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EHS Mono R290

Reliable Heating

Adverse weather conditions can impact the life span and performance of outdoor units. The EHS Mono R290 is both durable and capable of operating effectively in hot and cold environments. The chassis and heat exchanger are corrosion resistant; its base is designed to drain condensed water even in the coldest temperature and it includes antifreeze protection systems to prevent water from freezing and bursting the pipes.

Made to work with R290

As R290 refrigerant is being used, the inside components of the unit have been adapted when compared to a regular mono heat pump. These adaptations support the separation of R290 refrigerant and the rest of the system. The EHS Mono R290 is designed in a way that alleviates pressure in the pipes and the plugs are sealed to prevent ignition.

Layer 1
Leakage prevention

Layer 2
Leakage detection

Layer 3
Exhaust

Layer 4
Ignition prevention

Slanted Grille

A new grille design has a 6° slope and is 18mm deep. The angled slats screen the inside from sight when you pass by it, even from only 1m away[1].

[1] Based on a viewing height of 1,700mm and a viewing distance of 1m.

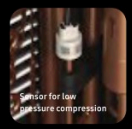
Aesthetic Design

The EHS Mono R290 is a compact and stylish unit. The dark gray color seamlessly blends in and complements the styling of many modern buildings. The matte dark gray horizontal guard grille conceals the internal mechanical parts allowing it to blend with the surrounding environment without drawing attention. The compact design can fit in neatly below a window.

A **robust design** alleviates pressure in the pipe to prevent gas escaping.

- Reduction of parts that may cause a leakage
- Enhanced thickness of the U-bend
- Hairpin receiver protection
- Freezing and bursting prevention control

Sensors monitor the refrigerant and water pressures to detect leakages.



A **forced exhaust system** ventilates the inside of the outdoor unit. An **Air Separator** in the leaving water pipe prevents the leaked gas from flowing into the house.

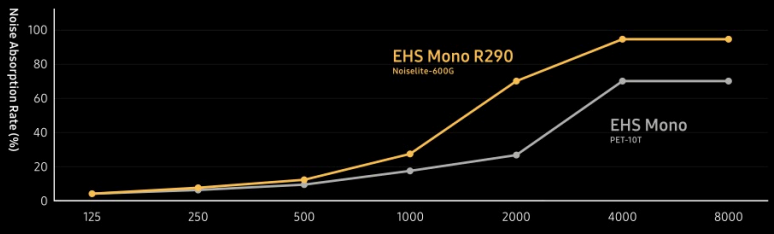
Potential **ignition sources** are **sealed** and **located higher up** in the outdoor unit.

EHS Mono R290

Key features to achieve Low Noise are the Multi-Serration Fan, 2-layered insulation with groove grid felt, Spring grommet for the compressor mounting and Reinforced crank shaft in the compressor.

2-layered Insulation with Groove Grid Felt

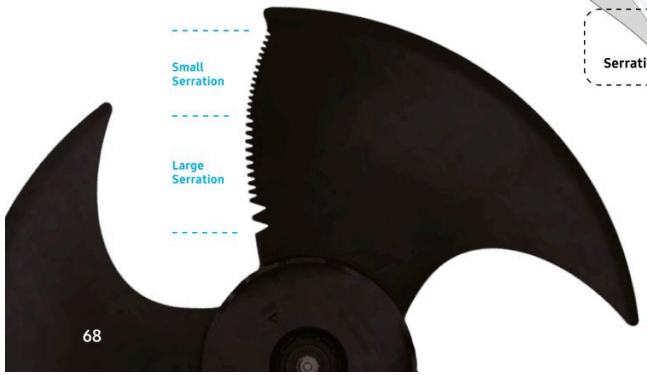
This heat pump's outdoor unit features a double-layered, sound insulation system fitted with a patented Groove Grid Felt design, which effectively blocks and absorbs noise produced by compression parts and vibrations.



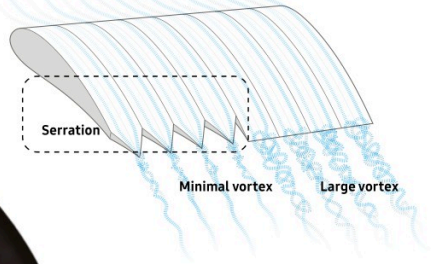
* Based on internal testing of the Noiselite-600G, compared to the PET-10T. The results only relate to individual materials and not the whole product, and may vary depending on the actual usage conditions.
** Patent No.:P2022-0012826.

Multi-serration Fan[1]

The combination of large serration on the inner part and a small serration on the outer part minimizes the air vortex around the wing tip and significantly reduces the noise generated by the movement of the fan.

