

A modern, two-story building with a minimalist design. The building features large glass windows and a glass-enclosed entrance area on the left, which is brightly lit from within, casting a warm glow. The exterior walls are light-colored and have a panelled appearance. On the right side of the building, there is a dark-colored section. In front of this section, a large, grey outdoor air conditioning unit is mounted on a small base. The ground is covered in snow, and the sky is a deep blue, suggesting dusk or dawn. In the background, other buildings and trees are visible, some with snow on their roofs and branches.

SAMSUNG

EHS Mono HT Quiet

Renovation solution
for buildings
and homes.

samsung.com/heating

Introducing the Samsung EHS Mono HT Quiet

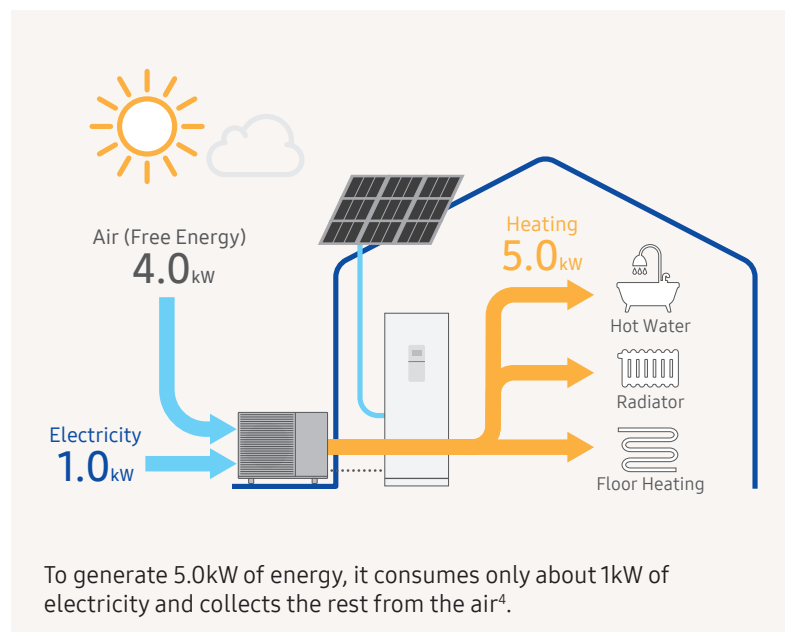
Samsung introduces its Eco Heating System (EHS) Mono High Temperature (HT) Quiet with the aim to service the growing home renovations market and expand the offer for new buildings. This premium heating solution seamlessly integrates and adds style and elegance to a multitude of exterior façades from renovation builds to luxury homes. Additionally it provides an added sense of ease and comfort for consumers and home owners as it meets all heating needs of a household while quietly operating in the background.



The European Green Deal

The European Green Deal strategy aims to reform the existing European energy system into an efficient and integrated one, which will link energy sources and infrastructure to support decarbonisation and achieve the climate targets set for 2050 (European Commission, 2020)¹. Driven by regulations and policies as stated in the European Green Deal, new solutions and innovations are necessary to reach a 2050 climate-neutral-economy (zero greenhouse gas emission). Heating in buildings, the way it is integrated and smart connectivity play an important role².

The EHS Mono HT Quiet is a heat pump system that provides energy efficient heating (SCOP* of A+++)³ and hot water for your home. 75 % of the energy used by a heat pump is renewable, making it a very sustainable energy solution³.



To generate 5.0kW of energy, it consumes only about 1kW of electricity and collects the rest from the air⁴.

¹ Source: 2020. Powering A Climate-Neutral Economy: An EU Strategy For Energy System Integration. [ebook] Brussels: European Commission, pp.4–17. Available at: [Accessed 24 June 2022].

² Source: 2020. Whitepaper The Indoor Climate Solution of tomorrow for Residential Buildings. Available at: <https://images.samsung.com/is/content/samsung/p5/ie/business/climate/indoorclimatesolutionoftomorrow/SamsungClimateSolutionsWhitepaper-TheIndoorClimateSolutionofTomorrowforResidentialBuildings.pdf> [Accessed 24 June 2022].

