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2023

LG THERNA V_{TM} PRODUCT CATALOGUE





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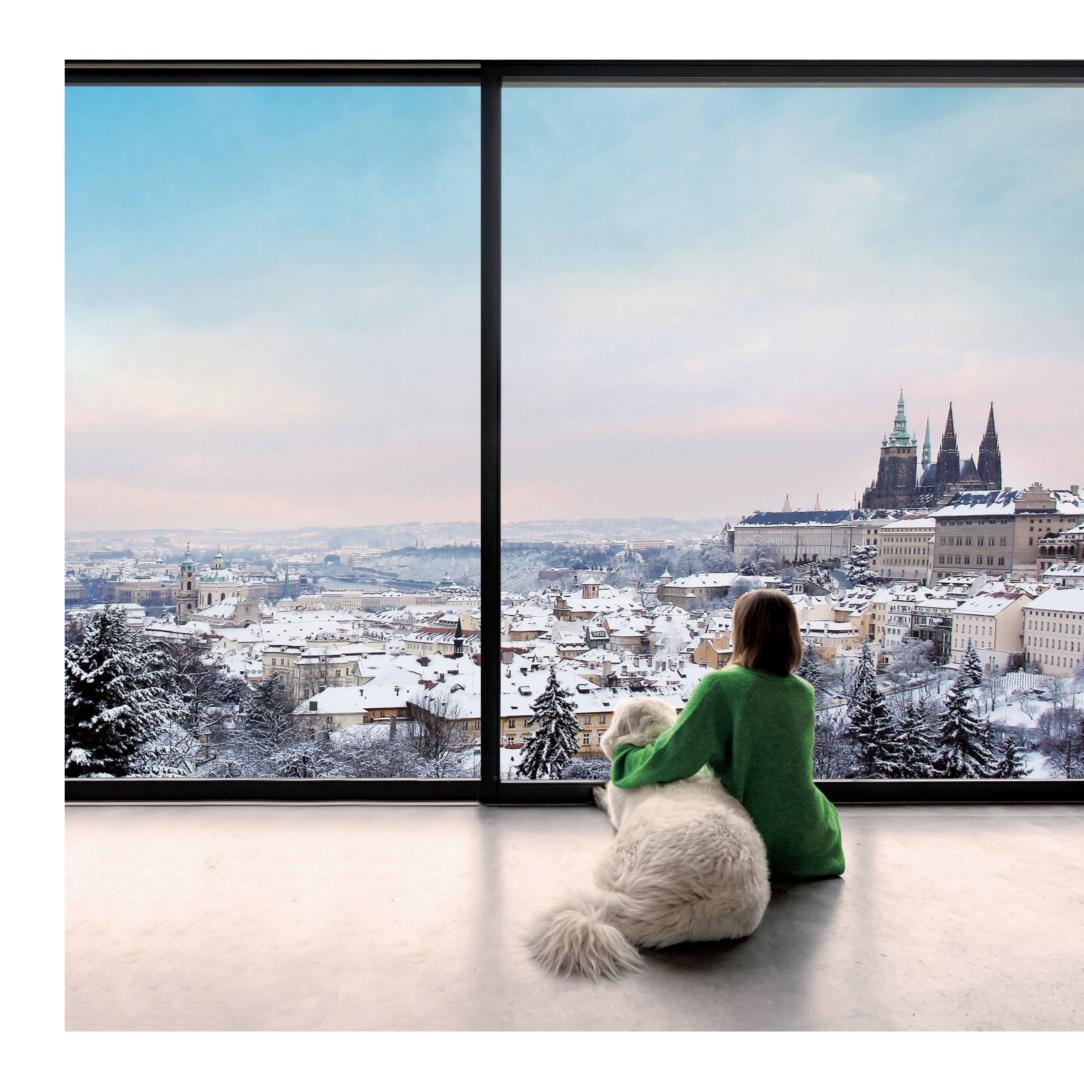
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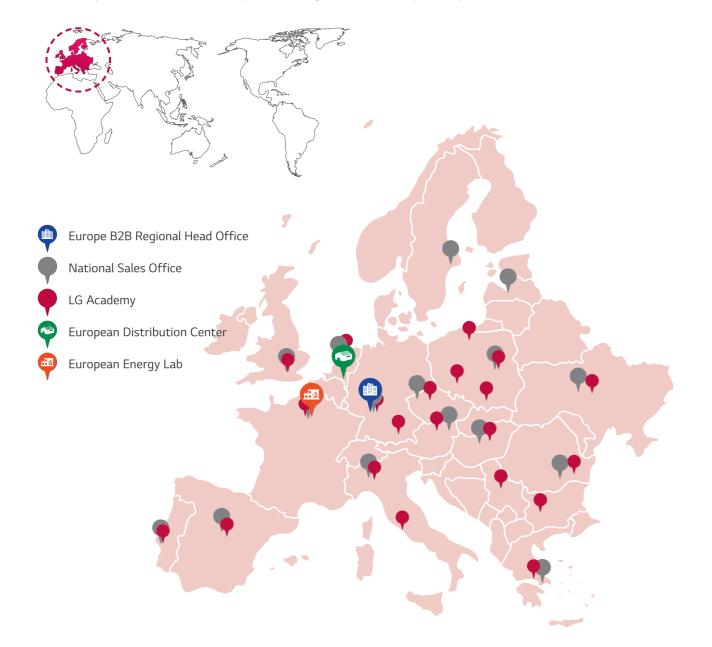
LG BUSINESS PARTNERSHIP & INFRASTRUCTURE

Infrastructure in Europe

LG Electronics' European Air Solution department is committed to ensuring your business success. With 16 pan-European sales offices and academies, we seek to deliver on our promise of support, efficiency and proactivity throughout each stage of our business partnership.

Our highly competitive products are delivered through our dedicated European distribution centre to ensure a steady and reliable supply of inventory.

At our European Energy Lab, LG Business Solutions is developing a heat pump technology that is optimized for the varied European climates and weather patterns along with continuous product performance verification.





LG Europe B2B Regional Head Office

LG Business Solutions Europe is based in Eschborn, Germany, with regional offices located throughout Europe. LG Europe B2B Regional Head Office is a control tower for European B2B business dealing with a wide range of products, including heat pumps and air conditioners.

LG Electronics has a strong global network.

About LG Business Solutions: http://www.lg.com/global/business/about-lg-business



LG Heat Pump and Air Conditioning Academy

LG has set up 20 official heat pump and air conditioning academies in Europe, teaching much needed skills to thousands of current industry professionals including installers, consultants, designers, sales staff and service technicians. The academy program is designed to share expertise and educate these HVAC experts by providing a cutting-edge technical experience with the newest and most advanced technologies and equipment. Moreover, as LG's entire product range is installed on site, professionals can be trained in a realistic way that offers them the chance to experience the latest products first-hand.



European Distribution Center

LG's European Distribution Center is located in Oosterhout, the Netherlands. Supplying products all over Europe, this distribution hub has contributed to smooth and rapid delivery, direct shipping for smaller orders and delivery tailored to air conditioners. Inventory efficiency of the hub is secured by the LG EU's established inventory pool.

HEAT PUMP TECHNOLOGY

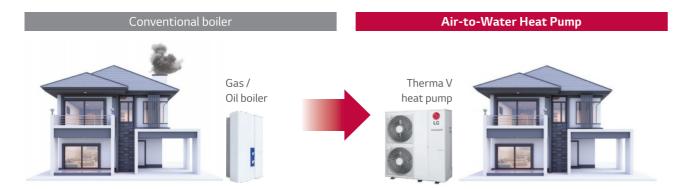
LG Electronics Leads the Way in Heat Pump Technology

As a leading HVAC supplier, LG's heating product portfolio comprises a wide range of highly energy efficient renewable energy systems, providing the right heating solution for any type of requirements and/or buildings.

What is an Air-to-Water Heat Pump System?

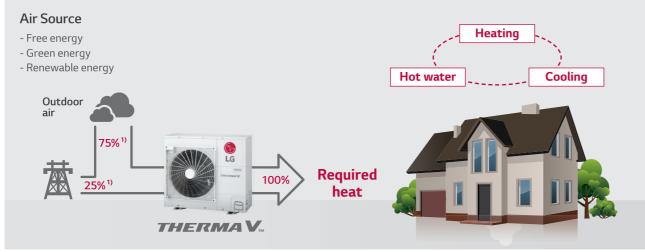
Modern Technology to Replace Conventional Boilers

Historically, conventional heating systems have used either oil or gas or have represented direct electric heaters. In such conventional heating systems, environmental aspects such as the pollution produced by fossil fuel use have been overlooked. Over the last years, the interest in these environmentally friendly devices has been increasing and in order to respond to the growing demand for eco-conscious devices, LG has further developed its heat pump technology to produce more efficient, environmentally friendly products.



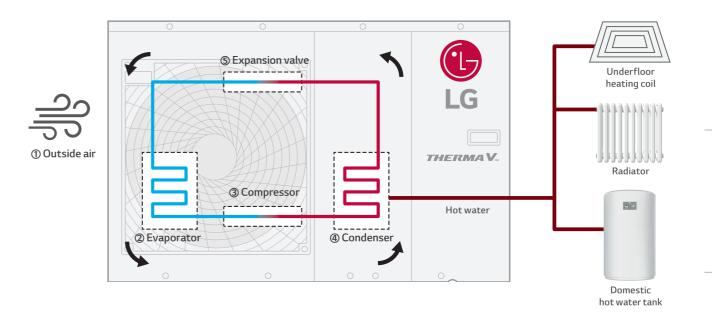
Modern Technology for Renewable Energy

The term "heat pump" refers to a technique that pumps heat from renewable energy sources, like the air, ground and water. A heat pump device transforms this energy into a usable heat source via the refrigerant cycle. With Therma V heat pump technology about 75% of the energy needed to provide heating and hot water comes from a natural air source. 1)



1) This is a general ratio based on LG Therma V R32 Series vs. electrical boiler under low temperature & average climate conditions, which may differ from

How do Air-to-Water Heat Pumps Work?



① Outside air

Heat is extracted from the outside air.

② Evaporator

As low temperature liquid refrigerant absorbs heat energy from the air, it transforms from liquid to vapor phase.

③ Compressor

The vaporized refrigerant flows into the compressor.

The electric energy used to operate the compressor is converted into heat and added to the refrigerant.