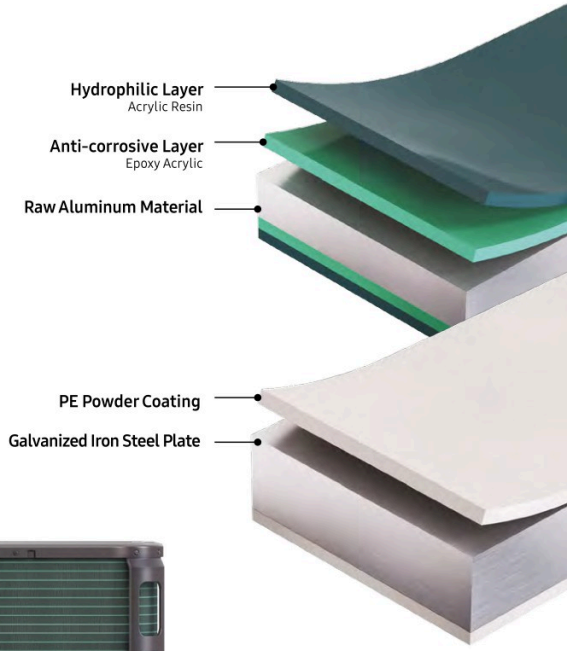


Comparison of the vortex
on the serration and normal edges



GI Steel Plate

The EHS R290 Mono outdoor unit uses Galvanized Iron (GI) Steel Plate with a PE powder coating of up to 100μm thickness, which is proven to improve corrosion resistance by 43%, based on the Complex Cycle Test (CCT)[2]. So, it protects the cabinet from rusting and ensures it can endure harsh conditions.



Durafin™ Ultra

An anti-corrosive layer of epoxy acrylic and a hydrophilic layer of acrylic resin disperse water and reinforce its corrosion-resistance, which was proven using the Salt Spray Test (SST) over a period of 3,000 hours[1].

[1] Based on internal testing in accordance with ISO 9227, ISO 14993 and ISO 21207 using specimens from the heat exchanger of an EHS outdoor unit. For more details, please contact your local Samsung representative.
[2] Based on internal testing using corrosion chambers, Q-FOG and CCT-1100. The Complex Cycle Test (CCT) includes cycles of spray (for 2 hours at 35°C), dry (for 4 hours at 60°C with 30% Relative Humidity) and damp (for 2 hours at 50°C with 95% Relative Humidity) conditions. As a result, the Galvanized Iron Steel Plate (GI) formed red rust after 240 hours, which is 43% slower than general Electro-Galvanized Steel Plate (EGI) which forms red rust after 168 hours.

Antifreeze Protection Control

In the EHS Mono R290, the hydraulic parts that provide hot water are built into the outdoor unit. As a result, the water pipe exposed to the outside conditions might freeze if it stops operating in cold weather of below 0°C[1]. So, the Antifreeze Protection Control continuously monitors the operating status and the outdoor temperature, and prevents the water pipe from freezing by forcibly pumping the water after a certain period of time[2].

[1] For external water pipes, the system must use either freeze protection valves or antifreeze: Propylene Glycol with a toxicity rating of Class 1 as listed in Clinical Toxicology of Commercial Products, 5th Edition. Please refer to the installation manual or detailed antifreeze specifications.
[2] For example, if it has stopped operating for 60 minutes when the outdoor temperature is 3°C, the pump on the water pipe side is forcibly operated to prevent the water from freezing in the water pipe.

Energy Saving | SCOP A+++

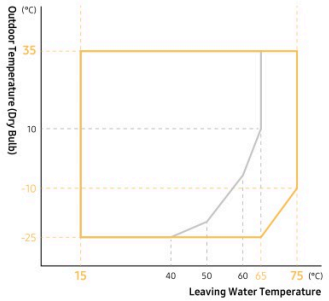
The EHS Mono R290 has an enhanced Seasonal Coefficient of Performance (SCOP) A+++ energy efficiency rating across the entire range of capacities[1]. It has been increased by up to 14%[2] compared to the conventional models, providing up to 15% greater energy efficiency than the normal criteria required for the A+++ rating. So, it is proven to operate with a high level of efficiency.

[1] Based on internal testing when generating 35°C water, in accordance with EN14825. Results may vary depending on the system configuration and actual usage conditions.
[2] Based on internal testing when generating 35°C water using an EHS R290 Mono 5kW model, AE050CXYDEK/EU (SCOP: 5.10), compared to an EHS R32 Mono model of the same capacity, AE050RXYDEG/EU (SCOP: 4.46).

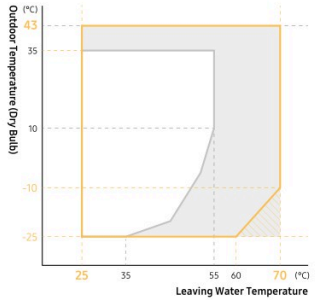
Operates across a Wider Temperature Range

The EHS Mono R290 outdoor unit operates effectively across a much wider range of ambient temperatures. A conventional EHS Mono can generate hot water that is up to 65°C when the outdoor temperature is above 10°C and 40°C when it is -25°C outside. By comparison, the EHS Mono R290 provides hot water of 70°C[1], when the outdoor temperature is as low as -10°C[2] and can even generate hot water of up to 65°C if the ambient temperature drops to -30°C.[3]

Space heating



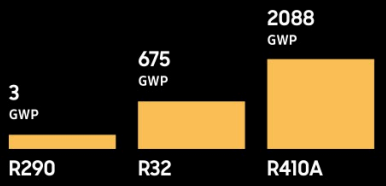
Domestic Hot Water



[1] Leaving water temperature, when the outdoor temperature is between -15°C ~ 43°C. Results may vary depending on the actual usage conditions.
[2] Based on a leaving water temperature of 55°C. Results may vary depending on the actual usage conditions.
[3] Based on internal testing. Results may vary depending on the actual usage conditions.