³ Source: Gupta, A. and Paranjape, N., 2020. Global Heat Pump Market Size By Product (Air Source, Ground Source, Water Source), By Application (Residential (Single Family, Multi Family), Commercial (Educational Institutes, Healthcare, Retail, Logistics & Transportation, Offices, Hospitality), Industrial), Industry Analysis Report, Regional Outlook, Application Potential, Price Trend, Competitive Market Share & Forecast, 2020–2026.

⁴ Based on internal analysis. The average COP (Nominal Heating) of the Samsung EHS Mono HT products is 5.05, so they are eco-friendly compared to conventional boiler systems, which generally have a COP of approximately 1.0.

* SCOP = Seasonal Coefficient of Performance.



Hot water temperature

The EHS Mono HT Quiet combines advanced features to achieve hot water temperature of 70°C⁵ and ensures that it is provided reliably.

Enlarged Heat Transfer Area by approximately 11.9% larger⁶ to help exchange heat quickly.

Strengthened Compression Parts by using Reed Valves.

New Scroll Compressor with Flash Injection.



Energy usage

Our EHS include a range of advanced technologies that help optimize your energy usage. The Samsung EHS Mono HT Quiet has a SCOP* of A+++ energy efficiency rating therefore it is proven to operate with a high level of efficiency.

The Samsung EHS Mono HT Quiet achieves good heating performance at low temperatures by using the R32 refrigerant. This helps mitigate the depletion of the ozone layer and lower the impact of global warming as they reduce the amount of refrigerant needed and cut down on CO₂ emissions compared to conventional R410A refrigerant¹⁰.



Low noise

With the introduction of new technologies for noise reduction, the EHS Mono HT Quiet operates quietly with noise levels as low as 35 dB(A)⁷ using a 4-step Quiet Mode.

Multi-serration Fan reduces fan noise by minimizing the air vortex.

2-layered Insulation with Groove Grid Felt

The 2-layered Insulation consists of Compression Felt on the compressor and an enclosure inside the cabinet, effectively blocks noise. The enclosure is made of a high-performance material⁸ with a patented⁹ Groove Grid Felt design, which absorbs the various noises produced by the compression parts and vibration.

Spring Grommet for the Compressor Mounting

absorbs the vibration produced by the compressor and minimizes the resulting noise.

Reinforced Crankshaft in the Compressor reduces low frequency resonance noise.

Quiet Mark Certificate The EHS Mono HT Quiet has received the Quiet Mark certificate. The Quiet Mark certificate is applicable for UK & EU territories only.



⁵ Leaving water temperature, when the outdoor temperature is between -15°C – 43°C. Results may vary depending on the actual usage conditions.

⁶ 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.

⁷ Based on internal testing. 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.

⁸ 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.

⁹ Patent No.: P2022-0012826.

* SCOP = Seasonal Coefficient of Performance.

¹⁰ Global Warming Potential rating: R32 refrigerant = 675 vs. R410A refrigerant = 2,088. The Samsung EHS Mono and Split (R32) only require 83 % of the refrigerant used in a conventional heating system (R410A) of the same capacity. So the level of CO₂ emissions of the EHS is 560 (675 x 0.83), which is 73 % less than the 2,088 produced by a conventional heating system.



Durable & corrosion resistant

The EHS Mono HT Quiet outdoor unit features improved anti-corrosion capabilities on the heat exchanger and chassis to ensure maximum durability in harsh environments.

Durafin™ Ultra: An anti-corrosive layer and a hydrophilic layer disperses water and reinforces its corrosion-resistance, which was proven using the Salt Spray Test (SST) over a period of 3,000 hours¹¹.

GI Steel Plate: The EHS Mono HT Quiet 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)¹². So, it protects the cabinet from rusting and ensures it can endure harsh conditions.

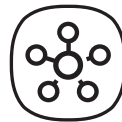
Antifreeze Protection features: Its Antifreeze Protection Control continuously monitors the operating status and the outdoor temperature, and prevents the water pipe from freezing by forcibly pumping the water after a certain period of time¹³.