Condenser

High temperature refrigerant gas flows into the heat exchanger and conveys heat energy to water by the heat exchanged between the refrigerant and water.

(5) Expansion valve

High-pressure liquid refrigerant flows through the expansion valve to restore the refrigerant to its original condition.

REGULATIONS & CERTIFICATIONS

Energy Label

Energy labels

The EU energy label has been a key driver for helping consumers choose products which are more energy efficient. At the same time, it also encourages manufacturers to drive innovation by using more energy efficient technologies. The energy label was recognized by 93% of consumers and 79% considered it when buying energy efficient products, according to the special eurobarometer 492 carried out in the 28 EU member states during 2019. Starting from 2013, the regulations apply to heat pumps, as well as to water heaters since 2015.

As of September 26th, 2019, the energy efficiency scale for seasonal space heating ranges from A+++ to D, with A+++ being the most efficient. The water heating energy efficiency scale for the declared load profile for combination heat pumps ranges from to A+ to F, with A+ being the most efficient.

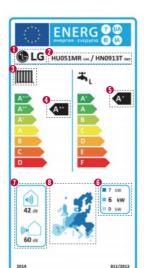
Information on the energy label

The energy labels provide minimum necessary information such as: manufacturer's name, manufacturer's model name, seasonal space heating energy efficiency class under average climate condition from A+++ to D in medium/ low temperature applications (55°C/35°C), rated heat output under average, colder and warmer climate conditions in medium/low temperature applications (55°C/35°C), European map displaying the three temperature zones, the sound power level indoors and/or outdoors. In addition, just for combination heat pumps, the energy label also includes Water heating energy efficiency class under average climate condition from A+ to F at declared load profile, while the seasonal space heating energy efficiency class and rated heat output are indicated only for the medium temperature application (55°C).

HM051MR

Heat pump space heaters

- Manufacturer's name or trade mark Manufacturer's model name
- Space heating function
- 4 Seasonal space heating energy efficiency class under average climate condition from A+++ to D in medium/low temperature applications (55°C/35°C)
- 3 Rated heat output (kW) under average, colder and warmer climate conditions in medium/low temperature applications (55°C/35°C)
- Operating noise for indoor and outdoor 1 European map displaying the three temperature zones
- * This energy label may differ depending on



Heat pump combination heaters

- Manufacturer's name or trade mark
- Manufacturer's model name
- 3 Space heating function
- Seasonal space heating energy efficiency class under average climate conditions from A+++ to D in medium temperature applications (55°C)
- 6 Water heating energy efficiency class under average climate conditions from A+ to F
- 6 Rated heat output (kW) under average, colder and warmer climate conditions in medium temperature application (55°C)
- 1 Operating noise for indoor and outdoor
- 8 European map displaying the three temperature zones
- * This energy label may differ depending on local regulations (for example in the UK).

Nearly Zero Energy Building (nZEB)

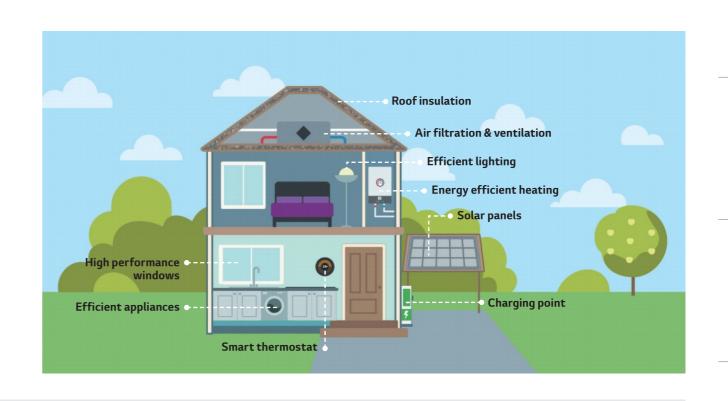
Nearly Zero Energy Building

Nearly Zero-Energy Building (nZEB) means a building that has a very high energy performance, while the nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby. The Energy Performance of Buildings Directive (EPBD) requires that EU countries ensure that all new buildings are nearly zero-energy by the end of 2020, while all new public buildings had to be nearly zero-energy after 31 December 2018.

As concrete numeric thresholds or ranges are not defined in the EPBD, each EU member state defines their Nearly Zero-Energy Buildings (nZEB) in a flexible way, taking into account their country-specific climate conditions, primary energy factors, calculation methodologies, building traditions and current ambitions.

How LG Therma V supports to Nearly Zero Energy Buildings (nZEB)

In general, consultants use software programs to evaluate nZEB satisfaction of a new building. LG has been registering Therma V products in their database so that our Therma V products can be used directly in these software programs such as BENG in Netherland, SAP in UK and RE2020 in France.



LG Therma V energy labels | Energy labels for each LG Therma V model can be found on the websites below.



010

LG.COM -**Compliance Information**

https://www.lg.com/global/ support/cedoc/cedoc



European Product Registry for Energy Labelling

https://eprel.ec.europa.eu/screen/product/



Netherland -BENG

https://bcrg.nl/nl/



SAP

https://www.ncm-pcdb.org.uk/sap/ pcdbsearch.jsp?type=362&pid=31



RE2020

https://www.edibatec.org/ base-produits/

REGULATIONS & CERTIFICATIONS

Certifications

All heat pumps and water heaters in the European market are continuously tested by various certification schemes. These are usually the basis for qualifying for subsidy programs in each country.

Keymark

https://keymark.eu/en/products/heatpumps/certified-products





The heat pump Keymark is a voluntary, independent European certification mark (ISO type 5 certification) for all heat pumps, combination heat pumps and hot water heaters (as covered by ecodesign, EU regulation 813/2013 and 814/2013). It is based on independent, third party testing and demonstrates compliance with product requirements as set in the heat pump Keymark scheme rules and with efficiency requirements as set by ecodesign lot 1 and lot 2

The heat pump Keymark scheme is owned by the European committee for standardization (CEN).

The certificates are granted by independent certification bodies to products fulfilling all requirements of the scheme. LG Therma V products are certified with the heat pump Keymark. Please, refer to the web page above for details.

Eurovent

https://www.eurovent-certification.com/en/





Established in 1993, Eurovent certita certification is recognized as a world leader in third-party product performance certification in the heating, ventilation, air conditioning and refrigeration fields. Its major certification brand 'Eurovent Certified Performance' has become over the years a major European certification. Today over 67% of HVAC-R products sold in Europe hold this certification. LG Therma V products are certified with Eurovent. Please, refer to the web page above for details.

MCS

https://mcscertified.com/product-directory/





MCS certification is a mark of quality and demonstrates compliance to industry standards. It is supported by the department for business, energy & industrial strategy of the UK. In particular, MCS certification demonstrates the quality and reliability of products in the renewable technology sector and it ensures that products are compliant with the UK regulations.

LG Therma V products are certified with MCS. Please, refer to the web page above for details.

EHPA





https://www.ehpa.org/quality/quality-label/



The EHPA quality label is a label that shows the end-consumer a quality heat pump unit or model range on the market. The heat pumps that receive the label need to undergo tests according to the international standard EN14511 and EN16147. These tests are executed by EN17025 accredited test centres. LG Therma V products are certified with the EHPA quality label for Austria, Germany and Switzerland. Please, refer to the web page above for details.

THERMA V. INTRODUCTION

THERMA V_{TM}

Discover the ultimate eco-conscious, energy efficient and convenient heating solution

Today's informed consumer will consider multiple factors when choosing a heating solution, like an Air-to-Water Heat Pump (AWHP or ASHP) to include user-friendliness, reliability and regulation-compliance. Shifting regulations year after year exceedingly impact the European customers' choice of heating products.

R32 refrigerant represents a new smart solution to the modern requirements. With a 68% reduced Global Warming Potential (GWP) from the currently widely used refrigerant, R410A, R32-applied products are not only ecoconscious but also meet the consumers' needs for energy efficiency, performance and more.

LG Electronics' Therma V R32 line-up fulfills both European regulations as well as customer needs.



- Ultimate energy efficiency: A+++ in the ErP energy labelling regulation, wide operation range, reduced noise level
- Excellent performance: R1 compressor embedded, high heating capacity at low ambient temperature

• User convenience: LG ThinQ Wi-Fi control, convenient scheduler, wider connectivity, energy monitoring

THERMAV... WHAT IS LG THERMA V?



LG's Advanced Heating Technology

The LG Therma V Air-to-Water Heat Pump system boasts an advanced heating technology that can minimize energy consumption more than any other solution in the market. In addition, it has been specially designed to provide a valuable living space and domestic hot water supply to both new build and renovated homes.



Space heating

The wide span Therma V systems with high efficiency can cover heating loads of various types of houses.

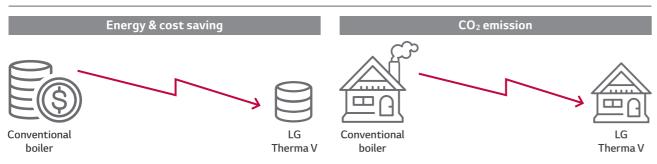
Domestic hot water

As the hot water efficiency becomes more and more important, Therma V can provide an optimized solution for this.

Space cooling

Therma V is a single device that can also provide a cooling solution besides the heating and hot water provided by boilers.

