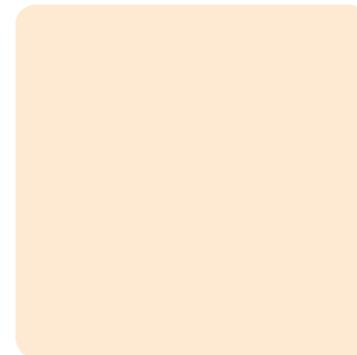


AIR-TO-WATER HEAT PUMP
THERMAV™
NATURAL HEATING MACHINE

Catalogue 2010





Life's Good...
when it's green

NATURE

HUMAN

LG Electronics' Eco-friendly Technology

LG Electronics' environmental policy is centered on its "Life's Good When it's Green" program. The program is divided into two areas: pre-production and post-production. LG Electronics' goal is to reduce greenhouse gases in the pre- and post-production stages by 150,000 tons and 30,000,000 tons, respectively, by 2020. This reduction of greenhouse gases emitted during a product's life cycle (including raw materials used in production, product distribution, product usage, and product disposal) will be carried out in stages.

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COMFORT

LG INNOVATION NATURAL HEATING MACHINE

THERMA V, NATURAL HEATING MACHINE, AIMING TO ALL-IN-ONE SOLUTION

Economical : According to its innovative technology and advanced performance efficiency, THERMA V offers one of the lowest prices for any heating system on the market!

Flexible : A solution that is easy to install and does not require constant house renovations.

Natural : THERMA V respects the environment by using two renewable energy sources, the air and the sun, and by reducing CO₂ emissions.

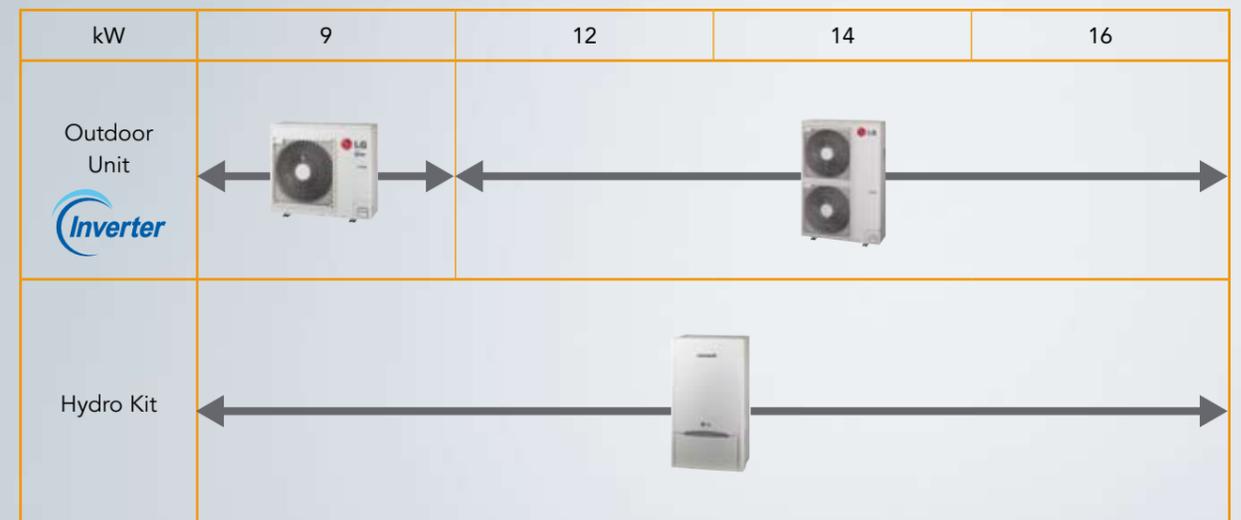
Government Subsidy : According to recent trends, the adoption of renewable energies, the heat pumps enable consumers to obtain a government subsidy under certain conditions.





