

Stay warm and stay green

All-in-one system that will keep you warm while keeping our planet greener for the future of our children.

Learn more by visiting

www.dvmsystem.com

www.samsung.com



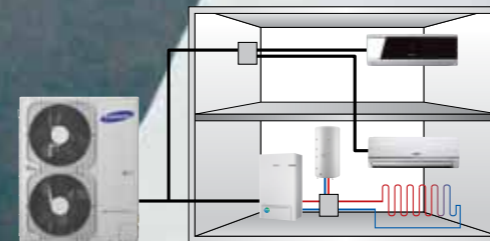
* MCS is ongoing and expected to be finalized in 2011

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SAMSUNG

Space for Partnership

SAMSUNG Eco Heating System



SAMSUNG



SAMSUNG Eco Heating System


During the past few decades, giant technological leaps have enriched our lives. However, these improvements have left us with serious issues such as global warming and resource depletion, problems that will only threaten our planet and the future of our children.

Samsung has focused its efforts in developing a product that saves both our environment and resources; ensuring the children of the world with a brighter and greener future. Our continuous effort has now been applied to the residential heating, for which we have developed our all in one eco heating system.

With all the advantages of Samsung's new EHS, we can make the future of our planet a little bit more sustainable.



PlanetFirst™ with Samsung Electronics



Samsung believes in the power of innovation today for a sustainable tomorrow

Every day, all of us need to seek new ways to reduce energy consumption at home and at work. To fulfill customer's greener way of life, Samsung continues to manufacture eco-friendly products. Unfortunately, many consumers are unaware of green products and feel there are not enough options. So now, Samsung created PlanetFirst™ which applies to all of Samsung's eco friendly products, partnerships or internal programs.

PlanetFirst™ is the name that easily identifies eco-friendly products from Samsung. These products connect customers' desire of living green to the joy of using the latest technology. PlanetFirst™, a unique communication, makes Samsung's commitment, mind-set, and approach to greener living clear and straightforward. As Samsung continues to work, develop, engineer and design innovative products to satisfy customers, PlanetFirst™ also means these technologies, designs and manufacturing processes are greener. Your choice of PlanetFirst™ products help preserve nature and reduce energy use.

Samsung is always striving to find new and better ways to reduce our impact on the environment without sacrificing complete satisfaction in its products. Samsung started by simply reducing, reusing and recycling; then by challenging employees to seek out and adopt extraordinary breakthroughs that make Samsung's processes and products healthier, safer and less carbon dependent. So help the cause and start your own journey in being green with PlanetFirst™.

Eco-labels & Declaration

Samsung Electronics makes on-going efforts to develop environment-friendly products that minimize the negative impacts on the environment in every aspect of its products, from raw material procurement to production, transportation, usage and final disposal. Concerns for the environment are at the core of each product development.

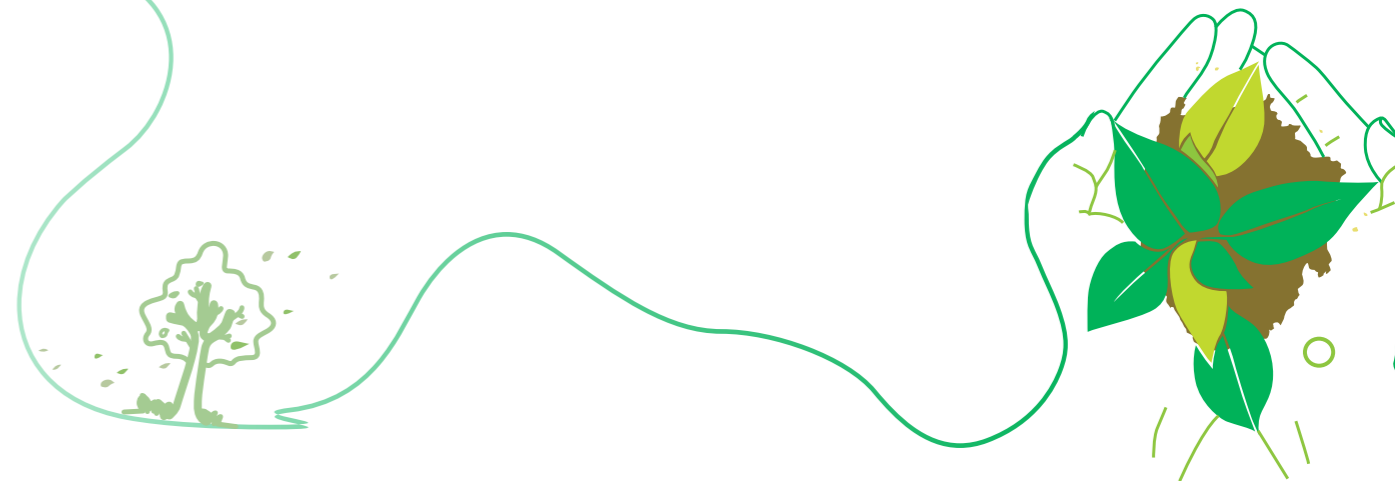
Samsung's environment-friendly technologies and recycling programs have been highly recognized via various global approvals and awards worldwide.



Four Seasons of Hope

Samsung's Four Seasons of Hope is all about kids. It's about using the power of our brand to give something back to the communities we serve.

Samsung's Four Seasons of Hope supports community-based foundations and charities headed by some of the countries' favorite sports legends. Samsung pledges to raise national awareness and funds for these outstanding charities and to identify how others can also make a difference in the lives of these children and families.