High Efficiency and Low CO₂ Emission



Benefits of LG Therma V



For homeowners

- Energy saving by utilizing renewable energy and high efficiency equipment
- Multiple solutions with space heating, cooling and DHW supply
- Economic support through domestic renewable heat incentive programs
- Investment cost savings thanks to the compatibility with existing heating system like radiator, boiler, etc.
- Valuable space savings with the small footprint
- No disturbing caused to neighbors with low noise
- Low repair cost and high reliability with durable equipment
- Convenient control by user-friendly remote controller
- Remote connectivity for control and monitoring via LG ThinQ



For consultants and designers

- Variety of software to support selection and designing Therma $\mbox{\ensuremath{V}}$
- Multiple solutions with space heating, cooling and DHW supply
- Wide leaving water temperature compatible with various heat emitters
- Valuable space savings with the small footprint
- Excellent heating performance even at low ambient temperature
- Optimal system interoperability open modbus with 3rd party controller
- Adapts operation to ESS battery output, maximizing self-consumption of locally produced PV energy



For installers and service providers

- Time savings with features for quicker installation and commissioning
- Less manpower for handling with the compact size and light weight
- Less service visit with high reliability and durable equipment
- Intuitive controller interface for all LG products, requiring less training
- Remote control, monitoring and diagnosis to avoid unnecessary site visits
- Clip connections for quick maintenance and no need for special tools

LG AIR-TO-WATER HEAT PUMP SOLUTION OVERVIEW

		Monobloc Hydrosplit			
		Standalone - no indoor unit	Hydro Box (wall hung)	IWT (Integrated Water Tank)	
		R32 Monobloc S	R32 Hydrosplit Hydro Box	R32 Hydrosplit IWT	
		1 Ø: 5/7/9/12/14/16 kW 3 Ø: 9/12/14/16 kW	1 Ø: 12/14/16 kW 3 Ø: 12/14/16 kW	1 Ø: 12/14/16 kW 3 Ø: 12/14/16 kW	
Line-up					
Application		Heating, cooling and DHW	Heating, cooling and DHW	Heating, cooling and DHW	
Energy label		Space heating Space heating Space heating Space heating Space heating Combination with OSHW-200F (Profile L) At	Space heating 55°C A***	Space heating Space heating Space heating Space heating Profile L A' A' A' A' A' A' A' A' A' A	
Certificatio	ns	MOS CERTIFIED COMMAND	CERTIFIED CONTROL		
Operation range	Outdoor air	-25 ~ 35°C	-25 ~ 35°C	-25 ~ 35°C	
(heating)	Leaving water	15 ~ 65°C	15 ~ 65°C	15 ~ 65°C	
Operation range	Outdoor air	5 - 48°C	5 ~ 48°C	5 ~ 48°C	
(cooling)	Leaving water	5 ~ 27°C (16 ~ 27°C) ²⁾	5 ~ 27°C (16 ~ 27°C) ²⁾	5 ~ 27°C (16 ~ 27°C) ²⁾	
Domestic he included	ot water tank	X	X	O (200 ℓ)	
Backup hea	ter included	X (accessory)	X (accessory)	0	
F-gas licens	se needed	X	Х	Х	
Wi-Fi remot	te control via	0	0	0	

1) Wi-Fi modem (P	PWFMDD200) should l	e purchased and	installed separately.
-------------------	---------------------	-----------------	-----------------------

		Split		Water heater
Hydro Box	(wall hung)	IWT (Integrated Water Tank)	Floor standing	Water heater
R32 Split Hydro Box	R410A Split Hydro Box	R32 Split IWT	High Temperature	Heat Pump Water Heater
1 Ø: 4/6 kW (U24A) 1 Ø: 5/7/9 kW (U36A)	1 Ø: 12/14/16 kW 3 Ø: 12/14/16 kW	1 Ø: 4/6 kW (U24A) 1 Ø: 5/7/9 kW (U36A)	1 Ø: 16 kW	1 Ø: 200 / 270 L
			• I.G.	
Heating, cool	ling and DHW	Heating, cooling and DHW	Heating and DHW	DHW
		★ ●	*	
Space heating 35°C A*** 55°C A***	Space heating 35°C A*** 55°C A***	Space heating Space heating 55°C A** Profile L (4/6 kW) Profile L (5/7 kW) Profile XL (9 kW) A* A*	Space heating 35°C A* 55°C A*	200 L 270 L Profile L Profile L DHW A* A*
MCS and EHPA lader development (4/6 kW model)	* EHPA label under development	* EHPA label under development (4/6 kW model)	MDS CERTIFIED	
4/6 kW: -20 ~ 35°C 5/7/9 kW: -25 ~ 35°C	-25 ~ 35°C	4/6 kW: -20 ~ 35°C 5/7/9 kW: -25 ~ 35°C	-25 ~ 35°C	-5 ~ 48°C
4/6 kW: 15 ~ 55°C 5/7/9 kW: 15 ~ 65°C	15 ~ 57°C	4/6 kW: 15 ~ 55°C 5/7/9 kW: 15 ~ 65°C	25 ~ 80°C	35 ~ 65°C
5 ~ 48°C	5 ~ 48°C	5 ~ 48°C	-	-
5 ~ 27°C (16 ~ 27°C) ²⁾	5 ~ 27°C (16 ~ 27°C) ²⁾	5 ~ 27°C (16 ~ 27°C) ²⁾	-	-
)	X	O (200 ℓ)	Х	O (200 / 270 ℓ)
(0	0	Х	0
(0	0	0	Х
(0	0	0	0

²⁾ When a fan coil unit is not used. 3) Except for 3 Ø 9 kW model (HM093MR U44)

^{4) 5, 7, 9, 12} kW models only (HM051MR U44, HM071MR U44, HM091MR U44, HM093MR U44, HM121MR U34, HM123MR U34)

THERMA V...

LINE-UP OVERVIEW

Line-up	Unit	Power supply 1)	Appearance	4 kW	6 kW	Appearance	5 kW	7 kW
R32 Monobloc S	Set	1 Ø / 230 V				0 -	HM051MR U44	HM071MR U44
P.58		400 V						
D22	Outdoor	1 Ø / 230 V						
R32 Hydrosplit Hydro Box	unit	3 Ø / 400 V						
P.76	Indoor unit	Common						
	Outdoor	1 Ø / 230 V						
R32 Hydrosplit IWT	unit	3Ø/ 400 V						
P.88	Indoor unit	Common						
R32 Split Hydro Box	Outdoor unit	10/	is is	HU041MR U20	HU061MR U20		HU051MR U44	HU071MR U44
P.100	Indoor unit	230 V	=	HN0613M NK5		=	HN091MR NK5	
R32 Split IWT	Outdoor unit	10/	u.s	HU041MR U20	HU061MR U20		HU051MR U44	HU071MR U44
P.118	Indoor unit	230 V		HN0613T NK0			HN0913T NK0	
	Outdoor unit	10/						
R410A Split	Indoor unit	230 V						
P.140	Outdoor unit	3Ø/						
	Indoor unit	400 V						
High	Outdoor unit	10/						
P.152	Indoor unit	Indoor 230 V						

¹⁾ The power supply is shown based on the outdoor unit.

Line-up	Power supply	Appearance	200 ℓ	270 ℓ
Heat Pump Water Heater	1Ø/		WH20S	
P.164	230 V			WH27S

^{*} Production of this product could be discontinued without prior notice considering manufacturer's circumstances.

9 kW	Appearance	12 kW	14 kW	16 kW
HM091MR U44	0 -	HM121MR U34	HM141MR U34	HM161MR U34
HM093MR U44	0	HM123MR U34	HM143MR U34	HM163MR U34
	0	HU121MRB U30	HU141MRB U30	HU161MRB U30
	0	HU123MRB U30	HU143MRB U30	HU163MRB U30
	[]		HN1600MC NK1	
	0	HU121MRB U30	HU141MRB U30	HU161MRB U30
	0	HU123MRB U30	HU143MRB U30	HU163MRB U30
			HN1616Y NB1	
HU091MR U44				
HN091MR NK5				
HU091MR U44				
HN0913T NK0				
	0	HU121MA U33	HU141MA U33	HU161MA U33
	ā		HN1616M NK5	
	0	HU123MA U33	HU143MA U33	HU163MA U33
	5.)		HN1636M NK5	
	0			HU161HA U33
	-			HN1610H NK3

LINE-UP INTRODUCTION



Therma V R32 Monobloc S

The Therma V R32 Monobloc S is the 2nd generation of LG's R32 Monobloc series. As implied by "silence" and "supreme,"it boasts reduced noise level and best performance in the Therma V Series. Combining the indoor and outdoor as one module, it's also connected by only water piping eliminating the need for refrigerant piping. Furthermore, hydronic components like the plate heat exchanger, expansion tank, water pump, flow sensor, pressure sensor, air vent valves, and safety valve are conveniently situated inside the unit. The R32 Monobloc S provides excellent heating performance, especially at low ambient temperature, while producing lower carbon emissions with R32.

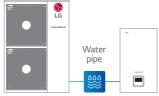


Line-up	Capacity (kW)	4.0	5.5	6.0	7.0	9.0	12.0	14.0	16.0
R32	1 Ø 230 V		•		•	•	•	•	•
Monobloc S	3 Ø 400 V					•	•	•	•



Therma V R32 Hydrosplit Hydro Box

The LG Therma V Hydrosplit series separates the indoor unit (IDU) and outdoor unit (ODU), connecting them via water pipes. The unit's heat exchanger is located within the ODU, reducing the risk of indoor refrigerant leakage. Therma V R32 Hydrosplit Hydro Box is a solution providing space heating, cooling and DHW supply with high installation flexibility thanks to the characteristic of being a wall mounted type. Since the indoor unit is installed on the wall rather than on the floor, space is not wasted, and the light weight enables quick installation. Also, it has good maintainability because the indoor unit is located indoors, for example in a machine room.





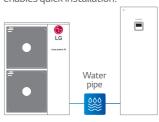
Line-up	Capacity (kW)	4.0	5.5	6.0	7.0	9.0	12.0	14.0	16.0
R32 Hydrosplit	1 Ø 230 V						•	•	•
Hydro Box	3 Ø 400 V						•	•	•

 $[\]ensuremath{^{\star}}$ The power supply is shown based on the outdoor unit.



Therma V R32 Hydrosplit IWT

The LG Therma V Hydrosplit series separates the indoor unit (IDU) and outdoor unit (ODU), connecting them via water pipes. The unit's heat exchanger is located within the ODU, reducing the risk of indoor refrigerant leakage. Therma V R32 Hydrosplit IWT combines an indoor unit, a water tank and complex piping into a single, space-saving solution that is able to provide space heating, cooling and DHW supply. Relatively compact and lightweight, the innovative all-in-one is easy to install and operate, and boasts the outstanding reliability and efficiency. Since there is no need to install a separate domestic hot water tank for hot water supply, space is not wasted, and the concept with all-in-one enables quick installation.





Line-up	Capacity (kW)	4.0	5.5	6.0	7.0	9.0	12.0	14.0	16.0
R32 Hydrosplit	1 Ø 230 V						•	•	•
IWT	3 Ø 400 V						•	•	•

^{*} The power supply is shown based on the outdoor unit.