THERMA V™

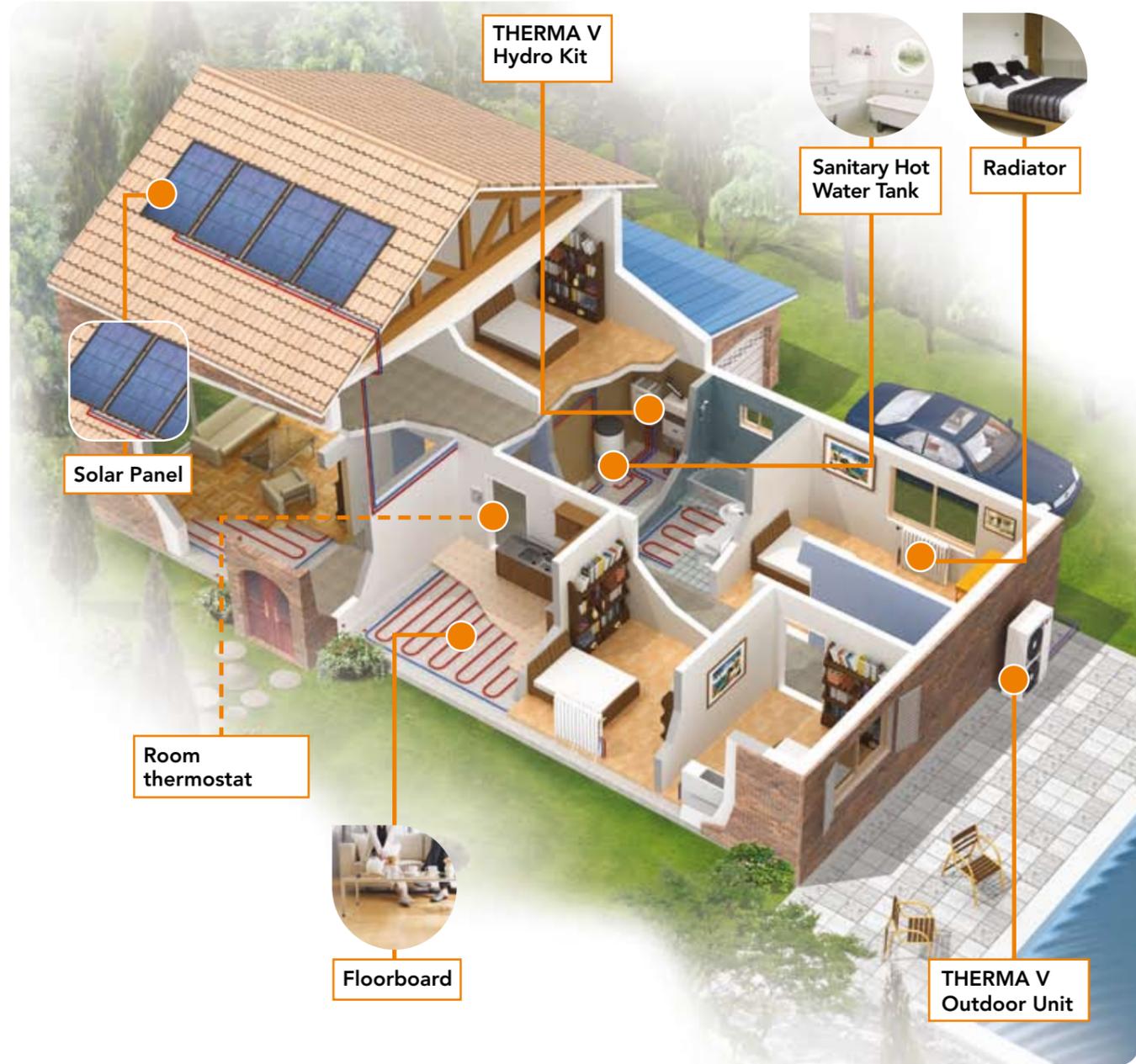
NATURAL HEATING MACHINE



THE SOLUTION FOR NEW HOUSING AND RENOVATION



Therma V was specially conceived to respond to the needs of the renovation market (to relieve or replace a boiler) and the new housing market. The product adapts perfectly to individual and collective residential applications. Moreover, this Air-to-Water heat pump makes up an eco-aware product that uses two renewable energy sources – the air and the sun. Finally, it will prove economical with coefficients of performances (COP) up to 4.5, among the most advanced on the market.



- Different heat transmitters :
 - > Heating Floorboard
 - > Radiators
 - > Fan Coil Unit

- Optional Accessories :
 - > Sanitary Hot Water Tank



A NATURAL SOLUTION

- Economical system with advanced coefficient of performances: COP = 4.5.
- Utilization of two renewable energies: Air and sun.
- Reduced CO₂ emissions compared to gas or fuel heating.

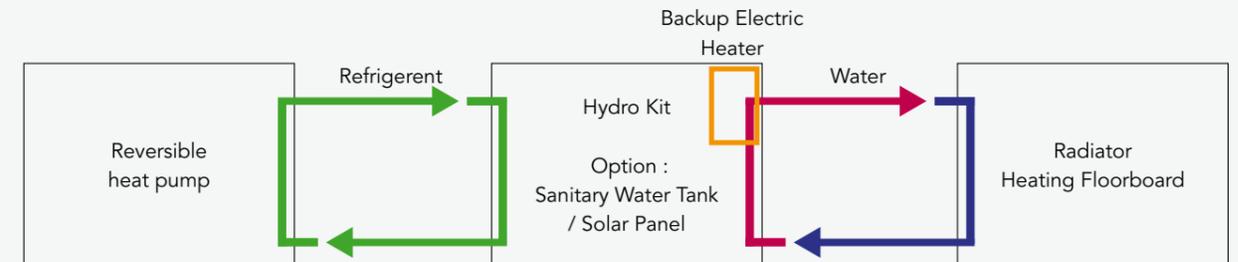


A FLEXIBLE SOLUTION

• Monovalent operation :

A compact technology, Therma V is capable of responding to all of your daily comfort & energy needs. In addition, if the outdoor temperature decreases below the seasonal temperature, a back-up will come to guarantee your optimal well-being.

Application : Replacing Coventional Boiler



• Alternative Bivalent Operation :

The Therma V heat pump can also be integrated in the installation of existing boiler(gas or fuel). Boiler takes over space heating and sanitary hot water, in cace of severe low ambient temperature.

Application : Using Existing Boiler



• Simplicity of Installation :

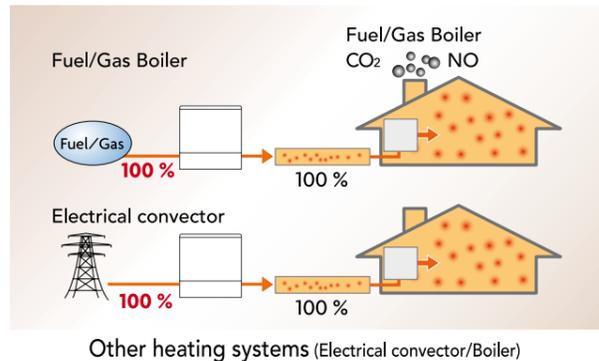
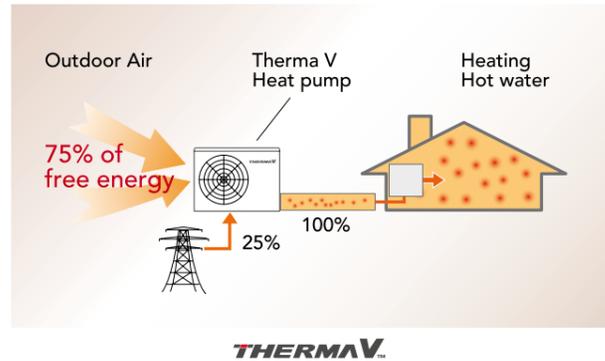
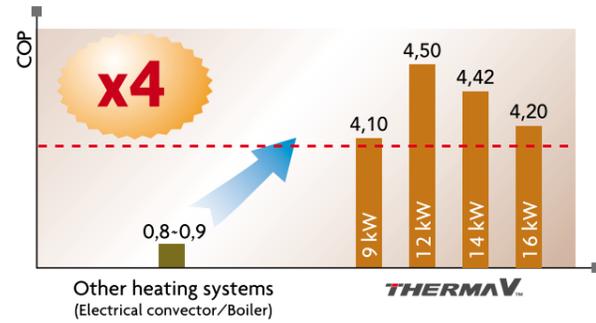
Therma V includes a compact exterior unit, plus an interior unit that is easy to install. Only one refrigerating link is required to connect the two elements. The Hydro Kit does not require any drilling, earthwork, storage unit (gas, fuel or wood), or chimney. Opt for LG!