Samsung Recycling DirectSM

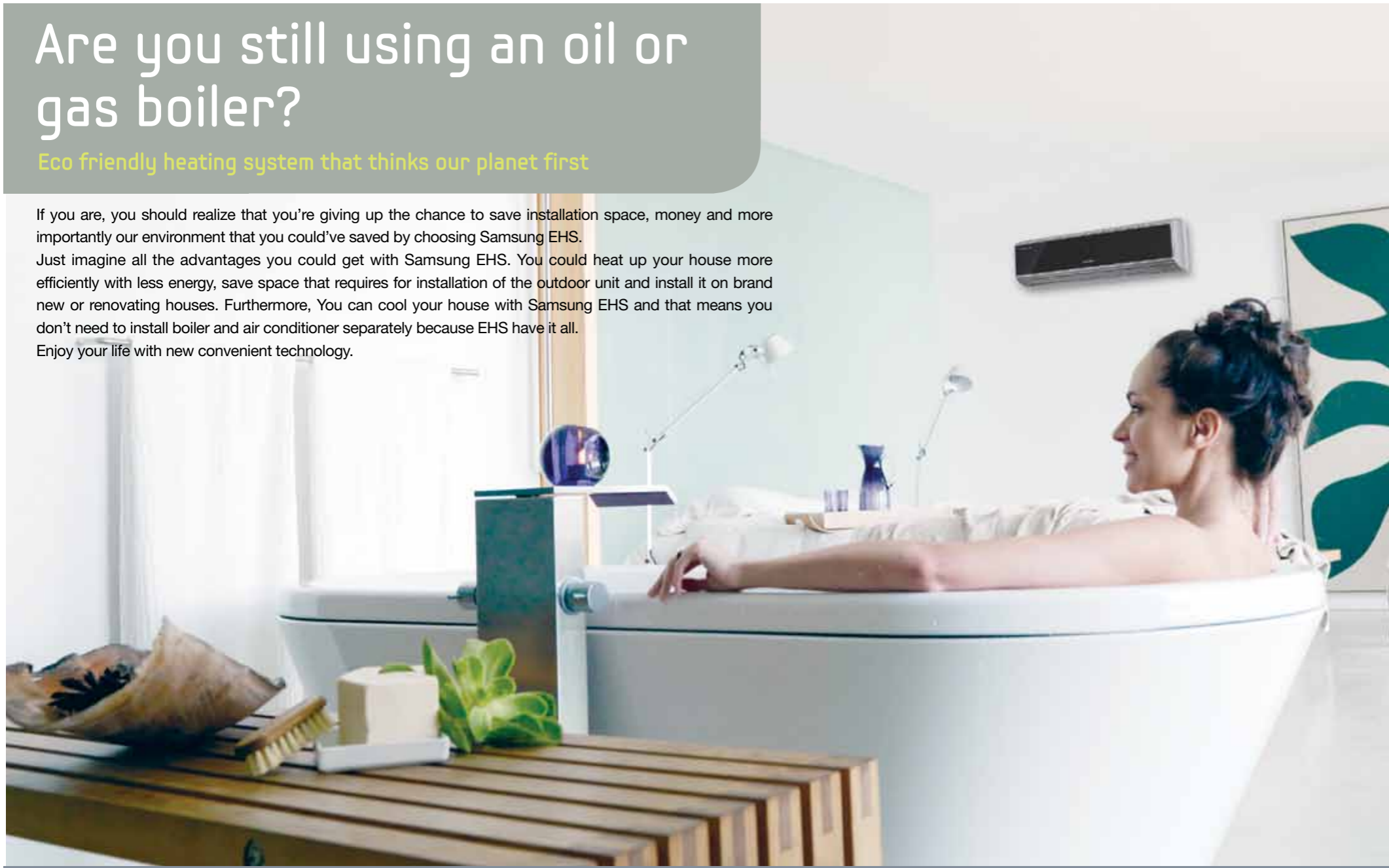
All good things come to an end. Let's make sure it's a Green end.

As technology continually evolves, so will your digital lifestyle. When you upgrade your consumer electronics, you will need to recycle your old products responsibly. That's why we're proud to reaffirm our commitment and responsibility to recycle, using DirectSM, the new Samsung Recycling program launched on October 1st, 2008.

Are you still using an oil or gas boiler?

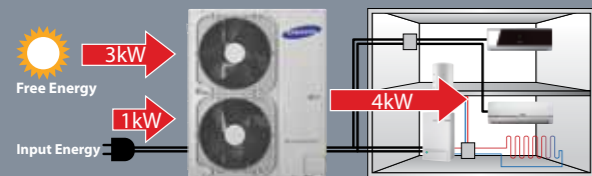
Eco friendly heating system that thinks our planet first

If you are, you should realize that you're giving up the chance to save installation space, money and more importantly our environment that you could've saved by choosing Samsung EHS. Just imagine all the advantages you could get with Samsung EHS. You could heat up your house more efficiently with less energy, save space that requires for installation of the outdoor unit and install it on brand new or renovating houses. Furthermore, You can cool your house with Samsung EHS and that means you don't need to install boiler and air conditioner separately because EHS have it all. Enjoy your life with new convenient technology.



What is a heat pump?

A heat pump is an energy efficient system that uses the heat from ambient air for heating and hot water. Using a heat pump system for basic heating and hot water to your house is an energy efficient and environmentally friendly solution.

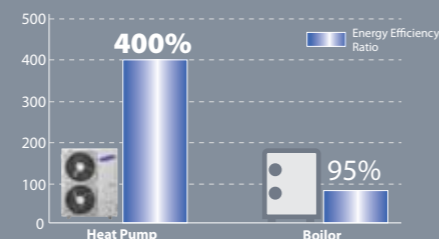


How does it work?

By using the ambient air and transferring this heat into the house through a hydronic system such as under floor heating, a heat pump requires less power input for greater power output than conventional boilers.

For every kWh of energy input, a heat pump can deliver up to more than 4kWh energy output. This means an energy efficiency ratio of more than 400%. In comparison high energy efficiency boiler systems can only reach an efficiency ratio of up to 95%. In other words, the boiler system will consume more energy than that it will deliver.

energy efficiency ratio



What are the benefits?

Using a heat pump system for basic heating and hot water in your house is an energy efficient and environmentally friendly solution. The advantage for the end is the energy efficiency which will lead to reduced energy bills.

EU has defined heat pump systems as renewable energy products. With this classification end users can apply for government subsidies or tax refunds when installing a heat pump system. You can contact our local installer near you to find out if you can apply for this as well.



Samsung EHS Story



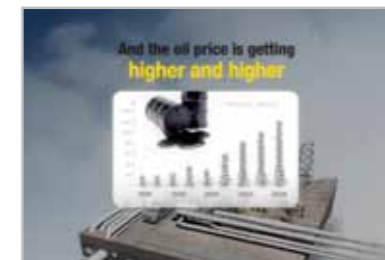
The EHS Story

Samsung's new economical and ecological domestic heat pump system can be integrated into your home and provide heating, hot water supply and air conditioning using only one system.



Global Warming?

Human activity has resulted in an increase in Greenhouse gas emissions (CO₂).



Oil is running out!

As the oil price is getting higher, we need renewable energy resources.



Un-Sustainable Resources

Rising oil prices have lead to the associated operating costs of heating a home to increase.



EHS System

Samsung's EHS product is a highly efficient, all-in-one heat pump system that results in savings to Initial purchase costs and the space needed for an extra outdoor unit.



Rapid Air Heating

During winter operation, Samsung's EHS Air-conditioning combined with under floor heating provides a rapid & efficient response to the user's heating demand.