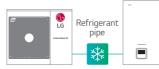


LINE-UP INTRODUCTION



Therma V R32 Split Hydro Box

The LG Therma V R32 Split Hydro Box is a hydro box type system consisting of an indoor hydro box unit and an outdoor unit. The two units are connected by refrigerant piping only, thus hydronic components such as plate heat exchanger, expansion tank and water pump are located within the indoor unit. Due to the split nature, freezing will not compromise this unit regardless of outdoor ambient temperatures. The outdoor unit is on offer in 4/6 kW and $5/7/9~\rm kW$ capacity range. R32 Split 4/6 kW model is suitable for new build houses that are well insulated and require a small heating load, while R32 Split $5/7/9~\rm kW$ model is adapted for both new build and renovation projects.





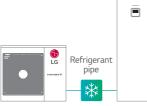
Line-up	Capacity (kW)	4.0	5.5	6.0	7.0	9.0	12.0	14.0	16.0
R32 Split	1 Ø 230 V	•	•	•	•	•			
Hydro Box	3 Ø 400 V								

^{*} The power supply is shown based on the outdoor unit.



Therma V R32 Split IWT

The LG Therma V R32 Split IWT is a domestic hot water supply, space heating and cooling solution that conveniently combines an indoor hot water tank with a separate outdoor unit. Therma V R32 Split IWT is the perfect space-saving solution for residential applications because hydronic components like the Domestic Hot Water (DHW) and buffer tanks, which are typically installed separately, are fully integrated. Also, freezing will not compromise this unit regardless of outdoor ambient temperatures due to the split nature. The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range. R32 Split 4/6 kW model is suitable for new build houses that are well insulated and require a small heating load, while R32 Split 5/7/9 kW model is adapted for both new build and renovation projects.





Line-up	Capacity (kW)	4.0	5.5	6.0	7.0	9.0	12.0	14.0	16.0
R32 Split	1 Ø 230 V	•	•	•	•	•			
IWT	3 Ø 400 V								

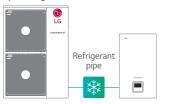
 $[\]ensuremath{^{\star}}$ The power supply is shown based on the outdoor unit.



Therma V R410A Split Hydro Box

The LG Therma V R410A Split Hydro Box is a hydro box type system consisting of an indoor hydro box unit and an outdoor unit. The two units are connected by refrigerant piping only, thus hydronic components such as the plate heat exchanger, expansion tank and water pump are located within the indoor unit. Due to the split nature, freezing will not compromise this unit regardless of outdoor ambient temperatures.

LG's Therma V R410A Split Hydro Box is designed for the benefit of users and installers who want to apply a heating solution to a large capacity building or applications subject to colder climate conditions. It has a maximized energy efficiency of A++ in the mid-temperature ranges, which results in reduced operating costs.





Line-up	Capacity (kW)	4.0	5.5	6.0	7.0	9.0	12.0	14.0	16.0
R410A Split	1 Ø 230 V						•	•	•
Hydro Box	3 Ø 400 V						•	•	•

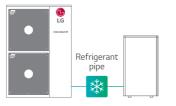
^{*} The power supply is shown based on the outdoor unit.



Therma V High Temperature

The LG Therma V High Temperature is a split type that consists of a floor standing indoor unit and an outdoor unit. Thanks to cascade (2 stage) compression technology, it can supply high leaving water temperature up to 80°C with high energy efficiency.

Since Therma V High Temperature is able to produce and supply the high temperature water without electric heater, it is suitable for houses which have poor insulation, older features or have to meet sanitary water regulations, which requires a higher water temperature.





Line-up	Capacity (kW)	4.0	5.5	6.0	7.0	9.0	12.0	14.0	16.0
High	1 Ø 230 V								•
Temperature	3 Ø 400 V								

^{*} The power supply is shown based on the outdoor unit.

LINE-UP INTRODUCTION





Flexible Installation Locations



Laundry room



Storage room









Bathroom Garage Garage

※ Actual product appearance may differ from the above simulated scene.

PRE-SALES/ENGINEERING TOOLS

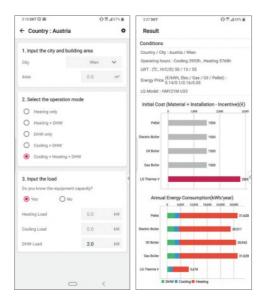
Pre-sales/Engineering Tools

LG provides a variety of software to support Therma V for all customers including designers, installers, and end users.

1. LG Therma V Selector

The LG Therma V Selector is a mobile application for designers, installers and end users, which provides various real-life simulations. An energy simulation can quickly indicate energy consumption and cost as well as CO₂ emission values that can be vastly reduced from conventional heating systems using minimal input values.

With both model selection and energy simulation tools, quick and accurate selection is made possible with detailed input values such as desired system configuration, required heating and Domestic Hot Water (DHW) load, which will calculate payback, result in a faster energy simulation and generate cost comparisons. Sound level can also be calculated through simulations based on the installation environment.



2. LATS Therma V

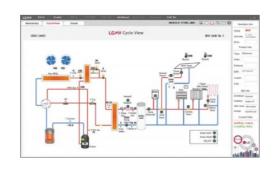
LATS Therma V is a PC-based model selection program of LG Therma V products, enabling an accurate and quick selection of the most suitable model in each end-user environment.

In addition to model selection, faster energy simulation and cost comparison to other systems are possible. Furthermore, customer is easily able to simulate payback compared to a conventional system such as a gas boiler, electric boiler by using LATS Therma V.

3. LGMV

LGMV is a useful engineering tool that monitors Therma V's real-time refrigerant and water cycle. It assists installers with effective and efficient start-up and commissioning after the Therma V installation. LGMV enables service/field engineers to detect the errors and troubleshooting for fast and reliable problem solving.





Therma V Selector

How to install?

Search "LG Energy Payback" in Google Play Store or Apple App Store.

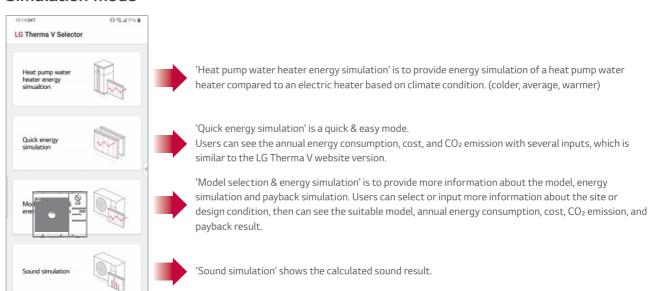
Android

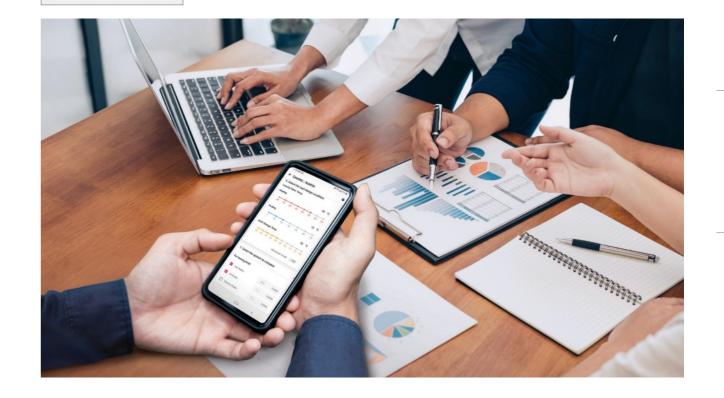
iOS





Simulation mode





^{*} LATS Therma V is available on the LG partner portal.

^{*} LGMV is available on the LG partner portal.

PRE-SALES/ENGINEERING **TOOLS**

Therma V Selector

Model selection & energy simulation

Before choosing an Air-to-Water Heat Pump, many customers wonder how much energy costs can be saved compared to conventional heating systems, and how to select a product with the right capacity for the home. The LG Therma V selector allows you to calculate annual energy costs and payback periods as well as model selection through sophisticated simulations through simple input values.

- City selection
- Building area input - Operation mode selection
- Load input



- Operation period selection
- Model type selection

← Country : Austria

4. Select the period

- Design condition input

← Country : Austria

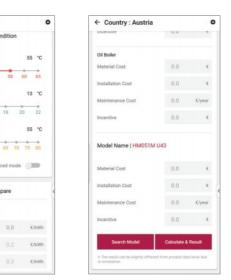
eaving Water Temp.

7. Select the system to compare

Oil Boiler

☐ Electric Boile

- System selection to be compared
- Costs input for systems
- Searching model that meets criteria

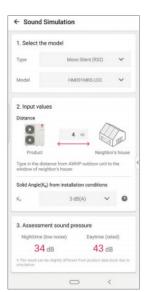


R32 0 0 220-240, 1, 50 🗸 6. Select the load design cond

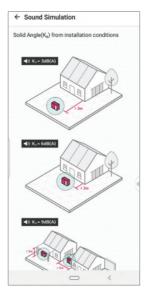


Sound simulation

Consumers are also wondering how much sound level will be after installing the Air-to-Water Heat Pump product. Using the sound simulation function of Therma V selector, you can predict the expected sound pressure values in the daytime and nighttime according to the installation distance and conditions.



- Model selection
- Distance input
- Solid angle selection



- Reference for solid angle selection

Result & report

After the simulation, analysis results including initial investment cost, annual energy consumption, and payback period can be checked in the form of various graphs. Moreover, this report is provided in PDF format and can be shared by e-mail and

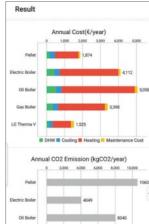
Result

- Simulation conditions summary

rating hours : Cooling 2953h , Heating 5768 LWT: (°C, H/C/D) 50 / 13 / 55

Energy Price (€/kWh, Elec./ Gas / Oil / 0.14/0.1/0.16/0.05

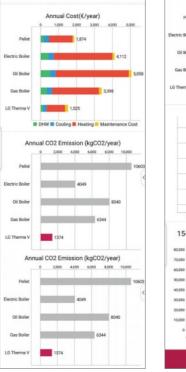
- Initial cost
- Annual energy consumption
- Annual cost
- Annual CO₂ emission
- 10-year life cycle cost analysis
- Payback year - 15-year life cycle cost analysis graph





Payback Years

- 10-year life cycle cost analysis





- Annual energy consumption

Report

- Cover page

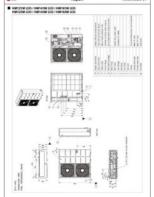
Project Name

- Site information & design condition - Product specification

E

- Life cycle cost
 - Power Comments

- Drawings



ThinQ SEAMLESS CONNECTIVITY

Smart Control, Smarter Life

LG ThinQ, a smart phone app, allows users to monitor and manage compatible LG products remotely, which means they can set the temperature and regulate the use of their Therma V anytime and anywhere.