ENERGY PERFORMANCE



ADVANCED COEFFICIENTS OF PERFORMANCE(COP) FOR MORE ENERGY SAVING

As generating free energy from outdoor air even in low temperature, THERMA V makes it possible to heat efficiently. With Inverter Technology of LGE, THERMA V can make higher efficiency level up to the range of 4.1 to 4.5. In other words, consuming 1kW of electric energy of an electrical network enables more them 4kW of heating energy.



RESPECTING THE ENVIRONMENT



REDUCING CO₂ EMISSIONS

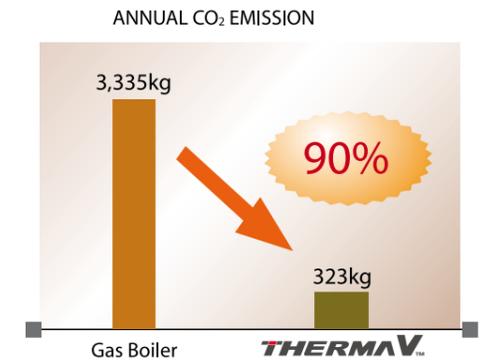
The THERMA V solution by LG adopts two renewable energies, the air and the sun. This eco-friendly system will decrease CO₂ emissions from heating systems on fossil energies such as gas and fuel.



Solar Panels



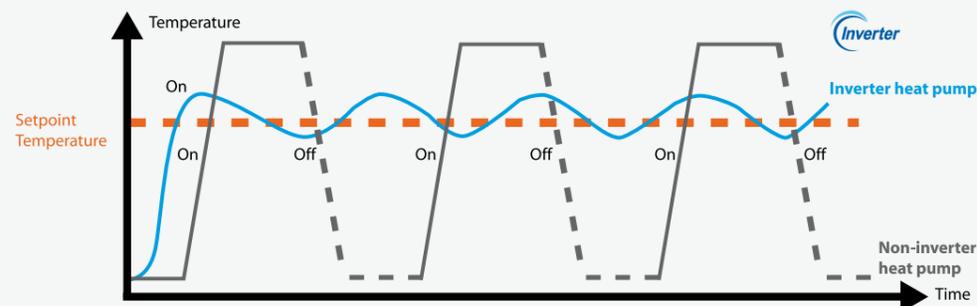
THERMA V



INVERTER REGULATION, FOR MORE SERENITY



Once the desired temperature is achieved, unlike conventional air to water heat pump that turn the compressor on and off, LG inverter units adjust and constantly vary the compressor speed to maintain the desired temperature with minimal fluctuation to ensure that your comfort is not compromised.

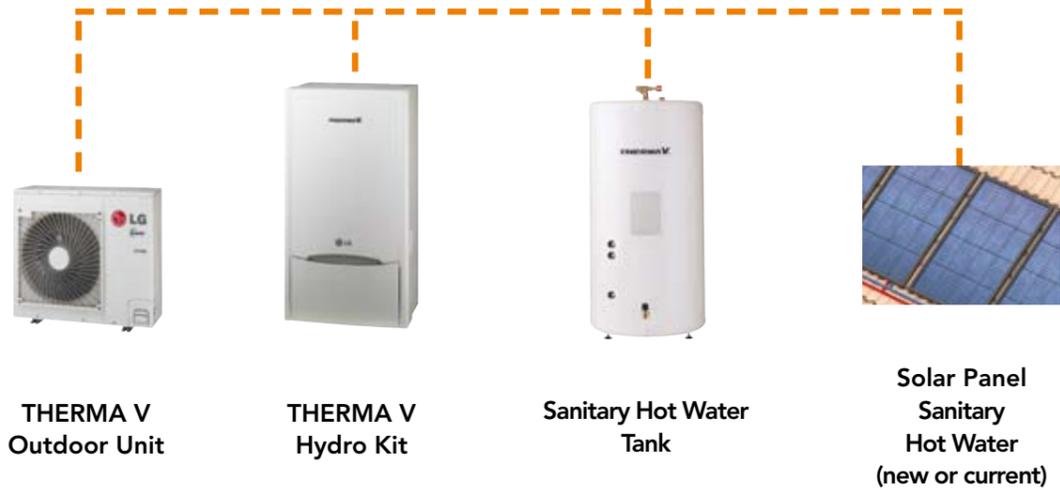


CONVENIENT CONTROL



CONTROL OF ENERGY INSTALLATION

- Control of the generation of heating, sanitary hot water, solar panels
- Control of weekly scheduling
- Control of regulation modes
- Control of the water temperature system
- Control of heating security mode



HEATING EMERGENCY OPERATION

Heating is essential during winter. THERMA V is equipped with an emergency operation that allows the maintenance of heating in case of possible failure.

The heating security mode consist of two levels the indoor:

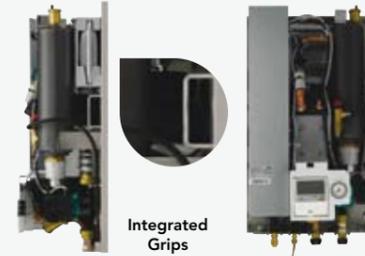
- **Level 1** : When indoor unit malfunctions, the outdoor unit operates under a pre-defined emergency operation mode.
- **Level 2** : When outdoor unit malfunctions, electronic heater of the indoor unit operates under a pre-defined emergency operation mode.