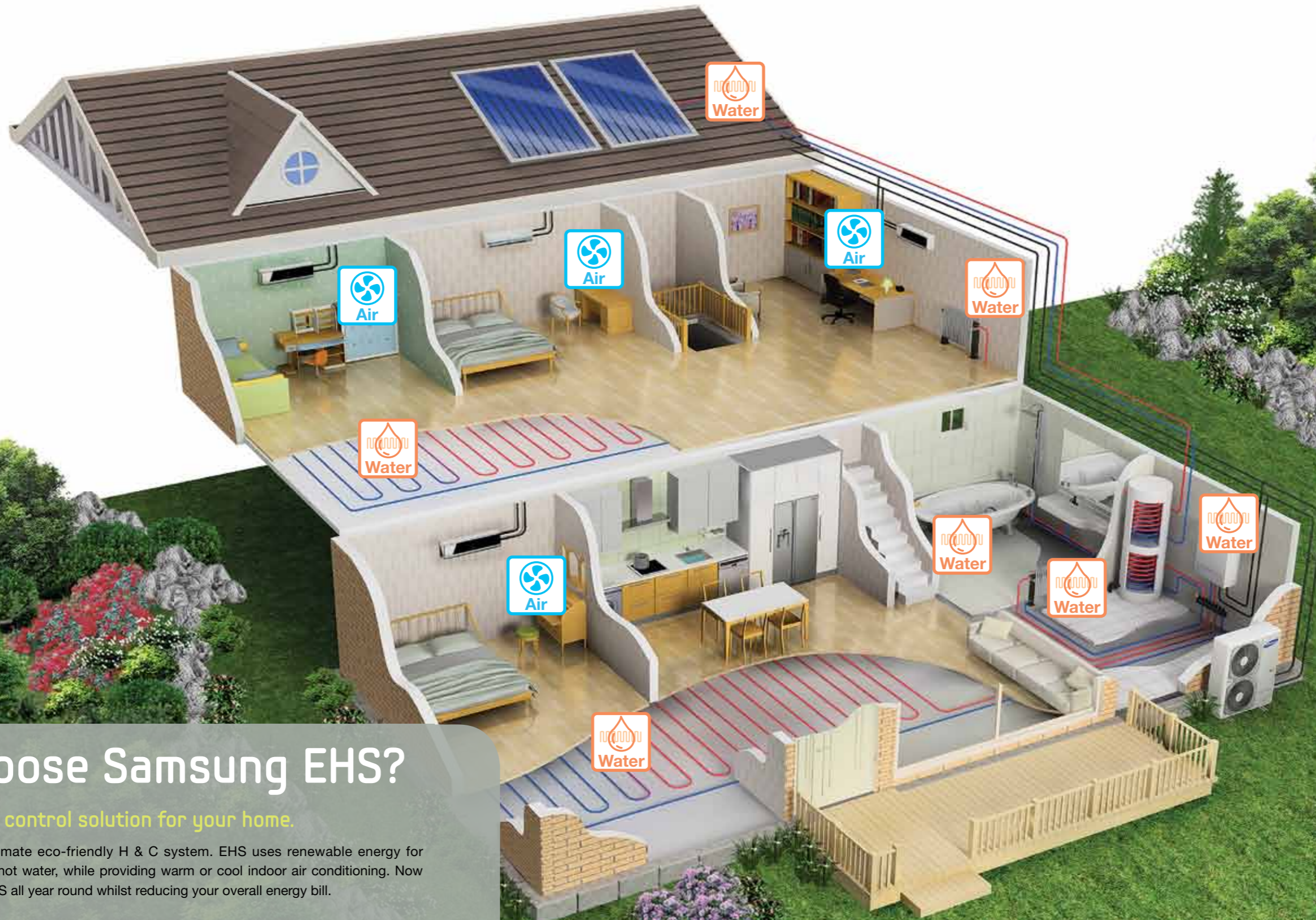
Air Cooling

During summer operation, the integrated high efficiency air conditioning system can be operated in cooling mode and provide a more comfortable living environment.



Cost Saving?

Samsung's EHS, with its industry leading operating efficiencies, can reduce your running costs by up to a third when compared to a standard gas boiler system.



Why choose Samsung EHS?

A perfect climate control solution for your home.

Samsung EHS is the ultimate eco-friendly H & C system. EHS uses renewable energy for heating home floors and hot water, while providing warm or cool indoor air conditioning. Now you can use Samsung EHS all year round whilst reducing your overall energy bill.



Air-to-Air

Bringing comfort to your home whilst rapidly achieving a stable temperature. It can also be used for cooling in the summer and heating in the winter.



Air Cooling



Air Heating



Air-to-Water

Bringing comfort to your home with a cost effective and efficient system where energy from the outside air is used to heat your radiator, under floor and sanitary water supply.



Under Floor Heating



Radiator

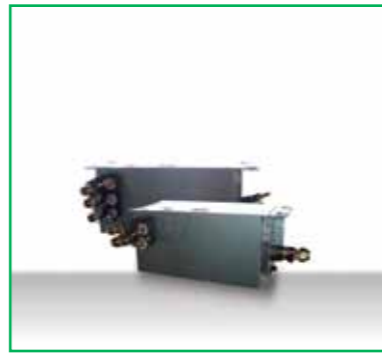


Hot Water



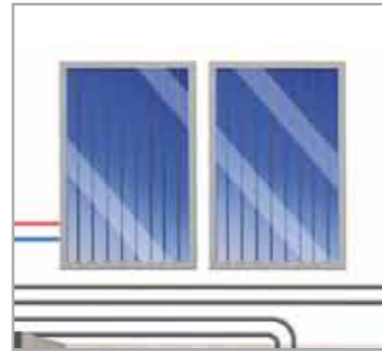
Outdoor Unit

Extracts heat from the outside air and raises inside temperature to a level high enough to supply heating during winter, or emits the heat inside to outside during summer.



EEV Kit

Electronic Expansion Valve Kit controls liquid refrigerant flow.



Solar Panel (Field Supply)

Supplies about 70% of required energy to provide domestic hot water by using the 100% environment-friendly solar thermal energy.



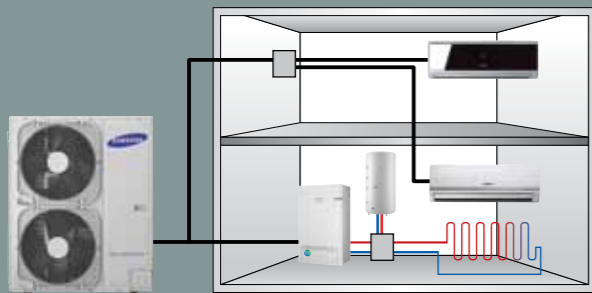
Indoor Unit

Supplies air heating or cooling.



EHS Overview

Samsung EHS is an all-in-one system with highly efficient heat pump technology that keeps your house at a comfortable temperature, and your heating and cooling costs low all year round! This economical and ecological system not only lowers your energy costs and CO2 emissions, but also provides various combinations of air and water solutions for heating and cooling that meet different user needs during all four seasons.



Hydro Unit

Provides heated water.



Domestic Hot Water Tank (Option)

Supplies domestic hot water.



Under Floor Heating & Radiator(Field Supply)

Water warmed up in hydro unit circulates through the underfloor and radiators then makes your home pleasant and comfortable.



System Controller(Option)

Adjusts various options and displays the operating status.



Sanitary Warm Water(Field Supply)

Delightfully warm and safe water at all times.



Room Thermostat(Field Supply)

Auto-adjusts to the desired room temperature.

Unique and innovative technology in one system

Are you considering additional heating equipment because you are shivering in your house while waiting for your boiler to heat up? With Samsung's Eco Heating System there is no need anymore for such concerns. The EHS is equipped with the innovative TDM technology, which makes air heating and water heating possible with using only a single system. Save space, energy and money by installing Samsung's Eco Heating System, the only heat pump system that can heat or cool through both air and water.

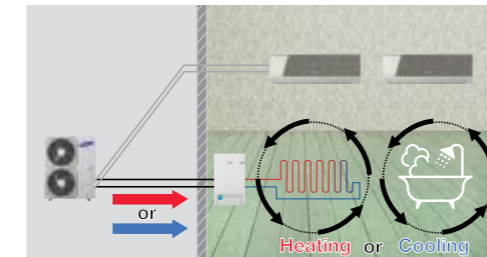


Perfect all-in-one system

Samsung has developed the innovative TDM (Time division multi) technology to create EHS. This TDM allows EHS to operate not only in air-to-water, but also in air-to-air mode. Combining these two operation modes allow you to save space and money on installing the outdoor unit because single outdoor unit is all you need.