Enhanced Flash Injection Technology: The Flash Injection Technology increases the flow of refrigerant, and the position and size of an injection hole is optimally designed to maximize the refrigerant volume. So, even at -30°C it can supply hot water of up to 60°C for continuous comfort in the coldest conditions¹⁴.



Aesthetic design

Its premium dark colour allows for the EHS Mono HT Quiet to seamlessly blend into a building's exterior. This outdoor unit is approximately 1m in height. So, it can be installed under a balcony window, enhancing the home interior as it does not affect the view out of the window.



Easy installation & integration with SmartThings

The outdoor units are designed to be simple to set up and maintain. The unit can be remotely controlled with SmartThings¹⁵.

¹¹ Based on internal testing, verified by TÜV Rheinland, 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.

¹² 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.

¹³ 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.

¹⁴ Based on internal testing on the EHS Mono HT Quiet outdoor unit compared to a conventional EHS outdoor unit.

¹⁵ Wi-Fi connection and Samsung SmartThings application account are required. Wi-Fi Kit to be ordered separately. Requires iOS 10.0 or later & Android 5.0 or later.

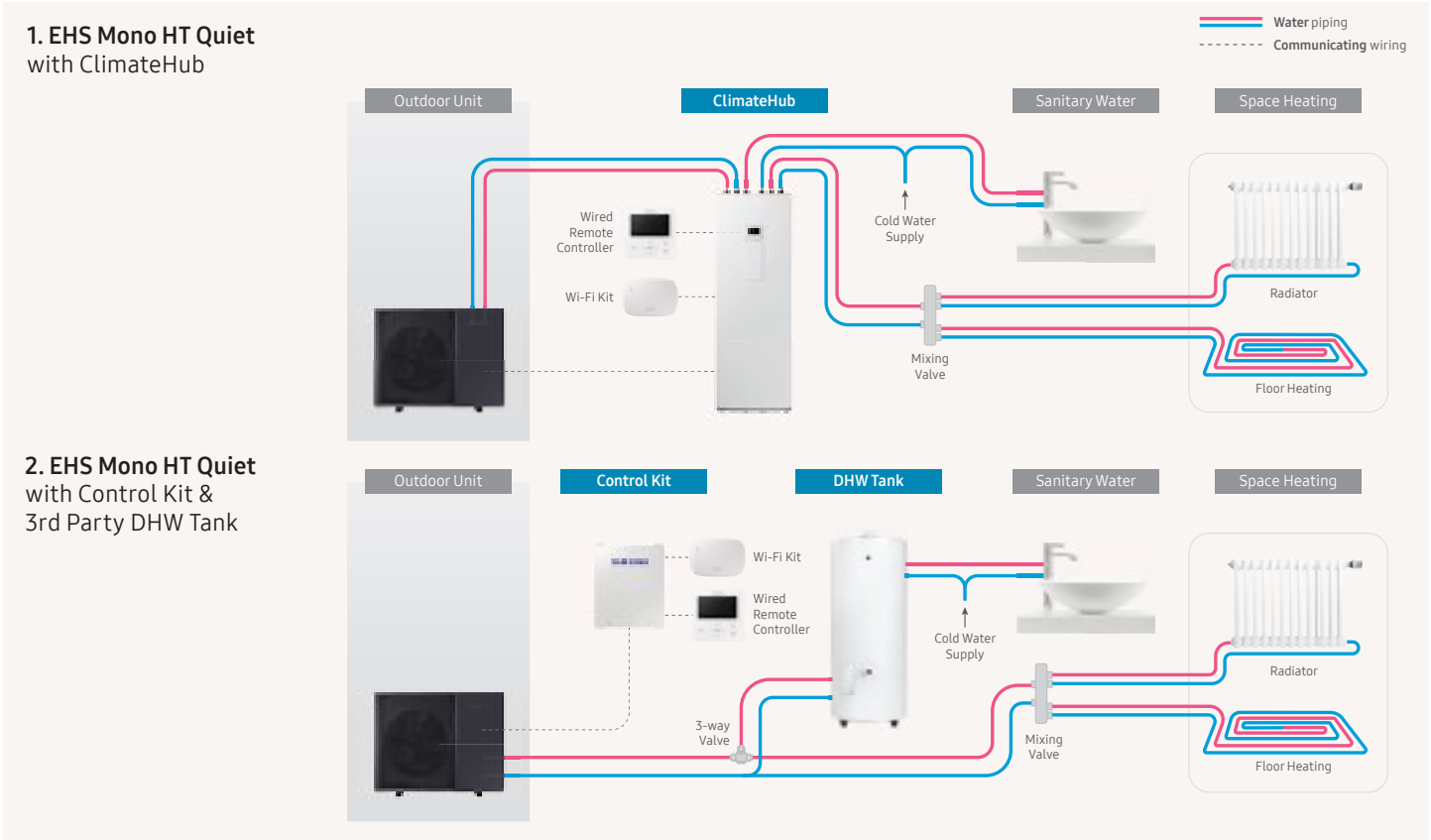


Specifications

Outdoor Unit			Indoor Unit		Control/Interface					
					    					
8.0 / 12.0 / 14.0kW (R32)			ClimateHub (200/260L)		Mono Control Kit		Wi-Fi Kit	Wired Remote Controller	Touch Controller	DMS2.5
			AE080BXYDEG	AE120BXYDEG	AE140BXYDEG	AE080BXYDGG	AE120BXYDGG	AE140BXYDGG		
Capacity										
Capacity*	Heating (A7/W35)	kW	8.0	12.0	14.0	8.0	12.0	14.0		
	Cooling (A35/W18)	kW	8.0	12.0	14.0	8.0	12.0	14.0		
Performance										
Leaving Water Temperature	Heating	°C	15 ~ 70	15 ~ 70	15 ~ 70	15 ~ 70	15 ~ 70	15 ~ 70		