EASY INSTALLATION



HYDRO KIT

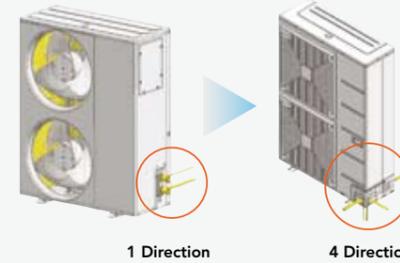


Seperated Shut-off valves



OUTDOOR UNIT

- Refrigerating connection is possible in four directions



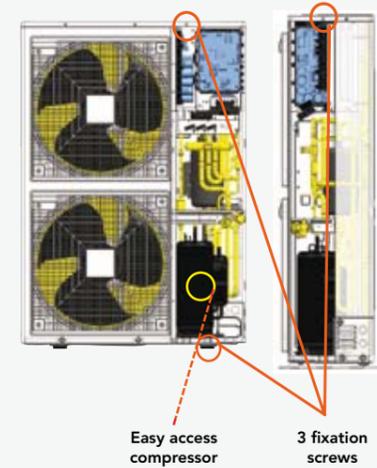
Jacking-up Grips

- Easy to manipulate thanks to the integrated grips



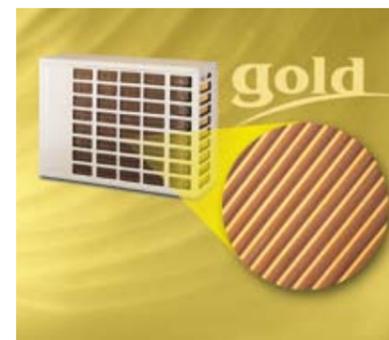
Facilitated maintenance

- Access to vital parts of the machine thanks to the new removable front panel fixed with three screws.

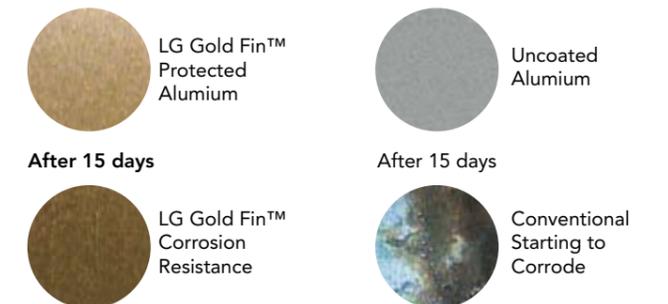


ANTI-CORROSION GOLD FIN™

The exchangers of our external groups are treated against corrosion and pollution. This treatment guarantees the durability of the systems and high-level performance.



> Salt Spray Test for 15 Days



THERMA V SPLIT _ 55°C TEMPERATURE (1Ø)

THERMA V™



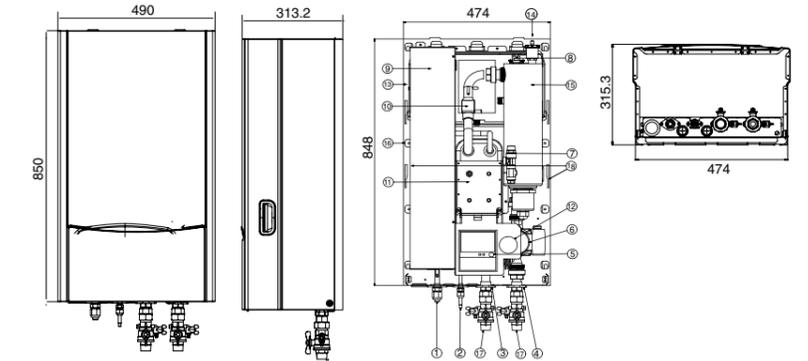
OUTDOOR UNIT			H09SNE (UE1)	H12SNE (U31)	H14SNE (U31)	H16SNE (U31)
Power Supply		ø / V / Hz	1ø / 220~240V / 50Hz			
Nominal Capacity	Heating(A10/W35)	kW	8.99	12.00	14.00	16.00
	Heating(A7/W35)	kW	9.00	12.00	14.00	16.00
	Heating(A2/W35)	kW	7.14	9.44	11.30	12.25
	Heating(A-7/W35)	kW	7.03	8.95	10.74	11.93
	Cooling(A35/W18)	kW	8.60	14.00	14.00	14.00
Nominal Input	Heating(A10/W35)	kW	2.00	2.42	2.88	3.45
	Heating(A7/W35)	kW	2.19	2.66	3.17	3.81
	Heating(A2/W35)	kW	2.36	2.87	3.50	3.86
	Heating(A-7/W35)	kW	2.63	3.23	4.14	4.60
	Cooling(A35/W18)	kW	2.70	4.40	4.40	4.40
COP	Heating(A10/W35)	W / W	4.50	4.96	4.86	4.64
	Heating(A7/W35)	W / W	4.11	4.51	4.42	4.20
	Heating(A2/W35)	W / W	3.03	3.29	3.23	3.17
	Heating(A-7/W35)	W / W	2.67	2.77	2.59	2.59
EER		W / W	3.19	3.18	3.18	3.18
Sound pressure level	Heating	dB(A)	53	55	57	57
	Cooling	dB(A)	51	54	55	54
Dimension		W*H*D	870*808*320	950*1,380*330	950*1,380*330	950*1,380*330
Weight		kg	56	105	105	105
Refrigerant(R410A)	Pre-charged amount	g	1,900	3,000	3,000	3,000
	Pipe Diameter(Liquid, Gas)	inch	3/8, 5/8	3/8, 5/8	3/8, 5/8	3/8, 5/8

HYDRO KIT			H09SNE (NH1)	H12SNE (N31)	H14SNE (N31)	H16SNE (N31)
Dimension		W*H*D	490*850*315	490*850*315	490*850*315	490*850*315
Weight		kg	52	55	55	55
Noise Level at 1m		dB(A)	28	52	52	52
Leaving Water Temperature	Heating	°C	15 ~ 55	15 ~ 55	15 ~ 55	15 ~ 55
	Cooling	°C	6 ~ 30	6 ~ 30	6 ~ 30	6 ~ 30
Electric Heater	Power Supply	øV/Hz	1ø / 220~240V / 50Hz			
	Capacity	kW	4	6	6	6
Water Pump	Maximum Power Input	W	135	205	205	205
	Maximum Head	m	6.6	7.2	7.2	7.2
	Maximum Water Flow Rate	LPM	12	12	12	12
Expansion Tank		Liter	8	8	8	8

ACCESSORIES					
Remote Room Air Sensor		PQRSTA0	PQRSTA0	PQRSTA0	PQRSTA0
Dry Contact		PQDSA	PQDSA	PQDSA	PQDSA
Sanitary Tank Kit		PHLTA	PHLTA	PHLTA	PHLTA
Solar Thermal Kit		PHLLA	PHLLA	PHLLA	PHLLA