Low Global Warming Potential of only 3

With EHS Mono R290, Samsung is offering an innovative solution for residentials homes. The R290 refrigerant has a much lower Global Warming Potential (GWP) compared to other refrigerants. Only 3. New EU F-Gas regulations mean refrigerants must not exceed 150 GWP from 2027.

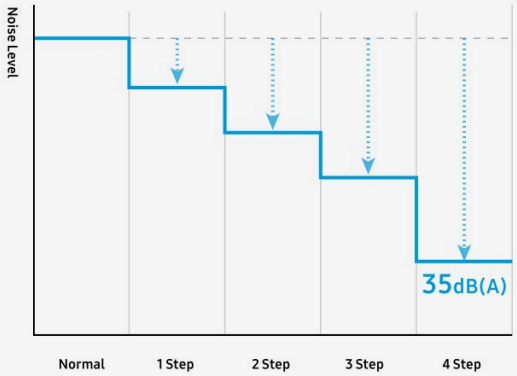


up to **99%** lower GWP

Quiet Operation

Powered by a combination of innovative noise reducing technologies, the EHS HT Quiet operate quietly with noise levels as low as 35 dB(A)[1] using a 4-step Quiet Mode.

4-Step Quiet Mode

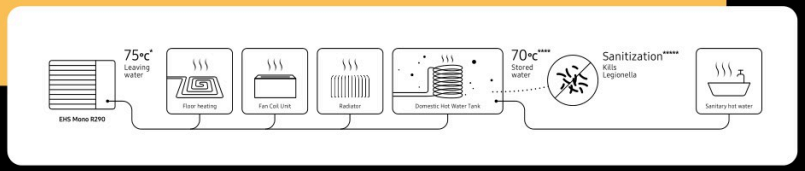


[1] Based on internal testing of the EHS Mono R290 outdoor unit. The noise level is measured 3m away from the front of the outdoor unit, in an anechoic room with an outside temperature of 7°C. Results may vary depending on environmental factors and individual use.

Higher Hot Water Temperature

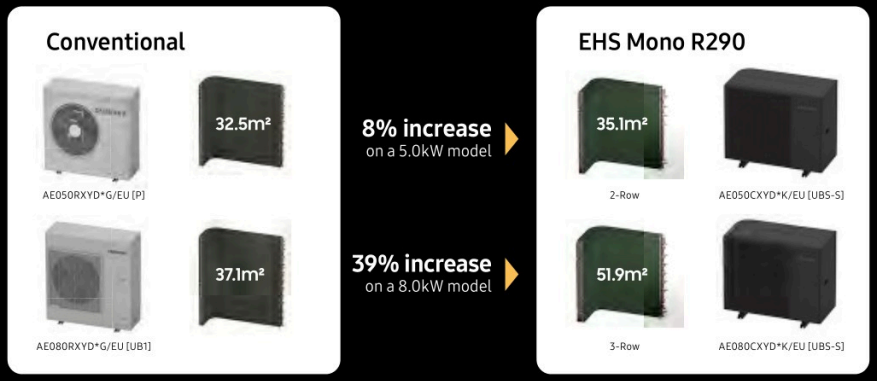
Many older houses in Europe are still using radiators which require a hot water temperature of 65°C or higher to heat rooms effectively. The new EHS Mono R290 can consistently provide hot water of up to 75°C[1] for domestic heating purposes. The ability of the EHS Mono R290 to provide consistent hot water makes this heat pump a suitable heating system replacement in older residential spaces that have been previously dependent on gas boilers for their heating needs. Additionally, it can supply domestic hot water of up to 70°C[2] when the outdoor temperature is as low as -10°C without using the booster heater.

[1] Leaving water temperature, when the outdoor temperature is between -15°C ~ 43°C. Results may vary depending on the actual usage conditions.
[2] Domestic hot water (DHW) leaving the DHW tank is 70°C when the outdoor temperature is -10~43°C. If the outdoor temperature is lower than -10°C, a booster heater is required. Results may vary depending on the actual usage conditions.



Enlarged Heat Transfer Area

The EHS Mono R290 has an enlarged heat exchanger that is capable of transferring more heat at once compared to a conventional outdoor unit. Its heat transfer area is up to 39% larger[1]. As a result, it can consume less energy to achieve the same cooling and heating performance.



[1] Based on Samsung's measurements on an EHS Mono HT Quiet (AE120BXYDGG/EU) model compared to a conventional outdoor unit (AE120RXYDGG/EU) with the same capacity.

Strengthened Compression Parts

To endure the higher pressure created by a new Scroll Compressor, the EHS R290 Mono uses strengthened compression parts. They have increased compression ratio[1], while still maintaining the effi ciency and reliability of the compressors.