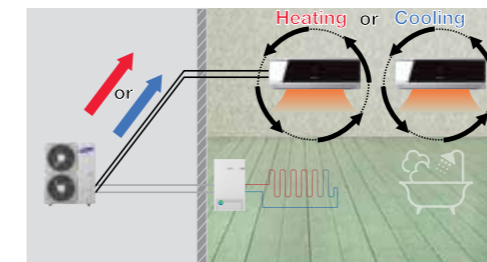
Samsung EHS

Air to Water - Heating or Cooling



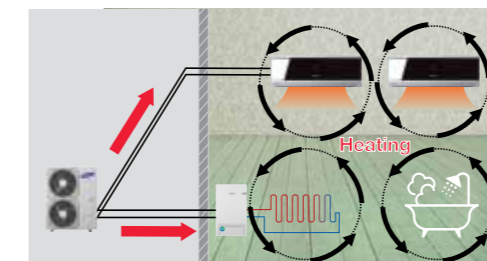
In the air-to-water mode you can use EHS for hot water and heating through radiators or under floor heating. It is much more efficient than using boiler which means it can heat up the house faster with less energy with its 400% efficiency rate compare to 95% efficiency rate of the conventional boiler. EHS can provide cooled water for fan-coil unit to cool the room.

Air to Air - Heating or Cooling



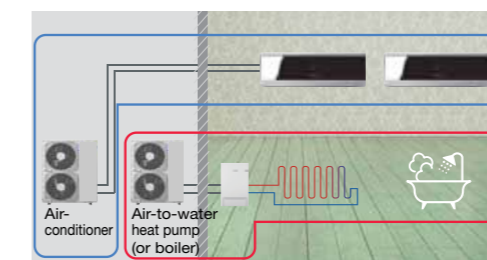
Unique EHS feature is the air-to-air operation mode. In this operation mode you can use air conditioning indoor units for heating and cooling. Advantage of air-to-air heating is that raising the indoor temperature can be realized much quicker compared to under floor or radiator heating. Next to quick heating solution, the air-to-air operation mode also can be used for cooling. During those hot summer days the EHS system can be used as air conditioning to create a cool indoor temperature.

Air to Air + Air to Water



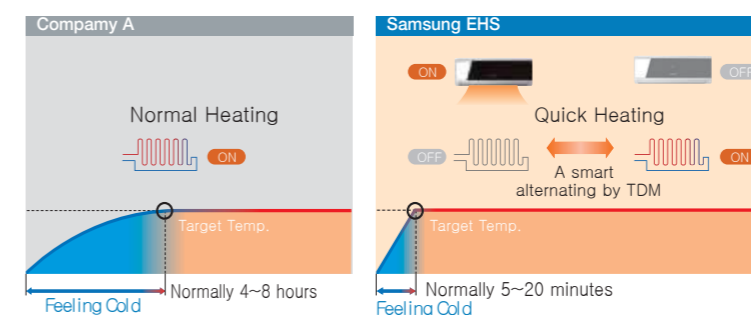
The most attractive feature of the EHS is that you can use air-to-water mode with air-to-air mode at the same time if you need to. This means that in cold winter, you can turn on the air conditioner for immediate warmth while warming up the radiator for optimize heating. Also, you can cool your house with air conditioner in summer while heating the water for your warm shower.

Company A



Company A's heating system requires two separate outdoor units to operate Air conditioner and boiler. Since there are two separate outdoor units to heat up the room it will consume more energy.

Quick Heating by TDM Technology



Floor heating is well known as the optimal heating option for indoor thermal comfort. However, it takes 4~8 hours to heat up the room after it is turned on. Samsung EHS TDM technology quickens that process by blowing hot air along with floor heating to warm up the room.



2010 Mostra Convegno

Samsung EHS was awarded for being an innovative energy-saving and efficient system

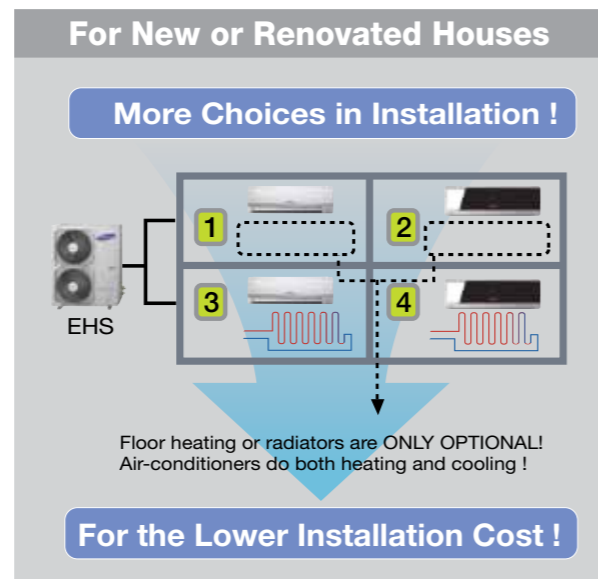
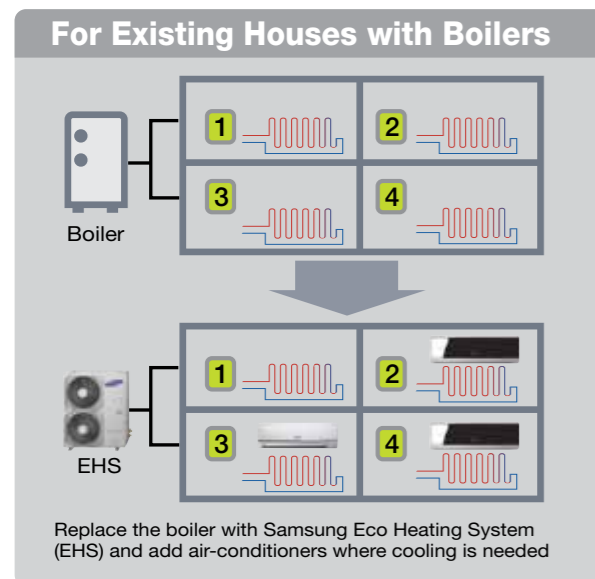
Feature

Installation for more savings and comfort

Do you want to refurbish the heating system to save energy and money because you are living in a house with boiler and burdened by high oil or gas prices? Or are you still trying to decide from many different heating systems to be furnished in your new or renovated house because you are not sure which ones will give you the most comfort while saving money?

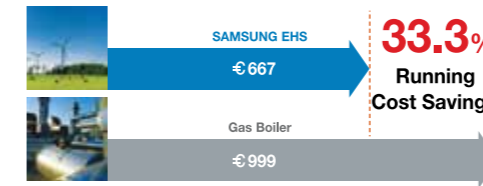
Samsung Eco Heating System is the one you have been looking for because it supports diverse installation options. You can replace existing boilers with Samsung EHS for existing houses with boilers or choose one of many installation options to match your budget.

Diverse Installations



Running Costs-Reduction of Up to 33.3%

Samsung EHS, known for its world class efficiency (11kW floor heating system with COP of 4.55), can reduce 33.3% of your running costs as compared to a gas boiler.

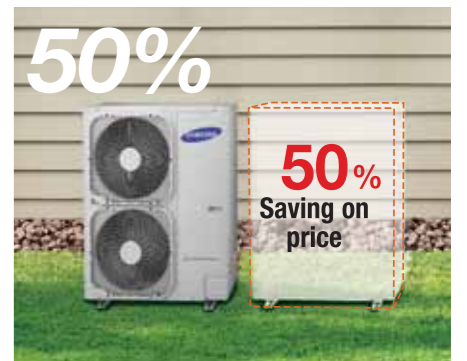


* Based on the internal estimation for a typical European house



Price and Space Reduction of Up to 50%

With an all-in-one outdoor unit capable of both air-to-water and air-to-air functions, Samsung EHS saves you in terms of the low initial purchase price & installation fee as well as the space needed for an extra outdoor unit.