HYDRO KIT

H09SNE (NH1)	9kW
H12SNE (N31)	12kW
H14SNE (N31)	14kW
H16SNE (N31)	16kW



N°	ITEM
1	Refrigerating Pipe - Gas
2	Refrigerating Pipe - Liquid
3	Water Connection - Entry - 1 inch
4	Water Connection - Exit - 1 inch
5	Control Panel
6	Water Pump
7	Discharge Gate - Open when pressed > 3 bars
8	Thermostat
9	Control Box
10	Water Flow Switch

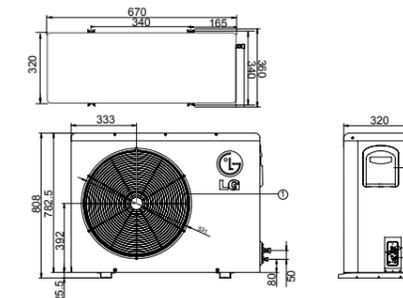
N°	ITEM
11	Plate Heat Exchanger
12	Hydraulic Pressure Manometer
13	Expansion Vase
14	Air-vent
15	Electric Heater
16	Strainer
17	Shut-off Valve
18	Grip

Separated Shut-off valves



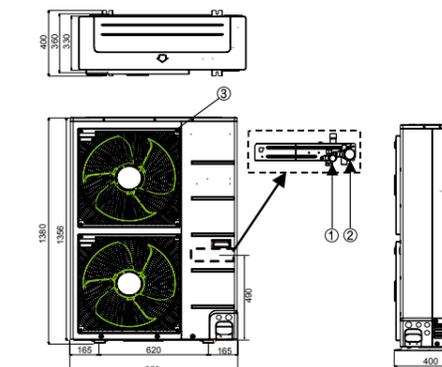
OUTDOOR UNIT

H09SNE (UE1)	9kW
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N°	ITEM
1	Air Discharge Grille
2	Refrigerating Pipe - Gas
3	Refrigerating Pipe - Liquid
4	Electrical connection Terminal

H12SNE (U31)	12kW
H14SNE (U31)	14kW
H16SNE (U31)	16kW



N°	ITEM
1	Refrigerating Pipe - Gas
2	Refrigerating Pipe - Liquid
3	Air Discharge Grille

THERMA V SPLIT _ 55°C TEMPERATURE (NORDIC)

THERMAV™



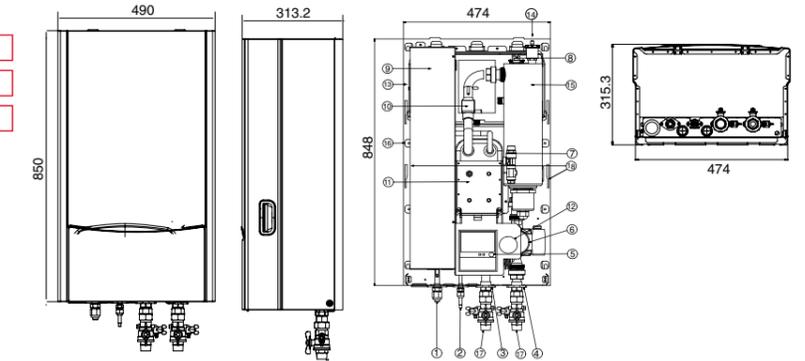
OUTDOOR UNIT			UH09SNG (UE3)	UH09SNG (UE3)	UH09SNG (UE3)
Power Supply		ø / V / Hz	1ø / 220~240V / 50Hz	1ø / 220~240V / 50Hz	1ø / 220~240V / 50Hz
Nominal Capacity	Heating(A10/W35)	kW	8.99	8.99	8.99
	Heating(A7/W35)	kW	9.00	9.00	9.00
	Heating(A2/W35)	kW	7.14	7.14	7.14
	Heating(A-7/W35)	kW	7.03	7.03	7.03
	Cooling(A35/W18)	kW	8.60	8.60	8.60
Nominal Input	Heating(A10/W35)	kW	2.00	2.00	2.00
	Heating(A7/W35)	kW	2.22	2.22	2.22
	Heating(A2/W35)	kW	2.36	2.36	2.36
	Heating(A-7/W35)	kW	2.63	2.63	2.63
	Cooling(A35/W18)	kW	2.70	2.70	2.70
COP	Heating(A10/W35)	W / W	4.50	4.50	4.50
	Heating(A7/W35)	W / W	4.05	4.05	4.05
	Heating(A2/W35)	W / W	3.03	3.03	3.03
	Heating(A-7/W35)	W / W	2.67	2.67	2.67
EER		W / W	3.19	3.19	3.19
Sound pressure level	Heating	dBA	53	53	53
	Cooling	dBA	51	51	51
Dimension		W* H* D	870*808*320	870*808*320	870*808*320
Weight		kg	56	56	56
Refrigerant(R410A)	Pre-charged amount	g	1,900	1,900	1,900
	Pipe Diameter(Liquid, Gas)	inch	3/8, 5/8	3/8, 5/8	3/8, 5/8

HYDRO KIT			NH09SNG (NK1)	NH09SNK (NK1)	NH09SNP (NK1)
Dimension		W*H* D	490*850*315	490*850*315	490*850*315
Weight		kg	52	52	52
Noise Level at 1m		dB(A)	28	28	28
Leaving Water Temperature	Heating	°C	15 ~ 55	15 ~ 55	15 ~ 55
	Cooling	°C	6 ~ 30	6 ~ 30	6 ~ 30
Electric Heater	Power Supply	ø/V/Hz	1ø / 220~240V / 50Hz	1ø / 220~240V / 50Hz	1ø / 220~240V / 50Hz
	Capacity	kW	4	6	6
Water Pump	Maximum Power Input	W	135	135	135
	Maximum Head	m	6.6	6.6	6.6
	Maximum Water Flow Rate	LPM	12	12	12
Expansion Tank		Liter	8	8	8