In most EU countries, LG ThinQ technology also works with Google Assistant, letting users control their Therma V with voice commands.



PWFMDD200 (LG Wi-Fi Modem) / PWYREW000 (10 m extension connect cable in between Therma V indoor and LG Wi-Fi Modem) could be required depending on installation conditions

- * Search "LG ThinQ" on Google market or App store, then download the app.
- * Google assistant voice control may be restricted in use and language in some countries.
- * Google and Google Home are trademarks of Google LLC.
- * Voice-enabled smart speaker device is not included.

How to install the LG ThinQ app

Search and install for the LG ThinQ application from the Google Play or Apple App Store on a smart phone.

For Android users





For iOS users





How to connect Therma V to the LG ThinQ app

In the video below, see how to install Wi-Fi modem and connect Therma V and ThinQ.







Connect and control from anywhere, anytime

The LG ThinQ allows you to easily control your heating system in a way you never could before. Start to experience smart control of Therma V with just the tap of a button. Even when you are outside, you can operate the Therma V remotely.





Simple control with voice assistant

Tell your Therma V exactly what you need it. Say, "Turn on/off the Therma V" and the AI speaker will listen and turn on/off the Therma V.



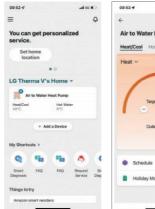


Efficient energy monitoring

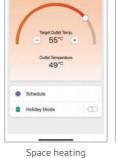
The LG ThinQ app continuously monitors Therma V. Whether it's everyday maintenance or something else, the app allows you to easily monitor energy usage.



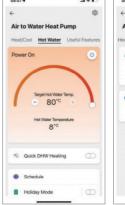
ThinQ mobile app



Home screen



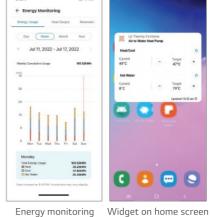
/ Cooling control



Hot water control



Useful features



This image is intended to help you understand, and there may be some differences in actual use.

033

(Android)

^{*} Control via widgets is only possible with the Android app.

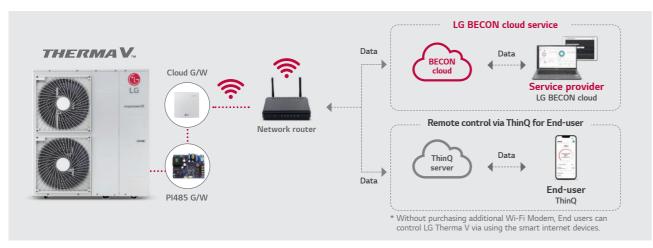
LG BECON CLOUD SERVICE

for **THERMA V**_{TM}



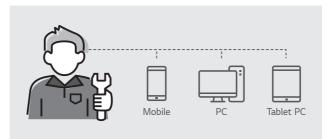
What is LG BECON Cloud Service?

LG BECON cloud service is a cloud-based service that remotely monitors a customer's heating system via PC, tablet or mobile anytime, anywhere. The operation status of the heat pump can be monitored at a glance as well as the past operation history. In the event of an issue, the cause can be identified in advance and the repair can be completed during a one-time visit. For more details and service contract, please contact your LG regional service contact.



Target Customer and Benefits

Service partners / Installers



▼ Save time and cost

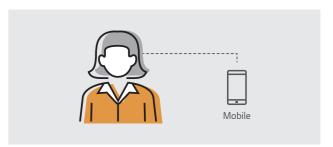
- One time visit with right parts
- No need pre-visit for diagnosis

☑ Quality of service

- Better service to end users with accurate diagnosis and fast repair

- Combine product + service offer
- Make more installation / repairs

End-users



☑ Enjoy peace of mind

- Be serviced at once or faster
- Be confident that immediate and quality of service will be provided in case of an error

✓ Less constraints

- No need to be at home for first diagnosis
- Monitor the operation status and control the system remotely

Key Features



Management at a glance

Monitoring status of customers

· Interactive map view or list view



Energy monitoring

Providing warning if energy usage is excessively high

 Display estimated power consumption by selfcalculation



Operation and error history

Providing operation data and error history to quickly identify the issue

• Operation history, error history, setting history, etc



Error notification by e-mail

Providing an e-mail notification automatically when an error occurs

• Possible to identify immediately and take a fast action



Remote control via cloud

· Current status and historical data

• Schematic view or table view

Preventing unnecessary site visit caused by simple operation mistake

Monitoring with visualized schematic

Cycle monitoring, sensor and actuator monitoring

Examining the operating state of the heat pump

- Operation mode (heating / cooling / DHW), target
- Emergency operation, low noise operation, quick DHW operation



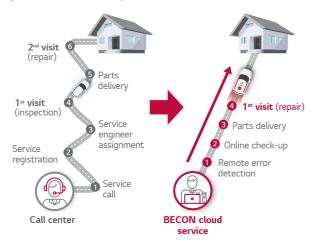
LG BECON CLOUD SERVICE

for **THERMA V**_{TM}

Why LG BECON cloud Service?

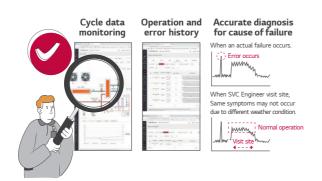
Quick service response time

Saving time and cost thanks to remote diagnosis of operation cycle without access to product.



Accurate diagnosis

Accurate diagnosis for cause of failure can be done by utilizing the error code and cycle data when an actual failure occurs.



Remote device control

With single account, maintenance service provider (or installer) can control their customer's sites remotely. As a result, site visit is not needed for minor issues, such as adjusting temperature or



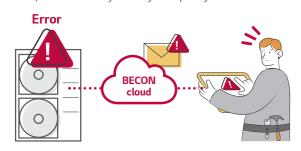
Energy monitoring

Power consumption based on self-calculation is recorded and displayed. Maintenance service provider (or installer) can provide warning if energy usage is excessively high.



Error notification by e-mail

Providing an e-mail notification automatically when an error occurs, making it possible for maintenance service provider (or installer) to immediately identify and quickly react.



ThinQ for end-users

Without purchasing additional Wi-Fi Modem, end-users can control LG Therma V via using smart internet devices.



Requirements



Cloud gateway



PI485 gateway

Compatible Therma V 1)	Required accessory	Network router
R32 Monobloc S R32 Split Hydro Box R32 Split IWT R32 Hydrosplit Hydro Box R410A Split Hydro Box	Cloud gateway (PWFMDB200) PI485 gateway (PP485A00T)	Wireless or wired LAN
LG BECON cloud service contract	Supported device / software	Supported language 2)

- 1) Therma V lineups supporting this service will be gradually expanded. Please consult your regional sales manager.
- 2) More languages will be supported sequentially. The schedule for service availability may vary by country.

Site

Interface Screen

Dashboard





[Operation status]



[Site overview]

Control







[Cycle monitoring – table view]

History

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[Outdoor unit cycle history]

LG SMART HOME ENERGY PACKAGE

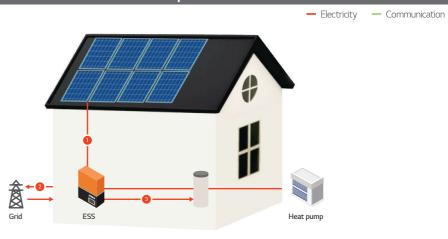


Power your home the smart way and save the energy bill

Your connected energy solution at a glance. The LG smart home energy package consists of LG's Energy Storage System (ESS) and the Air-to-Water Heat Pump (AWHP or ASHP), a system that's been expertly designed with compatibility in mind.

With LG, you are able to minimize the energy cost and one step closer to the ultimate smart home.

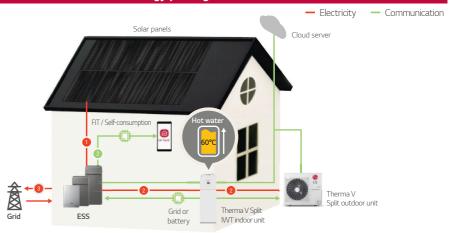
Conventional products



- 01. Energy is generated from solar panels and sent to your battery.
- 02. Once the battery is fully charged, surplus energy is automatically sold to the grid.
- 03. When you need hot water but the battery is empty, you buy electricity from the grid at a higher price.



LG energy package



- Energy is generated from solar panels and sent to your battery.
- 02. Once the battery is fully charged, the surplus energy from the ESS will heat your water tank and you get to monitor the status with the LG ThinQ app.
- 03. Once your water is heated, you can choose to sell surplus energy to the grid.







THERMA VI **FEATURE OVERVIEW**

LG Therma V's unique features

LG Therma V has been designed for providing efficient space heating and domestic hot water heating with usage convenience to the customer. To achieve this ultimate goal, LG has developed and applied core technologies and functions for heating to the LG Therma V.

Controller with intuitive interface Various **ature solution temperature control options ***** pressure sensor Built-in flow ≋⊵≋ Advanced pump control User DHW convenience recirculation Interlocking operation with 3rd party boiler Energy information 4 Seasonal auto mode Low noise mode & scheduler Screed drying

2 remote control

User convenience

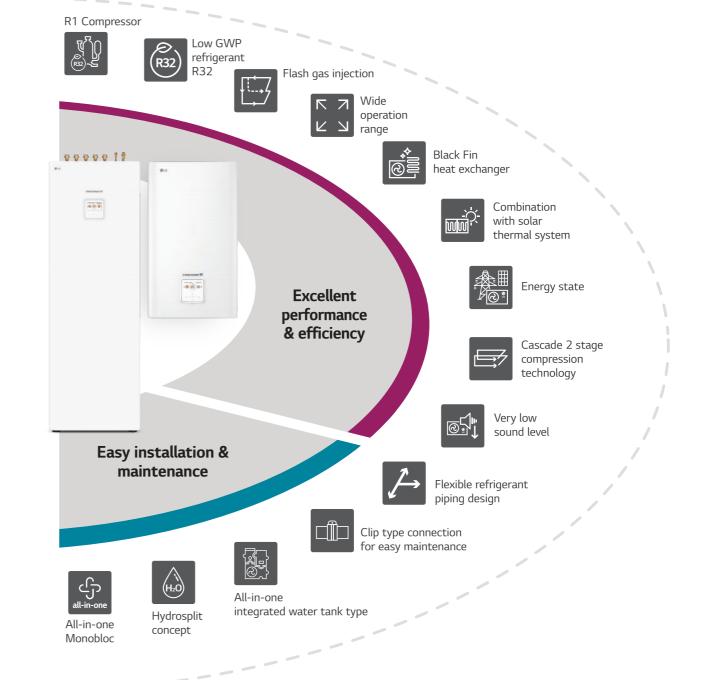
LG Therma V is equipped with various user convenience functions, which guarantee enhanced comfort and control. The textbased user-friendly interface on the remote control allows for optimized user intuition and the unit's wide connectivity also provides for user control convenience.