High Performance at Low Temperature

Samsung EHS is made up of an inverter compressor optimally operated according to the outdoor temperature, offering heating capacity of 90% at -10°C and reliable antifreezing protection at -20°C.

* Based on 6kW and 11kW products



Typical Seasonal Usage

Different heating solution is needed for each seasons with different climate. Samsung EHS can be used all year long no matter weather it's hot or cold because single outdoor unit can be used for both air-to-water or air-to-air functions for cooling and heating.



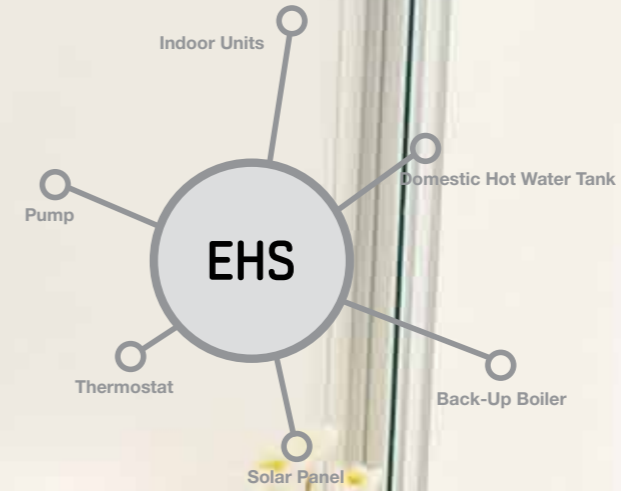
Flexibility

Samsung EHS can be implemented with other optional products such as Domestic Hot Water Tank, Thermostat, Pump, Solar Panel or Back-Up Boiler, making it more versatile than ever.












Samsung EHS for Healthy tomorrow

Samsung EHS product line-up - A wide range of choice



SAMSUNG EHS Line-Up

Type	6.0/7.0/8.0kW	11.0/14.0/16.0kW
Outdoor Unit		
Hydro Unit		
Type	200L	300L
DHW Tank (Optionally Solar Connected)		
Type	Model	Capacity
Indoor Unit	 Vivace	2.2/2.8/3.6/5.6/7.1kW
	 Neo Forte	2.2/2.8/3.6/5.6/7.1kW
	 Slim Duct	2.2/2.8/3.6/4.5/5.6kW

Outdoor Unit



Features

- One outdoor unit gets done the task that two outdoor units used to do
 - Air-to-Water (A2W) and Air-to-Air (A2A)

Specification

Model			RD060PHXEA	RD070PHXEA	RD080PHXEA	RD110PHXEA	RD140PHXEA	RD160PHXEA
Function	-		A2A/A2W multi	A2A/A2W multi	A2A/A2W multi	A2A/A2W multi	A2A/A2W multi	A2A/A2W multi
Hydro Unit Combination	-		NH080PHXEA	NH080PHXEA	NH080PHXEA	NH160PHXEA	NH160PHXEA	NH160PHXEA
Power Supply	Ø/V/Hz		1/230/50	1/230/50	1/230/50	1/230/50	1/230/50	1/230/50
Max Operating Current	Trip	A	13.5	16	18	25	28	30
Recommended MCCB		A	25	25	25	40	40	40
Normal Capacity *1)	Heating	W	6,000	7,000	8,000	11,000	14,000	16,000
	Cooling	W	7,000	7,500	8,000	11,300	14,200	15,500
Normal Input *1)	Heating	W	1,305	1,590	1,925	2,420	3,210	3,900
	Cooling	W	1,945	2,205	2,540	2,900	3,940	4,700
COP or EER *1)	Heating	W/W	4.60	4.40	4.15	4.55	4.36	4.10
	Cooling	W/W	3.60	3.40	3.15	3.90	3.60	3.30
ESEER *2)	Heating	W/W	5.20	5.50	4.90	5.96	5.66	5.50
	Cooling	W/W	5.300	6,200	7,200	10,000	12,900	14,500
Normal Capacity *3)	Heating	W	5,000	5,300	5,800	8,500	10,200	10,700
	Cooling	W	5,000	5,300	5,800	8,500	10,200	10,700
Normal Input *3)	Heating	W	1,555	1,875	2,250	2,860	3,850	4,530
	Cooling	W	1,850	2,040	2,320	2,700	3,520	4,040
COP or EER *3)	Heating	W/W	3.40	3.30	3.20	3.50	3.35	3.20
	Cooling	W/W	2.70	2.60	2.50	3.15	2.90	2.65
ESEER *4)	Heating	W/W	3.60	3.70	3.70	4.91	4.82	4.29
	Cooling	W/W	4.04	4.04	4.04	3.94	3.94	3.94
COP or EER (A2A) *5)	Heating	W/W	3.21	3.21	3.21	3.46	3.46	3.46
	Cooling	W/W	3.21	3.21	3.21	3.46	3.46	3.46
Max. A2A Indoor Connection (Cooling)	Max. Number	EA	3	3	3	4	4	4
	Max. Capa.	kW	6.0	7.0	8.0	11.0	14.0	14.0
	Min. Capa.	kW	3.0	3.5	4.0	6.0	6.4	6.4
Operating Range(A2W)	Heating	°C	-20~35	-20~35	-20~35	-20~35	-20~35	-20~35
	Cooling	°C	10~46	10~46	10~46	10~46	10~46	10~46
	DHW	°C	-20~43	-20~43	-20~43	-20~43	-20~43	-20~43
Operating Range(A2A)	Heating	°C	-20~24	-20~24	-20~24	-20~24	-20~24	-20~24
	Cooling	°C	10~43	10~43	10~43	10~43	10~43	10~43
Sound Pressure *6)	Heating	dB(A)	48	48	49	49	51	53
	Cooling	dB(A)	48	48	50	50	52	54
Dimensions (WxHxD)	Net	mm	880x798x310	880x798x310	880x798x310	932x1,128x375	932x1,128x375	932x1,128x375
	Gross	mm	1,023x891x413	1,023x891x413	1,023x891x413	1,091x1,286x472	1,091x1,286x472	1,091x1,286x472
	Net	kg	71	71	71	108	108	108
Weight	Gross	kg	79	79	79	116	116	116
	Liquid	Ø, mm(inch)	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
Piping Connections	Gas	Ø, mm(inch)	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")
	Length	m	30	30	30	70	70	70
Piping Installation Limitation	Height	m	15	15	15	30	30	30

*1)~*4) A2W rating conditions in accordance with Eurovent Rating Standard for Liquid Chilling Packages 6/C/003-2008.