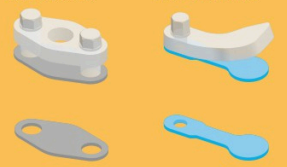
[1] Compression ratio = Discharge pressure/Suction pressure. Based on internal testing on an EHS Mono HT Quiet outdoor unit, compared to a conventional EHS outdoor unit. As a result, the discharger pressure has increased from 43 to 55kgf/cm²G, and the compression ratio has increased from 13 to 17.

Compression Ratio

13.0 → 16.5* ***

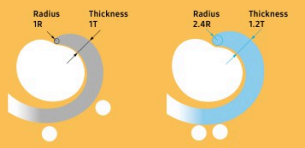
increase

Conventional EHS Mono R290



The design and thickness of the valves have been modified to improve their strength and responsiveness.

Conventional EHS Mono R290



The thickness of the center wrap has been increased to improve its stress endurance by 45%.


AI Home

Specifications 1/2

EHS Mono R290 (Without Pump)

- Production of hot water to a maximum temperature of 75 °C
- New Climatehub, Hydro Unit and Control kit with embedded Wi-Fi module
- Low Ambient temperature operation
- SmartThings compatible
- 100% Heating Capacity at -10°C
- Easy installation and maintenance
- Premium Design
- Ideal for renovation applications
- Generates a low noise level (35dB)








Indoor Unit / Outdoor Unit / Controller				AE200DN*MPK/EU AE050CXYDEK/EU MIM-E03FN	AE200DN*MPK/EU AE080CXYDEK/EU MIM-E03FN	AE200DN*MPK/EU AE120CXYDEK/EU MIM-E03FN
System						
Operation	Nominal Capacity	Heating A7/W35[1] / A7/W55[2]	kW	5.0/5.0	8.0/8.0	12.0/12.0
		Cooling A35/W18[1]	kW	5.0	8.0	12.0
	Power Input (Nominal)	Heating A7/W35[1] / A7/W55[2]	kW	1.00/1.61	1.63/ 2.67	2.50/4.0
		Cooling A35/W18[1]	kW	1.280	2.050	3.000
	COP (Nominal Heating) A7/W35[1] / A7/W55[2]		W/W	5.1/3.10	4.91/3.00	4.80/3.00
	EER (Nominal Cooling) A35/W18[1]		W/W	3.91	3.90	4.00
	SCOP LWT 35°C/ 55°C		W/W	5.00/3.60	4.85/3.55	4.90/3.65
	Seasonal Space Heating enr.efficiency ηs LWT 35°C/ 55°C		ETA%	201 / 141	191 / 139	193 /143
	Seasonal Space Heating Eff. Class* LWT 35°C/ 55°C			A+++ *** / A++ **	A+++ *** / A++ **	A+++ *** / A++ **
	Current	MCA	A	16.1	26.0	32.0
		MFA	A	17.6	28.6	35.2
	Water Flow Rate	Nom	l/min	14.4	23.1	34.6
	Leaving Water Temperature	Heating	°C	15-75	15-75	15-75
		Cooling	°C	5-25	5-25	5-25
Functions	Smart Grid Ready/PV Enabled		-	•	•	•
	3-Step Quiet Mode		-	•	•	•
	2-zone Control		-	•	•	•
Tank Integrated Hydro Unit						
Power Supply			Φ, V, Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz
Water Tank Volume			litres	200	200	200
Declared Load Profile			L/XL	L	L	L
Average water heating efficiency ηwh			ETA%	148%	148%	148%
Average Energy Efficiency Class			-	A+ *	A+ *	A+ *
Sound	Sound Pressure[4]	Heating Std	dB(A)	26/28[3]	26/28[3]	28/30[3]
		Cooling Std	dB(A)	26/28[3]	26/28[3]	28/30[3]
	Sound Power	Heating Std	dB(A)	40/42[3]	40/42[3]	42/44[3]
Heater	Back-up heater Capacity	Default (Option)	kW	2 (4)	2 (4)	2 (4)
Piping	Water Pipe (Space Heating primary)	Inlet/Outlet	Φ, mm	28 / 28	28 / 28	28 / 28
	Water Pipe (Space Heating 2-zone)	Inlet/Outlet	Φ, mm	28 / 28	28 / 28	28 / 28
	Water pipe (DHW)	Inlet/Outlet	Φ, mm	22 / 22	22 / 22	22 / 22
	Water Pipe (Secondary return)	Inlet	Φ, mm	BSPP male, 1"	BSPP male, 1"	BSPP male, 1"
Dimensions	Net Weight		kg	132 / 142[3]	132 / 142[3]	132 / 142[3]
	Net Dimensions (WxHxD)		mm	598 x 1,850 x 600	598 x 1,850 x 600	598 x 1,850 x 600
Outdoor Unit						
Power Supply			Φ, V, Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz
Compressor	Type		-	Twin Rotary	Twin Rotary	Scroll
Base Heater	Capacity		kW	0.15	0.15	0.15
Sound	Sound Pressure[4]	Heating Std	dB(A)	41	45	47
		Cooling Std	dB(A)	41	45	47
	Sound Power	Heating Std	dB(A)	55	59	60
Dimensions	Net Weight		kg	86	98	140
	Net Dimensions (WxHxD)		mm	998 x 850 x 500	998 x 850 x 500	1270 x 1018 x 530
Refrigerant	Type			R290 (GWP=3)	R290 (GWP=3)	R290 (GWP=3)
	Factory Charging		tCO_2e	0.002	0.003	0.004
			kg	0.63	0.87	1.25
Piping	Water Pipe (Space Heating)	Inlet/Outlet	Φ, mm	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"
Operation						
Ambient Temperature		Heating	°C	-25~35	-25~35	-25~35
		Cooling	°C	10~46	10~46	10~46
		DHW	°C	-25~43	-25~43	-25~43