Excellent performance & efficiency

LG Therma V provides world-class energy efficiency by adopting LG's revolutionary technology such as the R1 Compressor and the Black Fin heat exchanger. LG products have achieved a high heating performance even in extremely cold weather conditions and LG Therma V can bring customers peace of mind through product reliability.

Easy installation & maintenance

LG Therma V offers installation and design flexibility to professional installers. The LG heating configurator also allows professionals to save time during commissioning. During maintenance, the clip type connection allows fast and easy disassembly of the components.



044 045

Suitable

for old

radiator

Sophisticated &

harmonious exterior

THERMAV

EXCELLENT PERFORMANCE & EFFICIENCY



Eco-Conscious With R32 Refrigerant

Background

Due to accelerated global warming and the destruction of the ozone layer, various international conventions and meetings are held to enhance restrictions to the use of refrigerant or enforce the use of eco-conscious refrigerant R32 which is internationally acclaimed as being eco-friendly. This low volume refrigerant is as efficient as any conventional refrigerant but boasts a 68 % reduced GWP (Global Warming Potential).



What is GWP?

Global Warming Potential is a measure that allows for an accurate comparison of the environmental impact of different gases. GWP measures how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2).





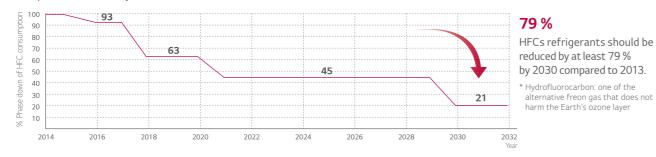


N₂O 298 GWP

° CH4 25 GWP

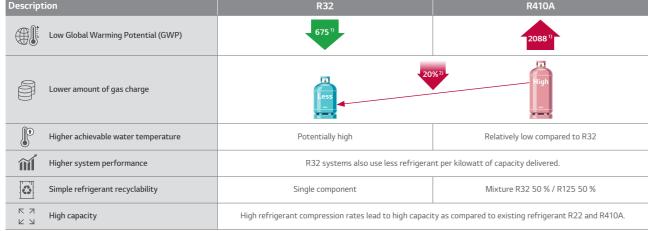
Global trend and EU regulation for F-gas

HFC* phase down 79 % by 2030



Comparison & benefit

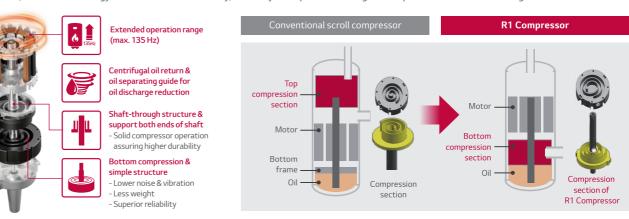
R32 efficiently works even in small volume compared to existing R410A refrigerant, which decreases the potential hazard of global warming. Furthermore, R32 refrigerant is easy to recycle thanks to its single composition.



) Source: global warming potential values (2007, AR4)

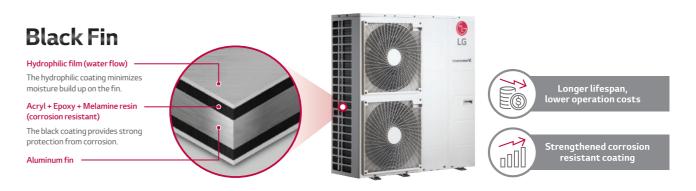
R1Compressor™ LG's Revolutionary Technology

R1Compressor™ technology offers advanced efficiency, reliability and operational range due in part to the enhanced tilting motion of the scroll.



Black Fin Heat Exchanger

The Therma V line-up includes a heat exchanger enhanced by black coating with enhanced epoxy resin for strong protection. This improvement in durability prolongs the product's lifespan and lowers both the operational and maintenance costs.



Energy States Interlock

LG Therma V provides an energy state interlock function enabling customers to use their own renewable energy as much as possible. It can shift set points depending on input signal from the Energy Storage System (ESS) or any other third-party device using Modbus or Digital 230 V inputs.

- 1) Energy is generated from panels and sent to your hattery
- 2) Once the battery is fully charged, the surplus energy from ESS will heat the water tank. The user gets to monitor the status with the LG ThinQ app.
- 3) Once the water is heated, the user can choose to sell surplus energy to the grid.

^{*} The figure on the right shows the R32 Split IWT as an example. Therma V High Temperature model does not support this function



²⁾ This ratio is general for helping understanding, It may differ depending on the each product.

EXCELLENT PERFORMANCE & EFFICIENCY

Combination With Solar Thermal System

By combining the solar system with Therma V, the efficiency of DHW heating operation can be maximized. During the day when there is a lot of sunlight, heated water by solar give some help heating the DHW tank.

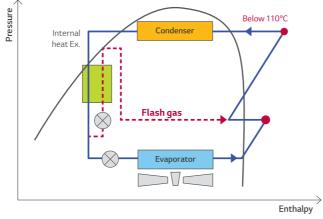


* Therma V IWTs and High Temperature model don't not support this function.

5

Flash Gas Injection

With the LG Therma V R32 series, flash gas injection technology is applied to control the discharge temperature of the compressor efficiently. As a result of this technology, the heating operation range is expanded and the heating performance at low ambient temperature is enhanced.



Direct Modbus Communication

Therma V can be connected and controlled by a 3rd party control system using Modbus protocol directly, without passing Modbus RTU gateway.



THERMA V.

USER CONVENIENCE

ThinQ Seamless Connectivity

Users can control their Therma V via smart internet devices such as Android or iOS smartphones. Moreover, LG ThinQ works with Google assistant voice control in most EU countries, making it possible to control Therma V using a voice control function.



landatory accessory:

 $PWFMDD200 (LG Wi-Fi modem) / PWYREW000 (10 m extension connect cable in between Therma V indoor and \ LG Wi-Fi modem) could be required depending on installation conditions.$

- * Search "LG ThinQ" on Google market or App store, then download the app.
- * Google assistant voice control may be restricted in use and language in some countries.

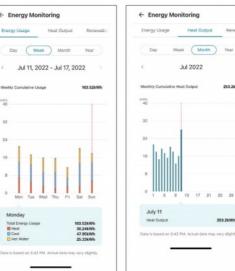
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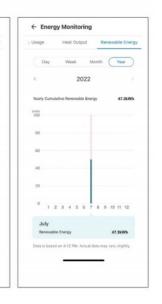
Energy Monitoring via Remote Controller and ThinQ

Estimated power consumption and thermal energy can be monitored on both the remote controller and LG ThinQ¹⁾ without connecting meter interface.

- Instant power consumption
- Power consumption by period (daily, weekly, monthly, yearly): categorized as heat, cool, and DHW
- Produced heat output by period (daily, weekly, monthly, yearly)²⁾
- Renewable energy by period (daily, weekly, monthly, yearly)^{2), 3)}







LG ThinQ app. screen 4)

- To use LG ThinQ, LG Wi-Fi modem (PWFMDD200) is required.
 When using antifreeze, it will not be available.
- 3) This energy information is only available with LG ThinQ in Spain.

 4) This impact is intended to halo you understand on the land of the land of the land.
- This image is intended to help you understand, and there may be some differences in actual use.

TRODUCTION

THERMA V FEATURES

MONOBLOG

HYDROSPLIT

SPI

WATER HEAT

ACCESSORI

049

^{*} The figure on the right shows the R32 Monobloc S as an example. Therma V High Temperature model does not support this function.

051

THERMA V.

USER CONVENIENCE



Intuitive Control

Therma V is equipped with a new remote controller which supports various functions.

- Premium design (4.3 inch color LCD)
- User friendly interface (simple graphic, icon & text)
- Convenient functions (easy schedule setting & installer setting)
- Energy monitoring without meter interface (estimated power consumption)
- * Instant power consumption and cumulative power consumption



Seasonal Auto Mode

The operation mode and target temperature will be changed according to the outdoor temperature automatically. Moreover, this function can be conveniently set using visualized graphics.

* Therma V High Temperature model has slightly different function as it doesn't support the cooling operation.





Various Temperature Control Options

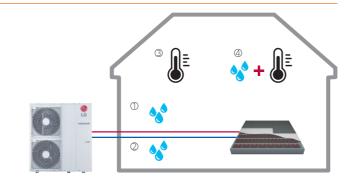
Various temperature control options are possible for the user's comfort and convenience, to include the newly added simultaneous control option (room and water temperature).



Option 2: control based on entering water temperature

Option 3: control based on room air temperature

Option 4: control based on room air and water temperature simultaneously





Advanced Pump Control Options

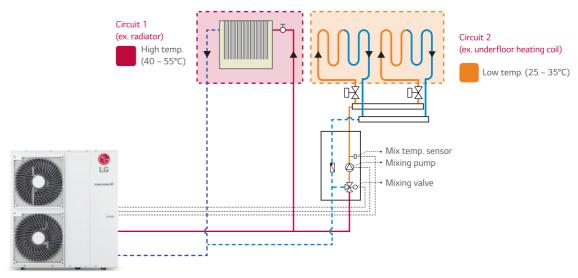
Various pump control options are available for the user's convenience. Now, water flow rate can be changed according to the heat load condition, therefore making it more energy efficient under low load conditions.