ACCESSORIES				
Remote Room Air Sensor		PQRSTA0	PQRSTA0	PQRSTA0
Dry Contact		PQDSA	PQDSA	PQDSA
Sanitary Tank Kit		PHLTA	PHLTA	PHLTA
Solar Thermal Kit		PHLLA	PHLLA	PHLLA

HYDRO KIT

NH09SNG (NK1)	9kW
NH09SNK (NK1)	9kW
NH09SNP (NK1)	9kW



N°	ITEM
1	Refrigerating Pipe - Gas
2	Refrigerating Pipe - Liquid
3	Water Connection - Entry - 1 inch
4	Water Connection - Exit - 1 inch
5	Control Panel
6	Water Pump
7	Discharge Gate - Open when pressed > 3 bars
8	Thermostat
9	Control Box
10	Water Flow Switch

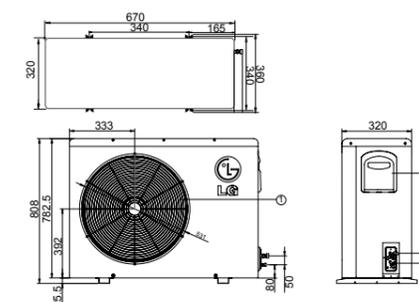
N°	ITEM
11	Plate Heat Exchanger
12	Hydraulic Pressure Manometer
13	Expansion Vase
14	Air-vent
15	Electric Heater
16	Strainer
17	Shut-off Valve
18	Grip

Separated Shut-off valves



OUTDOOR UNIT

UH09SNG (UE3)	9kW
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N°	ITEM
1	Air Discharge Grille
2	Refrigerating Pipe - Gas
3	Refrigerating Pipe - Liquid
4	Electrical connection Terminal

THERMA V SPLIT _ 55°C TEMPERATURE (1Ø / 3Ø)

THERMA V™



OUTDOOR UNIT			HU091 (U41)	HU123 (U31)	HU143 (U31)	HU163 (U31)
Power Supply		ø / V / Hz	1ø / 220~240V / 50Hz	3ø / 380~415V / 50Hz	3ø / 380~415V / 50Hz	3ø / 380~415V / 50Hz
Nominal Capacity	Heating(A10/W35)	kW	8.54	12.88	15.71	17.34
	Heating(A7/W35)	kW	9.00	12.00	14.50	16.00
	Heating(A2/W35)	kW	6.23	9.65	11.30	12.22
	Heating(A-7/W35)	kW	5.92	11.21	12.59	14.92
	Cooling(A35/W18)	kW	9.00	14.60	15.50	16.80
Nominal Input	Heating(A10/W35)	kW	1.92	2.95	3.70	4.17
	Heating(A7/W35)	kW	2.20	2.67	3.38	3.81
	Heating(A2/W35)	kW	1.97	2.86	3.40	3.82
	Heating(A-7/W35)	kW	1.95	4.26	4.82	5.67
	Cooling(A35/W18)	kW	2.65	4.02	4.65	5.09
COP	Heating(A10/W35)	W / W	4.45	4.37	4.25	4.16
	Heating(A7/W35)	W / W	4.10	4.49	4.29	4.20
	Heating(A2/W35)	W / W	3.16	3.37	3.32	3.20
	Heating(A-7/W35)	W / W	3.04	2.63	2.61	2.63
EER		W / W	3.40	3.63	3.33	3.30
Sound pressure level	Heating	dB(A)	52	53	53	53
	Cooling	dB(A)	52	54	54	54
Dimension		W*H*D	950*833*400	950*1,380*330	950*1,380*330	950*1,380*330
Weight		kg	64	105	105	105
Refrigerant(R410A)	Pre-charged amount	g	1,900	2,980	2,980	2,980
	Pipe Diameter(Liquid, Gas)	inch	3/8, 5/8	3/8, 5/8	3/8, 5/8	3/8, 5/8

HYDRO KIT			HN0914 (NK1)	HN1616 (NK1)	HN1636 (NK1)	HN1626 (NK1)
Dimension		W*H* D	490*850*315	490*850*315	490*850*315	490*850*315
Weight		kg	52	55	55	55
Noise Level at 1m		dB(A)	28	52	52	52
Leaving Water Temperature	Heating	°C	15 ~ 55	15 ~ 55	15 ~ 55	15 ~ 55
	Cooling	°C	6 ~ 30	6 ~ 30	6 ~ 30	6 ~ 30
Electric Heater	Power Supply	ø/V/Hz	1ø / 220~240V / 50Hz	1ø / 220~240V / 50Hz	3ø / 380~415V / 50Hz	3ø / 220 / 50Hz
	Capacity	kW	4	6	6	6
Water Pump	Maximum Power Input	W	135	205	205	205
	Maximum Head	m	6.4	7	7	7
	Maximum Water Flow Rate	LPM	15	12	12	12
Expansion Tank		Liter	8	8	8	8

ACCESSORIES					
Remote Room Air Sensor		PQRSTA0	PQRSTA0	PQRSTA0	PQRSTA0
Dry Contact		PQDSA	PQDSA	PQDSA	PQDSA
Sanitary Tank Kit		PHLTA	PHLTA	PHLTA	PHLTA
Solar Thermal Kit		PHLLA	PHLLA	PHLLA	PHLLA

* The outdoor units HU123 / HU143 / HU163 are can be connected to one of the hydro kit NH1616 / NH1626 / NH1636 according to electrical condition