AE200DN*MPK/EU AE160CXYDEK/EU MIM-E03FN	AE200DN*MPK/EU AE80CXYDGK/EU MIM-E03FN	AE200DN*MPK/EU AE120CXYDGK/EU MIM-E03FN	AE200DN*MPK/EU AE160CXYDGK/EU MIM-E03FN
16.0/16.0	8.0/8.0	12.0/12.0	16.0/16.0
14.0	8.0	12.0	14.0
3.55/5.52	1.63/ 2.67	2.50/4.0	3.55/5.52
3.680	2.050	3.000	3.680
4.51/2.90	4.91/3.00	4.80/3.00	4.51/2.90
3.80	3.90	4.00	3.80
4.70/3.55	4.85/3.55	4.90/3.65	4.70/3.55
185 / 139	191 / 139	193 /143	185 / 139
A+++ *** / A++ **	A+++ *** / A++ **	A+++ *** / A++ **	A+++ *** / A++ **
32.0	16.1	16.1	16.1
35.2	17.7	17.7	17.7
46.2	23.1	34.6	46.2
15-75	15-75	15-75	15-75
5-25	5-25	5-25	5-25
•	•	•	•
•	•	•	•
•	•	•	•
1Φ, 2Line, 220~240V, 50Hz	3Φ, 4Line, 380~415V, 50Hz	3Φ, 4Line, 380~415V, 50Hz	3Φ, 4Line, 380~415V, 50Hz
200	200	200	200
L	L	L	L
148%	148%	148%	148%
A+ *	A+ *	A+ *	A+ *
28/30[3]	26/28[3]	28/30[3]	28/30[3]
28/30[3]	26/28[3]	28/30[3]	28/30[3]
42/44[3]	40/42[3]	42/44[3]	42/44[3]
2 (4)	6	6	6
28 / 28	28 / 28	28 / 28	28 / 28
28 / 28	28 / 28	28 / 28	28 / 28
22 / 22	22 / 22	22 / 22	22 / 22
BSPP male, 1"	BSPP male, 1"	BSPP male, 1"	BSPP male, 1"
132 / 142[3]	132 / 142[3]	132 / 142[3]	132 / 142[3]
598 x 1,850 x 600	598 x 1,850 x 600	598 x 1,850 x 600	598 x 1,850 x 600
1Φ, 2Line, 220~240V, 50Hz	3Φ, 4Line, 380~415V, 50Hz	3Φ, 4Line, 380~415V, 50Hz	3Φ, 4Line, 380~415V, 50Hz
Scroll	Twin Rotary	Scroll	Scroll
0.15	0.15	0.15	0.15
51	45	47	51
51	45	47	51
65	59	60	65
140	98	140	140
1270 x 1018 x 530	998 x 850 x 500	1270 x 1018 x 530	1270 x 1018 x 530
R290 (GWP=3)	R290 (GWP=3)	R290 (GWP=3)	R290 (GWP=3)
0.004	0.003	0.004	0.004
1.25	0.87	1,6	1,6
BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"
-25~35	-25~35	-25~35	-25~35
10~46	10~46	10~46	10~46
-25~43	-25~43	-25~43	-25~43

* On the scale from A+ (highest efficiency) to F (lowest efficiency) ** On the scale from A++ (highest efficiency) to D (lowest efficiency) *** On the scale from A+++ (highest efficiency) to D (lowest efficiency)

Specifications 2/2

EHS Mono R290 (Without Pump)

Accessories

Wired Remote Controller	Centralized Touch Controller	Mono Control Kit	DMS2.5 - Centralized Web server	Wi-Fi Kit	External Room Sensor	Backup Heater (3kW)	Extension wire kit	2-zone Thermistor kit
MWR-WW10*N	MCM-A300BN	MIM-E03FN	MIM-D01AN	MIM-H04EN	MRW-TA	MHC-300FP	MVW-EE300	MOS-T1