Options	Description	Water flow change as per load condition
Pump capacity	It operates with the capacity set for the water pump. (range 10 ~ 100 %)	No
Fixed flow rate	Automatically controlled to maintain the set flow rate. (5, 7, 9 kW range: 8 ~ 26 LPM / 12, 14, 16 kW range: 17 ~ 46 LPM)	No
Fixed ∆T¹)	Automatically controlled to maintain the set ΔT. (range 5 ~ 13 °C)	Yes
Optimal flow rate (default)	ΔT is changed as per target temp.	Yes

¹⁾ ΔT = temperature difference between inlet and outlet water temperature.

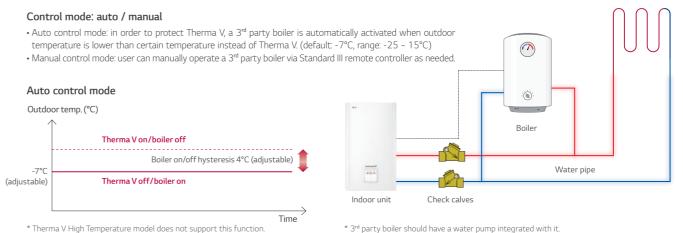
It is possible to control two separate individual zones (circuit 1 & circuit 2) with different temperature using mixing valve kit. It provides adequate heating and comfort to the end-user.



^{*} Mixing valve kit or mixing pump group should be purchased and installed separately. Therma V High Temperature model does not support this function.

Interlocking Operation With 3rd Party Boiler

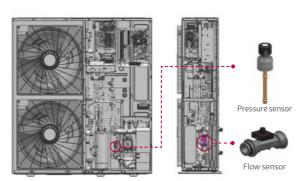
A 3rd party boiler such as oil, gas or electric boiler can be activated automatically or manually by the remote controller as an auxiliary equipment of Therma V.

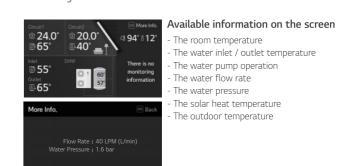


 $^{^{\}star}$ 3rd party boiler should have a water pump integrated with it.

₩ Water Circuit Monitoring

Not only water circuit temperature but also flow rate and pressure can be monitored via a remote controller. This information is not only useful for the installer during installation, but also helps to periodically clean the strainer during maintenance.





^{*} Therma V High Temperature model does not support this function.

053

THERMA V.

USER CONVENIENCE



DHW Recirculation Pump Control

Therma V can be connected to the DHW recirculation pump, which can then be managed via the scheduling function. When a user opens the faucet, hot water is immediately accessible thanks to the DHW recirculating function. This feature also has the added advantage of preventing Legionella growth in the hot water pipe.

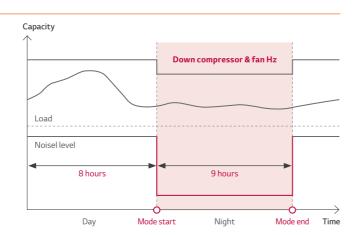


* Therma V High Temperature model does not support this function.



Low Noise Mode & Scheduler

Low noise mode operation can be activated by remote controller and set on a weekly on/off schedule to reduce the unit's noise level.





2 Remote Control

Enhanced convenience with an additional control installed in another residential area.

System diagram

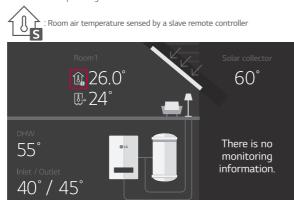


* Master is for the installation setting

* Slave is for user setting.

Standard III controller interface

• Therma V is operating based on the room where a slave controller is installed.



THERMA V.

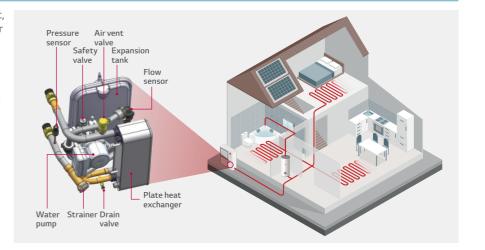
EASY INSTALLATION & MAINTENANCE



Monobloc Concept

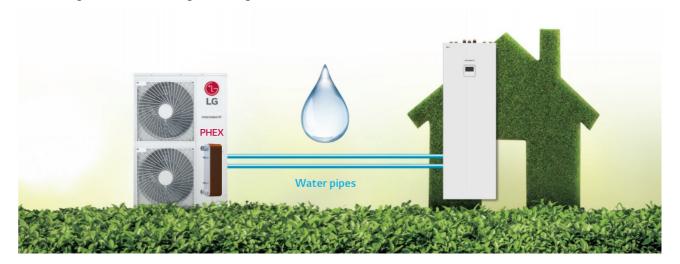
R32 Monobloc S is an all-in-one concept, with its reduced weight allowing guicker and easier installations.

- Additional hydronic components are included in the package
- Easier and quicker installation without refrigerant piping work
- The best solution when space heating only is needed or in case of a 3rd party DHW tank.



Hydrosplit Concept

The Therma V R32 Hydrosplit series connects an IDU and ODU by water pipes due to the heat exchanger's location in the outdoor unit, thus reducing the risk of indoor refrigerant leakage.



All-in-One Solution: Integrated Water Tank Type

Therma V's IWT indoor units are the perfect spacesaving solution for residential application thanks to its fully integrated hot water tank. Unlike in the case of typical separate installation, in this all-inone solution hydronic components and Domestic Hot Water (DHW) are pre-wired, which requires reduced installation time and saves valuable living space. Therma V's IWT indoor units are easy to set up and operate while it demonstrates outstanding reliability and efficiency.





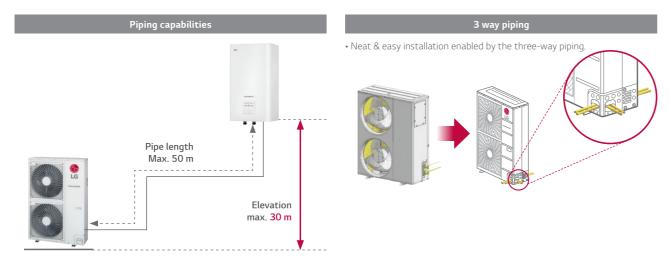
Conventional

LG Therma V IWT indoor unit

EASY INSTALLATION & MAINTENANCE

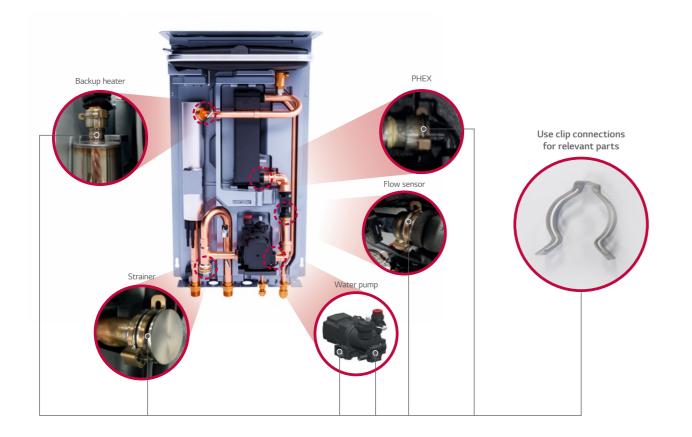
Flexible Refrigerant Piping Design

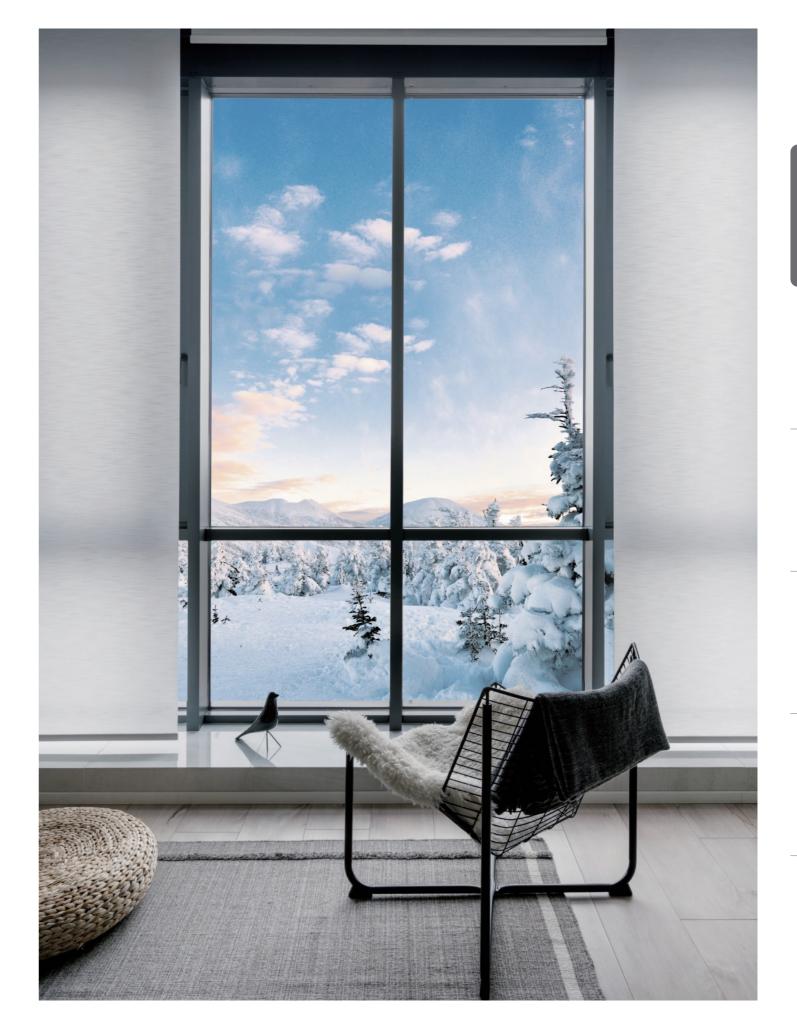
In stall at ion flexibility is enabled by Therma~V~Split's long~pipe~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~three~length~(up~to~50~m)~and~three~length~(directions: front, side and rear.



Clip Type Connection for Easy Maintenance

As a clip solution provides for easy maintenance and SVC works, maintenance for main hydronic parts can be done by hands without any special tool.