HU123 NH1616 / NH1626 / NH1636

HU143 NH1616 / NH1626 / NH1636

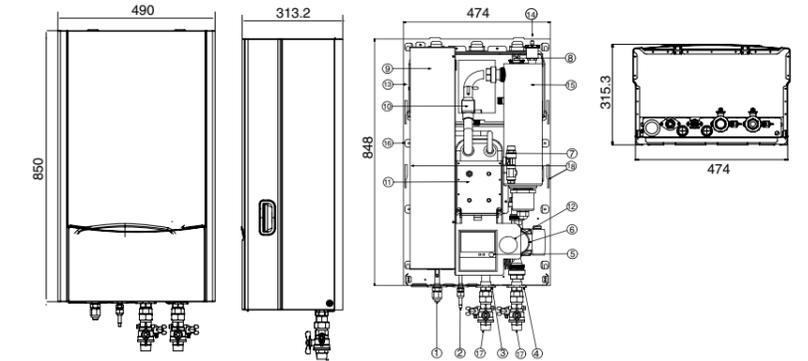
HU163 NH1616 / NH1626 / NH1636

HYDRO KIT

HN0914 (NK1)	9kW
HN1626 (NK1)	16kW
HN1636 (NK1)	16kW
HN1616 (NK1)	16kW



Separated Shut-off valves

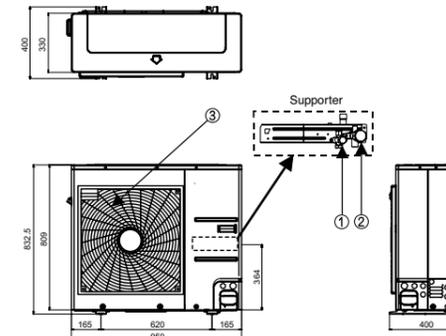


N°	ITEM
1	Refrigerating Pipe - Gas
2	Refrigerating Pipe - Liquid
3	Water Connection - Entry - 1 inch
4	Water Connection - Exit - 1 inch
5	Control Panel
6	Water Pump
7	Discharge Gate - Open when pressed > 3 bars
8	Thermostat
9	Control Box
10	Water Flow Switch

N°	ITEM
11	Plate Heat Exchanger
12	Hydraulic Pressure Manometer
13	Expansion Vase
14	Air-vent
15	Electric Heater
16	Strainer
17	Shut-off Valve
18	Grip

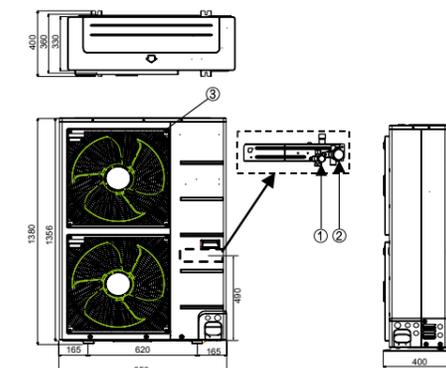
OUTDOOR UNIT

HU091 (U41)	9kW
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N°	ITEM
1	Refrigerant Pipe - Gas
2	Refrigerant Pipe - Liquid
3	Air Discharge Grille
4	Control Box (Inside)

HU123 (U31)	12kW
HU143 (U31)	14kW
HU163 (U31)	16kW



N°	ITEM
1	Refrigerating Pipe - Gas
2	Refrigerating Pipe - Liquid
3	Air Discharge Grille

GENERATION OF SANITARY HOT WATER

SANITARY WATER TANK – SINGLE COIL

SANITARY WATER TANK		LGRTV200E	LGRTV300E
GENERAL CHARACTERISTICS			
Water Volume	L	198	287
Diameter	mm	580	580
Height	mm	1230	1680
Empty Weight	kg	45	59
Tank – Materials		Stainless steel	Stainless steel
Outer Skin – Materials		Paint Epoxy	Paint Epoxy
Color – White RAL		White NC	White NC
CHARACTERISTICS OF ELECTRICAL BACK-UP			
Additional Electric Heater	kW	3	3
Adjustable Thermostat	°C	60 ~ 90	60 ~ 90
CHARACTERISTICS OF EXCHANGER			
Exchanger Type		Single	Single
Material Exchanger		LDX 2101 – Stainless steel	LDX 2101 – Stainless steel
Maximum Water Temperature	°C	80	80
HYDRAULIC CONNECTIONS – HEAT PUMP			
THERMA V Entry	mm	25	25
THERMA V Exit	mm	25	25
HYDRAULIC CONNECTIONS – SANITARY WATER			
City Water Entry	mm	22	22
Hot water Exit	mm	22	22
ELECTRIC CONNECTION			
Supply	øV/Hz	1ø/220-240V 50Hz	1ø/220-240V/50Hz
MANDATORY OPTIONAL ACCESSORIES			
Sanitary Tank Installation Kit		PHLTA	PHLTA

Preliminary data*

SANITARY WATER TANK – DOUBLE COIL

SANITARY WATER TANK		LGRTV200VE	LGRTV300VE
GENERAL CHARACTERISTICS			
Water Volume	L	198	287
Diameter	mm	580	580
Height	mm	1230	1680
Empty Weight	kg	50	64
Tank – Materials		Stainless steel	Stainless steel
Outer Skin – Materials		Paint Epoxy	Paint Epoxy
Color – White RAL		White NC	White NC
CHARACTERISTICS OF ELECTRICAL BACK-UP			
Additional Electric Heater	kW	3	3
Adjustable Thermostat	°C	60 ~ 90	60 ~ 90
CHARACTERISTICS OF EXCHANGER			
Exchanger Type		Double	Double
Material Exchanger		LDX 2101 – Stainless steel	LDX 2101 – Stainless steel
Maximum Water Temperature	°C	80	80
HYDRAULIC CONNECTIONS – HEAT PUMP			
THERMA V Entry	mm	25	25
THERMA V Exit	mm	25	25
HYDRAULIC CONNECTIONS – SANITARY WATER			
City Water Entry	mm	22	22
Hot Water Exit	mm	22	22
ELECTRIC CONNECTION			
Supply	øV/Hz	1ø/220-240V/50Hz	1 220-240V/50Hz
MANDATORY OPTIONAL ACCESSORIES			
Sanitary Tank Installation Kit		PHLTA	PHLTA