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

*2) A2W Condition for ESEER(Cooling) at Water Out 18°C

*3) A2W Condition#2: (Heating) Water In/Out 40°C / 45°C, Outdoor Air DB/WB 7°C / 6°C; (Cooling) Water In/Out 12°C / 7°C, Outdoor Air DB 35°C

*4) A2W Condition for ESEER(Cooling) at Water Out 7°C

*5) A2A rating condition : (Heating) Indoor Air DB/WB 20°C / 15°C, Outdoor Air DB/WB 7°C / 6°C; (Cooling) Indoor Air DB/WB 27°C / 19°C, Outdoor Air DB/WB 35°C / 24°C

*6) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

Hydro Unit



Features

- Multi functional controller for delicate control

Specification

Model			NH080PHXEA			NH160PHXEA			
Power Supply	Ø/V/Hz		1/230/50			1/230/50			
Normal Capacity	Heating	W	6,000	7,000	8,000	11,000	14,000	16,000	
	Cooling	W	7,000	7,500	8,000	11,300	14,200	15,500	
Leaving Water Temperature Range	Heating	°C	15~55 (H/P : 25~55)			15~55 (H/P : 25~55)			
	Cooling	°C	5~25			5~25			
Dimension (WxHxD)	Net	mm	510x850x315			510x850x315			
	Gross	mm	564x1,024x412			564x1,024x412			
Weight	Net	kg	45			48			
	Gross	kg	55			58			
Piping Connections	Refrigerant	Liquid	Ø, mm(inch)	9.52 (3/8")			9.52 (3/8")		
		Gas	Ø, mm(inch)	15.88 (5/8")			15.88 (5/8")		
	Water	Inlet	inch	BSPP male 1 1/4"			BSPP male 1 1/4"		
		Outlet	inch	BSPP male 1 1/4"			BSPP male 1 1/4"		
Water Pump	Flow Rate	kg/min	17.0	20.5	23.0	31.5	40.1	45.9	
Electric Heater	Input Power	W	4,000			6,000			
Expansion Vessel	Volume	Liter	8.0			8.0			
Pressure Relief Valve	Relief Pressure	bar	2.9			2.9			
Air Purge Valve	Size	inch	BSPP male 3/8"			BSPP male 3/8"			
Service Valve	Size	inch	BSPP male 1 1/4"			BSPP male 1 1/4"			
External Control	Back up Boiler	-	230VAC 1A(DO)			230VAC 1A(DO)			
	Room Thermostat	-	230VAC 1A(DI)			230VAC 1A(DI)			
	Solar Pump	-	230VAC 1A(DI)			230VAC 1A(DI)			
	Valves, 2 or 3way	-	230VAC 1A(DO)			230VAC 1A(DO)			

DHW Tank



Features

Water tank that saves energy with domestic heating system

Specification

Model	Standard		Solar Connected			
	NH200WHXEA	NH300WHXEA	NH200WHXES	NH300WHXES		
Pressure Vessel	Material Quality	AISI444/DIN 1.4521		AISI444/DIN 1.4521		
	Volume Capacity	Liter	198	287	198	287
Power Supply	Ø/V/Hz	1/230/50		1/230/50		
Electric Element	Capacity	kW	2.6			
	Material	-	Incoloy 825			
Heating Coil	Material Quality	-	Duplex LDX 2101			
	Heating Area	m ²	0.71			
Heating Coil for Solar	Material Quality	-	-	Duplex LDX 2101	Duplex LDX 2101	
	Heating Area	m ²	-	-	0.47	0.47
Insulation	Material Quality	-	Polyrethane form			
	Thickness	mm	40			
Insulation Jacket	Material Quality	-	Epoxy-Coated Mild Steel-White			
Dimensions Overall	Diameter	mm	585	585	585	585
	Height	mm	1,130	1,580	1,130	1,580
Connections	Cold Water Inlet	inch	3/4" FBSP			
	Hot Water Outlet	inch	3/4" FBSP			
	Recirculation	mm	Ø22mm Staight tube(For Compression Fitting)			
	Flow & Return	mm	2x3/4" Female			
Sensor Poket(s)	mm	Ø8mm Inside, 1/2"Thread				
Weight	Overall	kg	47	61	51	65
Max. Water Temperature	°C	70		70		
Other	Packaging	-	Eco Foam PUF			
	Adjustable Legs	pcs	3			

Indoor Unit

Vivace



Features



- Absorb unpleasant odors with Deodorizing Filter
- Have a deep comfortable sleep with Good sleep II
- Mirror Design (Add chic & graceful Looking)

Specification

Model		NH022VHXEA	NH028VHXEA	NH036VHXEA	NH056VHXEA	NH071VHXEA	
Performance Capacity	Cooling *1)	W	2,200	2,800	3,600	5,600	6,800
	Heating *2)	W	2,500	3,200	4,000	6,300	7,000
Power	Input	W	30	30	35	50	50
	Running Current	A	0.13	0.18	0.19	0.30	0.30
Power Supply	Ø/V/Hz	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50	
Sound	Sound Pressure(High/Low) *3)	dB(A)	31/21	31/21	35/21	40/30	41/30
Fan	Type	-	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
Airflow Rate	Cooling (High)	m ³ /min	7.0	7.0	8.2	13.3	13.3
	Heating (High)	m ³ /min	7.3	7.3	8.8	14.0	14.0
Refrigerant	type	-	R410A	R410A	R410A	R410A	R410A
	Control Method	-	Ecternal EEV *4)	Ecternal EEV *4)	Ecternal EEV *4)	Ecternal EEV *4)	Ecternal EEV *4)
Piping Connections	Liquid (Flare)	Ø, mm	6.35	6.35	6.35	6.35	9.52
	Gas (Flare)	Ø, mm	12.70	12.70	12.70	12.70	15.88
	Drain (Quick Lock)	Ø, mm	ID 18 hose	ID 18 hose	ID 18 hose	ID 18 hose	ID 18 hose
Weight	Net Weight	kg	8.5	8.5	8.5	12.0	15.0
	Shipping Weight	kg	11.5	11.5	11.5	15.0	15.0
Set Size	Net Dimensions (WxHxD)	mm	825x285x189	825x285x189	825x285x189	1,065x298x218	1,065x298x218
	Shipping Dimensions (WxHxD)	mm	900x349x252	900x349x252	900x349x252	1,137x377x299	1,137x377x299

*1) Nominal cooling capacities are based on: Indoor temperature: 27°C DB, 19°C WB, Outdoor temperature: 35°C DB, 24°C WB, Equivalent refrigerant piping: 7.5m, Level differences: 0m

*2) Nominal heating capacities are based on: Indoor temperature: 20°C DB, 15°C WB, Outdoor temperature: 7°C DB, 6°C WB, Equivalent refrigerant piping: 7.5m, Level differences: 0m

*3) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*4) Optional Accessory

- Specifications are subject to change without prior notice for product improvement.

Standard Accessories

Wireless remote controller



ARH-1364

Indoor Unit

Neo Forte



Features



- Absorb unpleasant odors with Deodorizing Filter
- Have a deep comfortable sleep with Good sleep II

Specification

Model			NH022NHXE A	NH028NHXE A	NH036NHXE A	NH056NHXE A	NH071NHXE A
Performance Capacity	Cooling ^{*1)}	W	2,200	2,800	3,600	5,600	6,800
	Heating ^{*2)}	W	2,500	3,200	4,000	6,300	7,000
Power	Input	W	25	25	30	45	50
	Running Current	A	0.18	0.18	0.18	0.27	0.30
Power Supply		Ø/V/Hz	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50
Sound	Sound Pressure(High/Low) ^{*3)}	dB(A)	32/23	32/23	36/23	40/30	41/30
Fan	Type	-	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
Airflow Rate	Cooling (High)	m ³ /min	7.8	7.8	9.3	12.0	14.0
	Heating (High)	m ³ /min	8.2	8.2	9.5	13.0	15.0
Refrigerant	type	-	R410A	R410A	R410A	R410A	R410A
	Control Method	-	External EEV ^{*4)}	External EEV ^{*4)}	External EEV ^{*4)}	External EEV ^{*4)}	External EEV ^{*4)}
Piping Connections	Liquid (Flare)	Ø, mm	6.35	6.35	6.35	6.35	9.52
	Gas (Flare)	Ø, mm	12.70	12.70	12.70	12.70	15.88
	Drain (Quick Lock)	Ø, mm	ID 18 hose	ID 18 hose	ID 18 hose	ID 18 hose	ID 18 hose
Weight	Net Weight	kg	7.8	7.8	7.8	13.0	13.0
	Shipping Weight	kg	9.4	9.4	9.4	16.0	16.0
Set Size	Net Dimensions (WxHxD)	mm	825x285x189	825x285x189	825x285x189	1,065x298x218	1,065x298x218
	Shipping Dimensions (WxHxD)	mm	900x349x252	900x349x252	900x349x252	1,137x377x299	1,137x377x299