Indoor Unit / Outdoor Unit / Controller				AE260CNWMEG/EU AE080CXYDEK/EU MIM-E03FN	AE260CNWMEG/EU AE120CXYDEK/EU MIM-E03FN	AE260CNWMEG/EU AE160CXYDEK/EU MIM-E03FN
System						
Operation	Nominal Capacity	Heating A7/W35[1] / A7/W55[2]	kW	8.0/8.0	12.0/12.0	16.0/16.0
		Cooling A35/W18[1]	kW	8.0	12.0	14.0
	Power Input (Nominal)	Heating A7/W35[1] / A7/W55[2]	kW	1.63/2.67	2.50/4.0	3.55/5.52
		Cooling A35/W18[1]	kW	2.050	3.000	3.680
	COP (Nominal Heating) A7/W35[1] / A7/W55[2]		W/W	4.91/3.00	4.80/3.00	4.51/2.90
	EER (Nominal Cooling) A35/W18[1]		W/W	3.90	4.00	3.80
	SCOP LWT 35°C/ 55°C		W/W	4.85/3.55	4.90/3.65	4.70/3.55
	Seasonal Space Heating enr.efficiency ηs LWT 35°C/ 55°C		ETA%	191 / 139	193 / 143	185 / 139
	Seasonal Space Heating Eff. Class* LWT 35°C/ 55°C			A+++ *** / A++ **	A+++ *** / A++ **	A+++ *** / A++ **
	Current	MCA	A	16.1	16.1	16.1
		MFA	A	17.7	17.7	17.7
	Water Flow Rate	Nom	l/min	23.1	34.6	46.2
	Leaving Water Temperature	Heating	°C	15-75	15-75	15-75
		Cooling	°C	5-25	5-25	5-25
Functions	Smart Grid Ready/PV Enabled		-	•	•	•
	3-Step Quiet Mode		-	•	•	•
	2-zone Control		-	•	•	•
Tank Integrated Hydro Unit						
Power Supply			Φ, V, Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz
Water Tank Volume			litres	260	260	260
Declared Load Profile			L/XL	XL	XL	XL
Average water heating efficiency ηwh			ETA%	103%	103%	103%
Average Energy Efficiency Class			-	A+ *	A	A
Sound	Sound Pressure[4]	Heating Std	dB(A)	26	30	30
		Cooling Std	dB(A)	26	30	30
	Sound Power	Heating Std	dB(A)	40	44	44
Heater	Back-up heater Capacity	Default (Option)	kW	2 (4/6)	2 (4/6)	2 (4/6)
Piping	Water Pipe (Space Heating primary)	Inlet/Outlet	Φ, mm	28/28	28/28	28/28
	Water Pipe (Space Heating 2-zone)	Inlet/Outlet	Φ, mm	-	-	-
	Water pipe (DHW)	Inlet/Outlet	Φ, mm	22/22	22/22	22/22
	Water Pipe (Secondary return)	Inlet	Φ, mm	-	-	-
Dimensions	Net Weight		kg	140	140	140
	Net Dimensions (WxHxD)		mm	595 x 1,800 x 700	595 x 1,800 x 700	595 x 1,800 x 700
Outdoor Unit						
Power Supply			Φ, V, Hz	3Φ, 4Line, 380~415V, 50Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz
Compressor	Type		-	Twin Rotary	Scroll	Scroll
Base Heater	Capacity		kW	0.15	0.15	0.15
Sound	Sound Pressure[4]	Heating Std	dB(A)	45	47	51
		Cooling Std	dB(A)	45	47	51
	Sound Power	Heating Std	dB(A)	59	60	65
Dimensions	Net Weight		kg	98	140	140
	Net Dimensions (WxHxD)		mm	998 x 850 x 500	1270 x 1018 x 530	1270 x 1018 x 530
Refrigerant	Type			R290 (GWP=3)	R290 (GWP=3)	R290 (GWP=3)
	Factory Charging		tCO_2e	0.003	0.004	0.004
			kg	0.87	1.25	1.25
Piping	Water Pipe (Space Heating)	Inlet/Outlet	Φ, mm	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"
Operation						
Ambient Temperature		Heating	°C	-25~35	-25~35	-25~35
		Cooling	°C	10~46	10~46	10~46
		DHW	°C	-25~43	-25~43	-25~43

	AE260CNWMGG/EU AE080CXYDGK/EU MIM-E03FN	AE260CNWMGG/EU AE120CXYDGK/EU MIM-E03FN	AE260CNWMGG/EU AE160CXYDGK/EU MIM-E03FN
	8.0/8.0	12.0/12.0	16.0/16.0
	8.0	12.0	14.0
	1.63/2.67	2.50/4.0	3.55/5.52
	2.050	3.000	3.680
	4.91/3.00	4.80/3.00	4.51/2.90
	3.90	4.00	3.80
	4.85/3.55	4.90/3.65	4.70/3.55
	191 / 139	193 / 143	185 / 139
	A+++ *** / A++ **	A+++ *** / A++ **	A+++ *** / A++ **
	16.1	16.1	16.1
	17.7	17.7	17.7
	23.1	34.6	46.2
	15-75	15-75	15-75
	5-25	5-25	5-25
	•	•	•
	•	•	•
	•	•	•
	3Φ, 4Line, 380~415V, 50Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz
	260	260	260
	XL	XL	XL
	103%	103%	103%
	A+ *	A	A
	26	30	30
	26	30	30
	40	44	44
	6	6	6
	28/28	28/28	28/28
	-	-	-
	22/22	22/22	22/22
	-	-	-
	140	140	140
	595 x 1,800 x 700	595 x 1,800 x 700	595 x 1,800 x 700
	3Φ, 4Line, 380~415V, 50Hz	3Φ, 4Line, 380~415V, 50Hz	3Φ, 4Line, 380~415V, 50Hz
	Twin Rotary	Scroll	Scroll
	0.15	0.15	0.15
	45	47	51
	45	47	51
	59	60	65
	98	140	140
	998 x 850 x 500	1270 x 1018 x 530	1270 x 1018 x 530
	R290 (GWP=3)	R290 (GWP=3)	R290 (GWP=3)
	0.003	0.004	0.004
	0.87	1.25	1.25
	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"
	-25~35	-25~35	-25~35
	10~46	10~46	10~46
	-25~43	-25~43	-25~43