	Cooling	°C	5 ~ 25	5 ~ 25	5 ~ 25	5 ~ 25	5 ~ 25	5 ~ 25		
Efficiency	SCOP Class (35°C)		A+++	A+++	A+++	A+++	A+++	A+++		
	SCOP Class (55°C)		A++	A++	A++	A++	A++	A++		
Sound Pressure**	Normal	dB(A)	42	46	47	42	46	47		
	Quiet Mode	dB(A)	35	35	35	35	35	35		
Operating Temperature Range	Heating	°C	-30 ~ 43	-30 ~ 43	-30 ~ 43	-30 ~ 43	-30 ~ 43	-30 ~ 43		
	Cooling	°C	10 ~ 46	10 ~ 46	10 ~ 46	10 ~ 46	10 ~ 46	10 ~ 46		
Electrical Data										
Power Supply		Φ, V	1Φ, 220 ~ 240V	1Φ, 220 ~ 240V	1Φ, 220 ~ 240V	3Φ, 380 ~ 415V	3Φ, 380 ~ 415V	3Φ, 380 ~ 415V		
Refrigerant										
Refrigerant Type			R32	R32	R32	R32	R32	R32		
Water Pipe	Inlet/Outlet	mm	28/28	28/28	28/28	28/28	28/28	28/28		
Dimensions										
Net Dimensions	W x H x D	mm	1270 x 1018 x 530	1270 x 1018 x 530	1270 x 1018 x 530	1270 x 1018 x 530	1270 x 1018 x 530	1270 x 1018 x 530		

The available line-up, including capacities and models, may vary by region. Features and specifications are subject to change without notice.
* 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].
** 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.

System Configuration



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Find your flow.

Create your perfect environment.

Learn more about Samsung Climate Solutions at:
www.samsung.com/climate

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Samsung Electronics Co., Ltd. participates in the Eurovent Certification Programme (ECP) for Air Conditioners (AC), Variable Refrigerant Flow (VRF) and Liquid Chilling Packages Heat Pump (LCP-HP). To check the ongoing validity of certification, please visit: www.eurovent-certification.com

Samsung Electronics Air Conditioner Europe B.V.
Evert van de Beekstraat 310, 1118 CX Schiphol
P.O. Box 75810, 1118 ZZ Schiphol
+31 (0)8 81 41 61 00
The Netherlands

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