*1) Nominal cooling capacities are based on: Indoor temperature: 27°C DB, 19°C WB, Outdoor temperature: 35°C DB, 24°C WB, Equivalent refrigerant piping: 7.5m, Level differences: 0m

*2) Nominal heating capacities are based on: Indoor temperature: 20°C DB, 15°C WB, Outdoor temperature: 7°C DB, 6°C WB, Equivalent refrigerant piping: 7.5m, Level differences: 0m

*3) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*4) Optional Accessory

- Specifications are subject to change without prior notice for product improvement.

Standard Accessories

Wireless remote controller



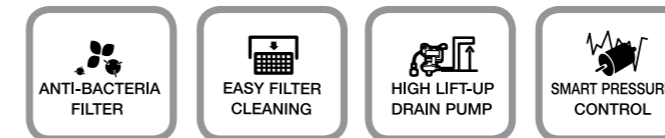
ARH-465

Indoor Unit

Slim Duct



Features



- Slim Design that allows easy installation and maintenance
- Flexible Installation with variety of air inlet options

Specification

Model			NH022LHXE A	NH028LHXE A	NH036LHXE A	NH045LHXE A	NH056LHXE A
Performance Capacity	Cooling ^{*1)}	W	2,200	2,800	3,600	4,500	5,600
	Heating ^{*2)}	W	2,500	3,200	4,000	5,000	6,300
Power	Input	W	80	80	80	90	100
	Running Current	A	0.40	0.40	0.40	0.60	0.60
Power Supply		Ø/V/Hz	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50	1/220~240/50
Sound	Sound Pressure(High/Low) ^{*3)}	dB(A)	31/26	32/27	32/27	33/30	33/30
Fan	Type	-	Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan	Sirocco Fan
Airflow Rate	Cooling (High)	m ³ /min	8.0	9.0	10.0	14.0	15.0
	Heating (High)	m ³ /min	9.0	10.0	12.0	16.5	18.0
Refrigerant	External Static Pressure Standard(Min.-Max.)	mmAq	2 (0~4)	2 (0~4)	2 (0~4)	2 (0~4)	2 (0~4)
	type	-	R410A	R410A	R410A	R410A	R410A
Piping Connections	Liquid (Flare)	Ø, mm	6.35	6.35	6.35	6.35	9.52
	Gas (Flare)	Ø, mm	12.70	12.70	12.70	12.70	12.70
Weight	Net Weight	kg	26.0	26.0	26.0	31.0	31.0
	Shipping Weight	kg	31.0	31.0	31.0	39.0	39.0
Set Size	Net Dimensions (WxHxD)	mm	900x199x600	900x199x600	900x199x600	1,100x199x600	1,100x199x600
	Shipping Dimensions (WxHxD)	mm	1,133x333x730	1,133x333x730	1,133x333x730	1,330x330x730	1,330x330x730

*1) Nominal cooling capacities are based on: Indoor temperature: 27°C DB, 19°C WB, Outdoor temperature: 35°C DB, 24°C WB, Equivalent refrigerant piping: 7.5m, Level differences: 0m

*2) Nominal heating capacities are based on: Indoor temperature: 20°C DB, 15°C WB, Outdoor temperature: 7°C DB, 6°C WB, Equivalent refrigerant piping: 7.5m, Level differences: 0m

*3) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

- Specifications are subject to change without prior notice for product improvement.

Optional Accessories

Wireless remote controller



MR-CH01

Remote controller receive kit



MRK-A00

Remote controller receive kit



MWR-WE00

MWR-WH01

MWR-SH00

Drain Pump



MDP-E075SEE3

Air-to-Water Control System



System Controller Gives You Easy and Abundant Options

Smart user interface technology has been woven into Samsung EHS to allow easy and convenient control of the cooling and heating system at home. This control allows one-touch access to energy consumption statistics and other components (Solar Panel, Back-Up Boiler, etc) monitoring.

Features



Simple Stand-by Function at Outing

The system in "stand-by mode" stops all of its functions, except for one function that prevents the pipes from breaking/bursting due to weather changes. Additionally, this system can keep the house at a desired temperature even when you are out.



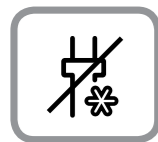
Real-time Energy Consumption Display

5 Eco-level bar indicator shows the level of energy consumption [Solar Panel(Field Supply), Back-Up Boiler and Back-Up Heater of the hydro unit].



Solar Panel(Field Supply) and Back-Up Boiler "Work in Progress" Display

The system indicates when Solar Panel(Field Supply) and Back-Up Boiler are in the process of hybrid heating.



Automatic Anti-Freezing Function

When the house is left unattended for an extended period during the winter and the temperature outside goes down, the system automatically runs its heat pump to keep the water-flow above the sub-freezing point.