* On the scale from A+ (highest efficiency) to F (lowest efficiency) ** On the scale from A++ (highest efficiency) to D (lowest efficiency) *** On the scale from A+++ (highest efficiency) to D (lowest efficiency)

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[*] A+++ energy label is available according to EU No. 811/2013 label classification 2019, on a scale from D to A+++

[1] A2W Condition: (Heating) Water In/Out 30°C/35°C, Outdoor Air 7°C(DB)/6°C(WB); (Cooling) Water In/Out 23°C/18°C, Outdoor Air 35°C(DB).

[2] A2W Condition: (Heating) Water In/Out 47°C/55°C, Outdoor Air 7°C(DB)/6°C(WB).

[3] Standard/ 2-zone models.

[4] Sound pressure level is obtained in an anechoic room. Sound pressure level is a relative value, depending on the distance and acoustic environment. Sound pressure level may differ depending on operation conditions.

Specifications

EHS Mono R290 (Without Pump)

- Production of hot water to a maximum temperature of 75 °C
- New Climatehub, Hydro Unit and Control kit with embedded Wi-Fi module
- Low Ambient temperature operation
- SmartThings compatible
- 100% Heating Capacity at -10°C
- Easy installation and maintenance
- Premium Design
- Ideal for renovation applications
- Generates a low noise level (35dB)

Indoor Unit Outdoor Unit Controller				AE160DN*MPK/EU AE050CXYDEK/EU MIM-E03FN	AE160DN*MPK/EU AE080CXYDEK/EU MIM-E03FN	AE160DN*MPK/EU AE120CXYDEK/EU MIM-E03FN
System						
Operation	Nominal Capacity	Heating A7/W35[1] / A7/W55[2]	kW	5.0/5.0	8.0/8.0	12.0/12.0
		Cooling A35/W18[1]	kW	5.0	8.0	12.0
	Power Input (Nominal)	Heating A7/W35[1] / A7/W55[2]	kW	1.00/ 1.61	1.63/ 2.67	2.50/4.0
		Cooling A35/W18[1]	kW	1.280	2.050	3.000
	COP (Nominal Heating) A7/W35[1]		W/W	5.1/3.10	4.91/3.00	4.80/3.00
	EER (Nominal Cooling) A35/W18[1]		W/W	3.91	3.90	4.00
	SCOP LWT 35°C/ 55°C		W/W	5.00/3.60	4.85/3.55	4.90/3.65
	Seasonal Space Heating enr.efficiency ηs LWT 35°C/ 55°C		ETA%	201 / 141	191 / 139	193 /143
	Seasonal Space Heating Eff. Class* LWT 35°C/ 55°C			A+++ *** / A++ **	A+++ *** / A++ **	A+++ *** / A++ **
	Current	MCA	A	16.1	26.0	32.0
		MFA	A	17.6	28.6	35.2
	Water Flow Rate	Nom	l/min	14.4	23.1	34.6
	Leaving Water Temperature	Heating	°C	15-75	15-75	15-75
		Cooling	°C	5-25	5-25	5-25
Functions	Smart Grid Ready/PV Enabled		-	•	•	•
	3-Step Quiet Mode		-	•	•	•
	2-zone Control		-	•	•	•
Wall-Mounted Hydro Unit						
Power Supply			Φ, V, Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz
Sound	Sound Pressure[4]	Heating Std	dB(A)	26/28[3]	26/28[3]	28/30[3]
		Cooling Std	dB(A)	26/28[3]	26/28[3]	28/30[3]
	Sound Power	Heating Std	dB(A)	40/42[3]	40/42[3]	42/44[3]
Heater	Back-up heater Capacity	Default (Option)	kW	2 (4)	2 (4)	2 (4)
Piping	Water Pipe (Space Heating primary)	Inlet/Outlet	Φ, mm	28/28	28/28	28/28
	Water Pipe (Space Heating 2-zone)	Inlet/Outlet	Φ, mm	28/28	28/28	28/28
	Water pipe (DHW)	Inlet/Outlet	Φ, mm	28/28	28/28	28/28
	Water Pipe (Secondary return)	Inlet	Φ, mm	28/28	28/28	28/28
Dimensions	Net Weight		kg	43.0/54.03	43.0/54.03	43.0/54.03
	Net Dimensions (WxHxD)		mm	530 x 840 x 350	530 x 840 x 350	530 x 840 x 350
Outdoor Unit						
Power Supply			Φ, V, Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz	1Φ, 2Line, 220~240V, 50Hz
Compressor	Type		-	Twin Rotary	Twin Rotary	Scroll
Base Heater	Capacity		kW	0,15	0,15	0,15
Sound	Sound Pressure[4]	Heating Std	dB(A)	41	45	47
		Cooling Std	dB(A)	41	45	47
	Sound Power	Heating Std	dB(A)	55	59	60
Dimensions	Net Weight		kg	86	98	140
	Net Dimensions (WxHxD)		mm	998 x 850 x 500	998 x 850 x 500	1270 x 1018 x 330
Refrigerant	Type			R290 (GWP=3)	R290 (GWP=3)	R290 (GWP=3)
	Factory Charging		tCO_2e	0,002	0,003	0,004
			kg	0,63	0,87	1,25
Piping	Water Pipe (Space Heating)	Inlet/Outlet	Φ, mm	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"
Operation						
Ambient Temperature		Heating	°C	-25~35	-25~35	-25~35
		Cooling	°C	10~46	10~46	10~46
		DHW	°C	-25~43	-25~43	-25~43

