power P-rated	kW	3.8	5.1	6.2	9.4	12.1	13.4	9.4	12.1	13.4
Radiators heating Air +7°C Water 55°C										
Max heating capacity	kW	5.4	7.2	8.4	11.9	13.3	14.6	11.9	13.3	14.6
Radiators heating Air -7°C Water 55°C										
Max. heating capacity	kW	3.5	5.2	6.2	9.2	10.6	11.8	9.2	10.6	11.8
Nominal cooling capacity Air +35°C Water 7°C	kW	2.6	3	3.4	3.9	5.6	6.3	3.9	5.6	6.3
EER	-	2.9	2.9	2.9	3.3	3.4	3.4	3.3	3.4	3.4

Max heating capacities are shown at peak value during operation, at max compressor operating range in accordance with EN14511.
Nominal heating capacity are given at water delta T° 5°C and rated compressor operating frequency in accordance with EN14511.
Nominal cooling capacities are given in accordance with EN14511.
Energy efficiencies class & seasonal space heating energy efficiency (ηs) are provided for average climate conditions in accordance with EU-Regulation Nr. 813/2013.

Outdoor unit										
Height	mm	841	841	841	1382	1382	1382	1382	1382	1382
Width	mm	1144	1144	1144	1144	1144	1144	1144	1144	1144
Depth	mm	600	600	600	600	600	600	600	600	600
Weight	kg	162	162	162	191	191	191	197	197	197
Sound power of the outdoor unit at rated heating output (1)										
- ErP	dB(A)	51	51	51	56	56	56	56	56	56
- Max.	dB(A)	56	58	59	66	66	66	66	66	66
- Low-noise mode (stage 2)	dB(A)	52	52	52	59	59	59	59	59	59
Compressor type	-	Twin rotary	Twin rotary	Twin rotary	Twin rotary	Twin rotary	Twin rotary	Twin rotary	Twin rotary	Twin rotary
Refrigerant	-	R290	R290	R290	R290	R290	R290	R290	R290	R290
Refrigerant charge	kg	1,2	1,2	1,2	2	2	2	2	2	2
Minimum pipe length	m	5	5	5	5	5	5	5	5	5
Maximum pipe length	m	20	20	20	20	20	20	20	20	20
Max. operation preassure (secondary side)	bar	3	3	3	3	3	3	3	3	3
Operating range in heating / DHW	°C	-20 - 40	-20 - 40	-20 - 40	-20 - 40	-20 - 40	-20 - 40	-20 - 40	-20 - 40	-20 - 40
Operating range in cooling	°C	10 - 45	10 - 45	10 - 45	10 - 45	10 - 45	10 - 45	10 - 45	10 - 45	10 - 45
Max. Supply temperature	°C	70	70	70	70	70	70	70	70	70
Power supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50

(1) Tested with reference to EN 12102/ EN ISO 3744. Assessed total sound power level at A7/W55.

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Better Air Solutions

A Carrier Company