Accessories

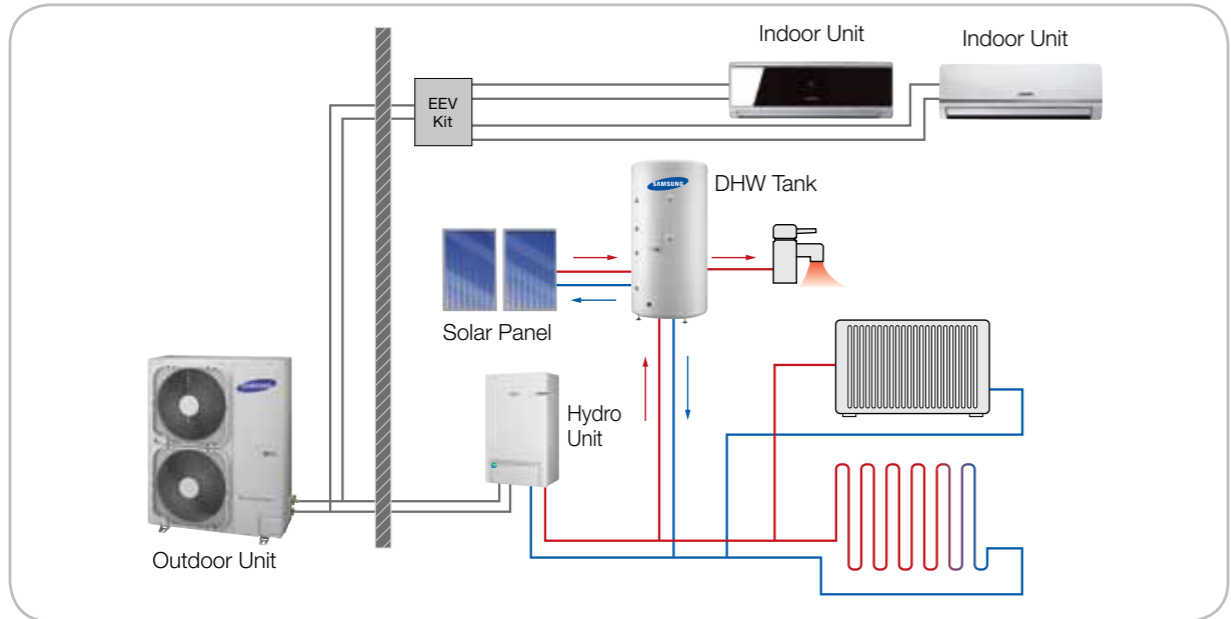
Chassis	Duct	Wall Mounted		Air to Water Unit	Remark	
	Slim Duct	Vivace	Neo-Forte	Hydro Unit		
Capacity	2.2~5.6kW	2.2~7.1kW	2.2~7.1kW	8/16kW		
EEV Kit	- For 2 or 3 Indoor units For Single Indoor units	MXD-A13K116A	≤3.6kW 1Room + ≥5.6kW 1Room	-	-	Requisite
		MXD-A13K200A	≤3.6kW 2Room			
		MXD-A16K200A	≥5.6kW 2Room			
		MXD-A13K216A	≤3.6kW 2Room + ≥5.6kW 1Room			
		MXD-A13K300A	≤3.6kW 3Room			
		MXD-A16K231A	≤3.6kW 1Room + ≥5.6kW 2Room			
		MXD-A16K300A	≥5.6kW 3Room			
		MEV-A13SA	≤3.6kW 1Room			
MEV-A16SA	≥4.6kW 1Room					
Y-joint		MXJ-YA1509K (≤15.0kW and below)			Requisite	
Drain Pump		MDP-E075SEE3 (Option)				
Wireless remote controller		MR-CH01 (Option)	ARH-1364 (Included)	ARH-465 (Included)		
Remote controller receive kit		MRK-A00 (Option)				
Wired remote controller		MWR-WH01 MWR-WE00 MWR-SH00 (Option)			Included	
Domestic Hot Water tank				NH300WHXES NH300WHXEA NH200WHXES NH200WHXEA	Option	

* Note) Do not recommend that EEV kit is installed near the living room or bed rooms.

Installation Diagram

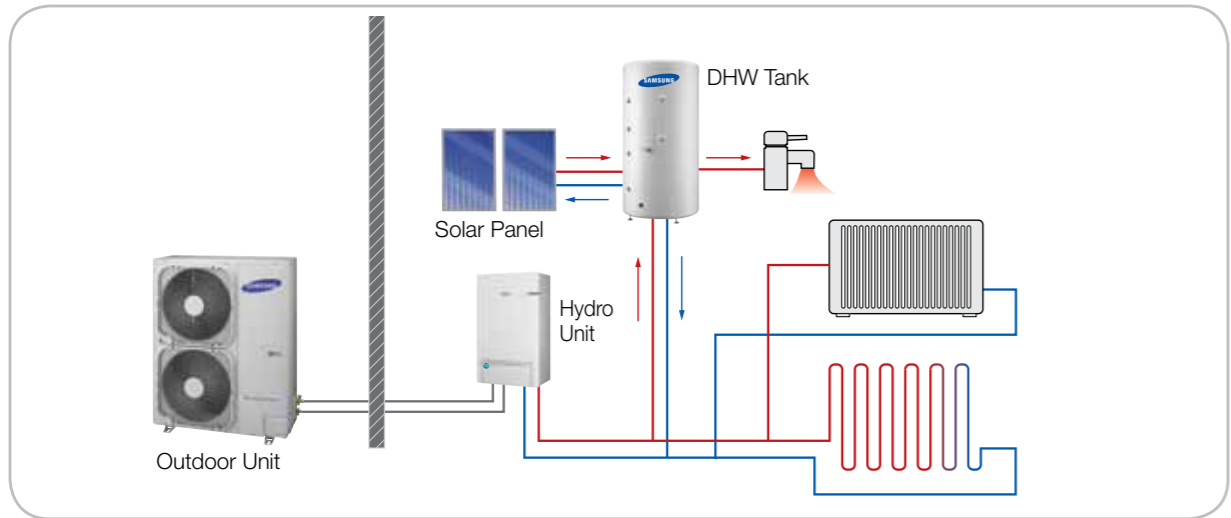
Air-to-Air + Air to Water

- Outdoor Unit + EEV Kit + Indoor Unit
- Outdoor Unit + Hydro Unit + Under Floor Heating + Radiator + DHW Tank + Solar Panel



Air to Water Only

- Outdoor Unit + Hydro Unit + Under Floor Heating + Radiator + DHW Tank + Solar Panel



Outdoor Unit Capacity Selection Guide

- The capacity of the outdoor unit = The larger one of the total cooling load & the total heating load of the house

Room #	Room1	Room2	Room3
Heating or Cooling Load	5kW	3kW	3kW
Air to Air			
Air to Water			

Installation example 1

Outdoor Unit 11kW

Room #	Room1	Room2	Room3
Heating or Cooling Load	5kW	3kW	3kW
Air to Air			
Air to Water			

Installation example 2

FAQ

Q : What is COP?

A : COP stands for Coefficient of Performance. This is used to measure the energy efficiency of a heat pump system. For example a COP of 4 indicates that for every kW energy input to the system it will deliver 4kW energy output in the form of heat, which means an efficiency of 400%.

Q : How easy is it to install additional air conditioning after installing an EHS system?

A : It is relatively easy to add additional air conditioning to an installed EHS system. The installer will have to disconnect the existing refrigerant piping in order to be able to add the additional piping required for the new air conditioning.

Q : How often do I need to have maintenance servicing for my EHS system?

A : A yearly inspection of the installation is required for optimal operation and efficiency. Main inspection points will involve water pressure, control box and checking the valves. An inspection will take approximately an hour to two hours.

Q : Can I install EHS with a back-up boiler?

A : Yes, that's possible. The back-up boiler needs to be connected to the EHS hydro unit through electrical wiring. From that moment onwards the back-up boiler will be automatically controlled according to ambient temperature.

Q : Is it easy to add solar heating later?

A : It's possible to add solar heating later, however you must choose a solar-ready model of our DHW tank.

Q : Can a heat pump produce instant sanitary hot water?

A : No. EHS employs a storage type hot water tank, so it takes some time to heat up the contained water. But the temperature of the contained water is maintained automatically around the assigned temperature, so you can enjoy a hot shower anytime you want.

Q : Can I take a hot shower and simultaneously use the air conditioning to cool?

A : Certainly. The hot water used for your shower is the water stored in the DHW tank. The temperature of the contained water is maintained automatically around the assigned temperature in winter or summer. So you can enjoy a hot shower while operating the EHS for air conditioning to cool a room.

Q : Is it possible to heat the room through Air Conditioner while heating hot water simultaneously?

A : Technically, EHS will heat the room and hot water separately with TDM technology that switches operation. However, you will feel as if it heats both simultaneously.

Q : What kind of installation disruption will I face when installing EHS?

A : EHS installation is not much different from other products, so you won't find any special disruption. And in case which uses the floor heating of different heating source, you can use an existing floor water piping and the heating source renewal is possible.