* On the scale from A++ (highest efficiency) to D (lowest efficiency). ** On the scale from A+++ (highest efficiency) to D (lowest efficiency)

Accessories

Wired Remote Controller	Centralized Touch Controller	Mono Control Kit	DMS2.5 - Centralized Web server	Wi-Fi Kit	External Room Sensor	Backup Heater (3kW)	Extension wire kit	2-zone Thermistor kit
MWR-WW10*N	MCM-A300BN	MIM-E03FN	MIM-D01AN	MIM-H04EN	MRW-TA	MHC-300FP	MVW-EE300	MOS-T1

AE160DN*MPK/EU AE160CXYDEK/EU MIM-E03FN	AE160DN*MPK/EU AE80CXYDGK/EU MIM-E03FN	AE160DN*MPK/EU AE120CXYDGK/EU MIM-E03FN	AE160DN*MPK/EU AE160CXYDGK/EU MIM-E03FN
16.0/16.0	8.0/8.0	12.0/12.0	16.0/16.0
14.0	8.0	12.0	14.0
3.55/5.52	1.63/ 2.67	2.50/4.0	3.55/5.52
3.680	2.050	3.000	3.680
4.51/2.90	4.91/3.00	4.80/3.00	4.51/2.90
3.80	3.90	4.00	3.80
4.70/3.55	4.85/3.55	4.90/3.65	4.70/3.55
185 / 139	191 / 139	193 /143	185 / 139
A+++ *** / A++ **	A+++ *** / A++ **	A+++ *** / A++ **	A+++ *** / A++ **
32.0	16.1	16.1	16.1
35.2	17.7	17.7	17.7
46.2	23.1	34.6	46.2
15-75	15-75	15-75	15-75
5-25	5-25	5-25	5-25
•	•	•	•
•	•	•	•
•	•	•	•
1Φ, 2Line, 220~240V, 50Hz	3Φ, 4Line, 380~415V, 50Hz	3Φ, 4Line, 380~415V, 50Hz	3Φ, 4Line, 380~415V, 50Hz
28/30[3]	26/28[3]	28/30[3]	28/30[3]
28/30[3]	26/28[3]	28/30[3]	28/30[3]
42/44[3]	40/42[3]	42/44[3]	42/44[3]
2 (4)	6	6	6
28/28	28/28	28/28	28/28
28/28	28/28	28/28	28/28
28/28	28/28	28/28	28/28
28/28	28/28	28/28	28/28
43.0/54.03	43.0/54.03	43.0/54.03	43.0/54.03
530 x 840 x 350	530 x 840 x 350	530 x 840 x 350	530 x 840 x 350
1Φ, 2Line, 220~240V, 50Hz	3Φ, 4Line, 380~415V, 50Hz	3Φ, 4Line, 380~415V, 50Hz	3Φ, 4Line, 380~415V, 50Hz
Scroll	Twin Rotary	Scroll	Scroll
0,15	0,15	0,15	0,15
51	45	47	51
51	45	47	51
65	59	60	65
140	98	140	140
1270 x 1018 x 330	998 x 850 x 500	1270 x 1018 x 330	1270 x 1018 x 330
R290 (GWP=3)	R290 (GWP=3)	R290 (GWP=3)	R290 (GWP=3)
0,004	0,003	0,004	0,004
1,25	0,87	1,6	1,6
BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"	BSPP male 1"/BSPP male 1"
-25~35	-25~35	-25~35	-25~35
10~46	10~46	10~46	10~46
-25~43	-25~43	-25~43	-25~43

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[2] A2W Condition: (Heating) Water In/Out 47°C/55°C, Outdoor Air 7°C(DB)/6°C(WB).

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[4] Sound pressure level is obtained in an anechoic room. Sound pressure level is a relative value, depending on the distance and acoustic environment. Sound pressure level may differ depending on operation conditions.