Preliminary data*

SANITARY WATER TANK – SINGLE COIL

LGRTV200E	198 LITERS
LGRTV300E	287 LITERS



SANITARY WATER TANK – DOUBLE COIL

LGRTV200VE	198 LITERS
LGRTV300VE	287 LITERS

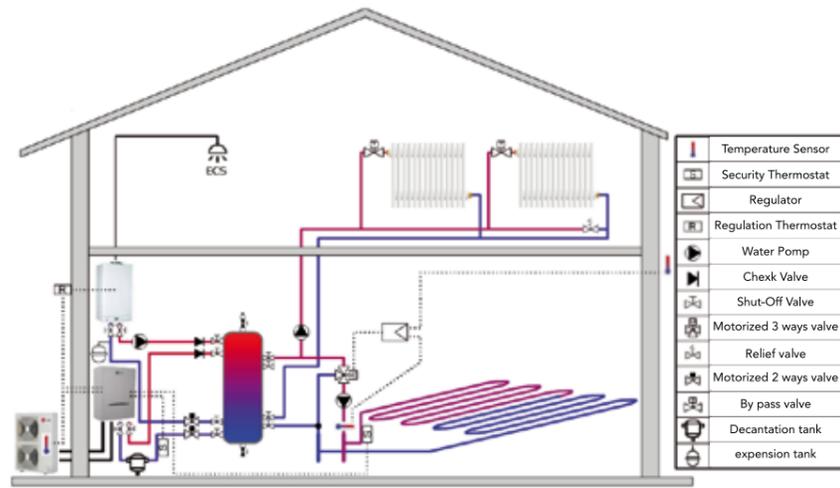


SOLAR PANELS FOR DOUBLE COIL TANK

For greater performance and energy saving, it is possible to combine the THERMA V heat pump with solar panels.



FLEXIBLE APPLICATION

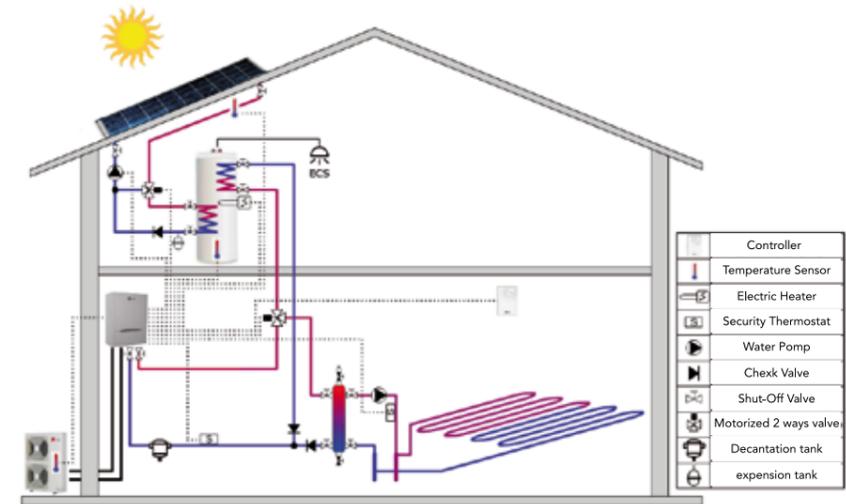


APPLICATION FOR NEW HOUSING 2

> Monovalent operation mode

> Functions :

- Heating Floorboard
- Generation of Sanitary Hot Water: Heat pump + Additional Electric Tank + Solar Panel

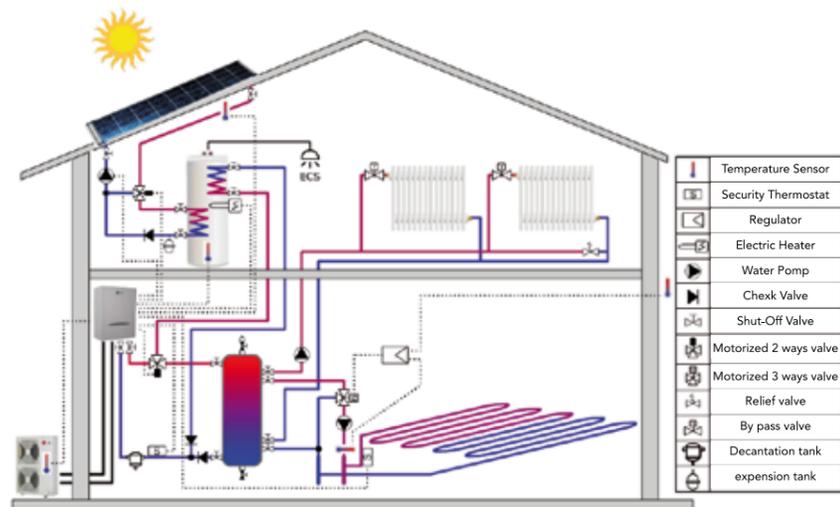


APPLICATION FOR NEW HOUSING 1

> Monovalent operation mode

> Functions :

- Heating Floorboard
- Low Temperature Radiators
- Generation of Sanitary Hot Water: Heat pump + Additional Electric Tank + Solar Panels

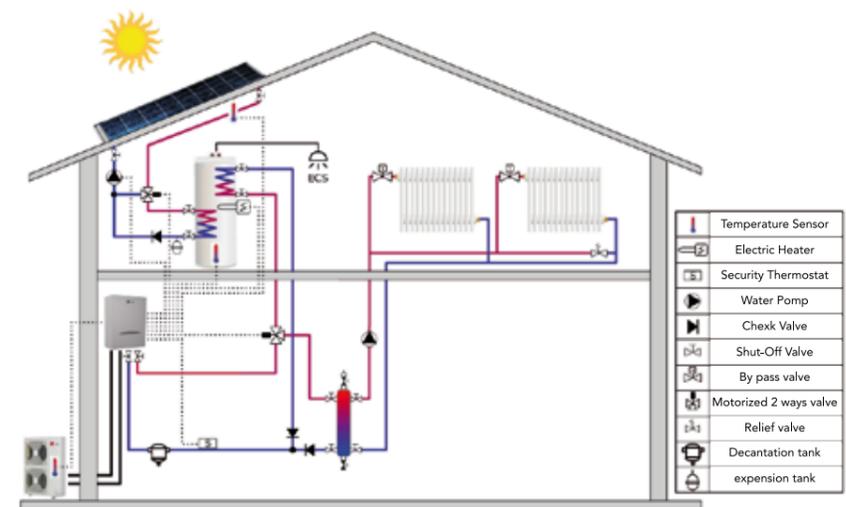


APPLICATION FOR NEW HOUSING 3

> Monovalent operation mode

> Functions :

- Low Temperature Radiators
- Generation of Sanitary Hot Water: Heat pump + Additional Electric Tank + Solar Panels



Warning :

The recommended installation schemes are provided as a rough guide and are not a substitute for thorough hydraulic research performed by a professional based on the house's characteristics. LG is not responsible for damage resulting from not following this warning.

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