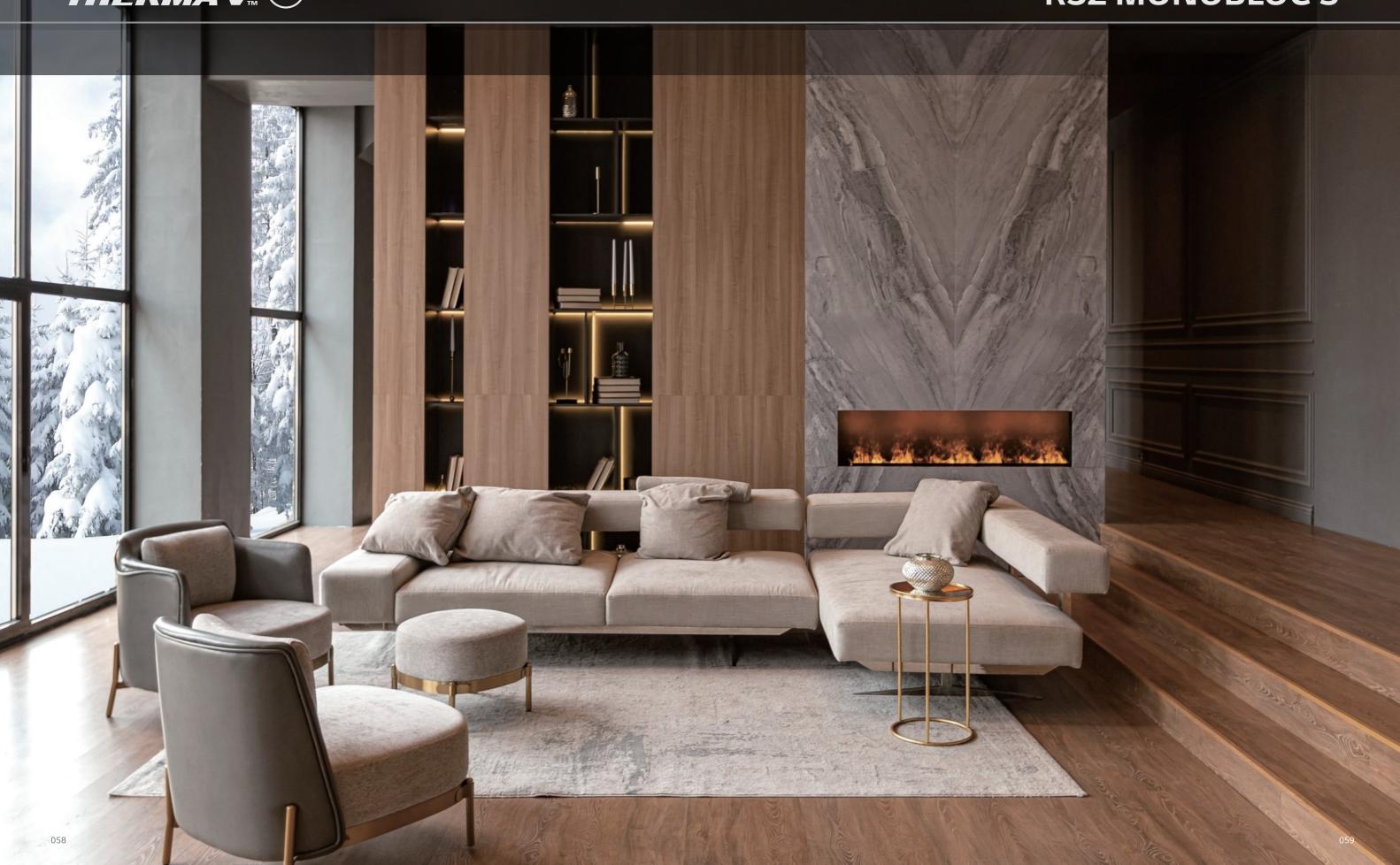








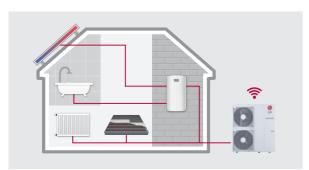
R32 MONOBLOC S



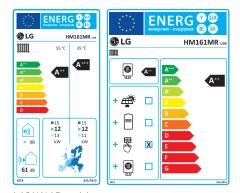
THERMA V... (R32) R32 MONOBLOC S







Energy label



- * 16 kW 1Ø model.

Excellent performance & efficiency









User convenience











Easy installation & maintenance



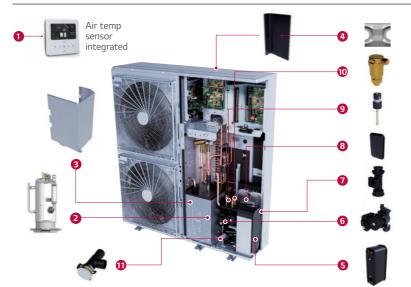


* Detailed description for each function is presented on page 44 ~ 54.

R32 Monobloc S Introduction

The Therma V R32 Monobloc S is the 2nd generation of LG's R32 Monobloc series. As implied by "silence" and "supreme," it boasts reduced noise level and best performance in the Therma V series. Combining the indoor and outdoor as one module, it's also connected by only water piping eliminating the need for refrigerant piping. Furthermore, hydronic components like the plate heat exchanger, expansion tank, water pump, flow sensor, pressure sensor, air vent valves, and safety valve are conveniently situated inside the unit. The R32 Monobloc S provides excellent heating performance, especially at low ambient temperature, while producing lower carbon emissions with R32.

Key Components



- 1 Standard III remote controller 1)
- 2 R1 Compressor
- 3 Compressor noise shield
- 4 Black Fin heat exchanger (ref/air)
- 5 Plate type heat exchanger (ref/water)
- 6 Water pump
- Water flow sensor
- 8 Expansion vessel (8 ℓ)
- Water pressure sensor
- 10 Air vent valve
- Strainer

1) The remote controller is supplied with the product, but it needs to be installed separately.

Quiet Mark Certified - creating healthy soundscapes for living spaces

Quiet Mark is the international award for high-performance technologies and solutions battling everyday unwanted noise. It shows that R32 Monobloc S is one of the quietest, or most technically effective products in noise reduction or acoustic properties available on the current market in its category.

Therma V R32 Monobloc S has received the Quiet Mark certification since it has been designed to reach lower acoustic levels in order to meet homeowner expectations in urban areas.



Certified products*:

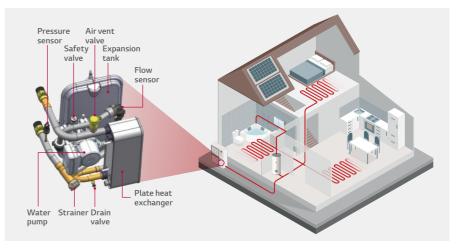
HM051MR U44 / HM071MR U44 / HM091MR U44 HM093MR U44 / HM121MR U34 / HM123MR U34

* This certification is valid for UK & EU territories only.

Monobloc Concept

R32 Monobloc S is an all-in-one concept, with its reduced weight allowing quicker and easier installations.

- Additional hydronic components are included in the package
- · Easier and quicker installation without refrigerant piping work
- The best solution when space heating only is needed

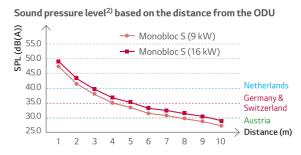


Reduced Noise Level

R32 Monobloc S can be installed at the minimum of 4 m away¹⁾ from neighboring houses while complying with noiserelated requirements in most European countries, including Germany. (based on 9 kW model & low noise mode)

Descr	iption	Germany	Austria	Switzerland	Netherlands
	Day time	50 dB (A) (06:00 ~ 22:00)	40 dB (A) (06:00 ~ 19:00)	40 dB (A) (07:00 ~ 19:00)	45 dB (A) (07:00 ~ 19:00)
Sound pressure threshold	Evening	-	35 dB (A) (19:00 ~ 22:00)	-	-
	Night time	35 dB (A) (22:00 ~ 06:00)	30 dB (A) (22:00 ~ 06:00)	35 dB (A) (19:00 ~ 07:00)	40 dB (A) (19:00 ~ 07:00)





1) Minimum distance to be away from a neighboring property may vary depending on installation conditions and noise regulations in individual countries. 2) Sound pressure level is converted from sound power level of low noise mode based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.

THERMA V_{TM} (R32) MONOBLOC S

R32 Monobloc S







HM051MR U44 HM071MR U44 HM091MR U44 HM093MR U44





















Features

- All-in-one outdoor unit
- SCOP up to 4.55 (average climate / low temp. application): SCOP up to 3.20 (average climate / mid temp. application):
- COP up to 4.70 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -15°C OAT (@ LWT 35°C)
- Low sound level allowing high installation location flexibility
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Improved heat exchanger design (new Black Fin)
- LG ThinQ
- Keymark / EHPA (for Germany, Austria and Switzerland) / MCS / Eurovent / Quiet Mark certification
- ${\rm *The\ certifications\ for\ HM093MR\ U44\ are\ under\ development\ except\ for\ MCS\ certification.}$

Model line-up

		Model name						
Capacity	Unit	Capacity (kW)						
		5.5	7.0	9.0				
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Monobloc unit -	HM051MR U44	HM071MR U44	HM091MR U44				
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz		-	-	HM093MR U44				

Seasonal energy

Description			Unit	HM051MR U44	HM071MR U44	HM091MR U44 HM093MR U44
	Average	SCOP	-	4.46	4.48	4.55
	climate	Seasonal space heating efficiency (ηs)	%	175	176	179
Space heating (according to	outlet 35°C	Seasonal space heating eff. class (A+++ to D Scale)	-	A+++	A+++	A+++
EN14825)	Average	SCOP	-	3.20	3.20	3.20
,	climate	Seasonal space heating efficiency (ηs)	%	125	125	125
	outlet 55°C	Seasonal space heating eff. class (A+++ to D Scale)	-	A++	A++	A++

Nominal capacity and nominal power input

Docarintian		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Unit	HM051MR U44	HM071MR U44	HM091MR U44
Description		UAI (DB)	LVV I ' (DB)	Unit	HIVIUSTIVIK U44	HIVIO/TIVIK 044	HM093MR U44
		7°C	35°C		5.50	7.00	9.00
	Heating	7°C	55°C		5.50	5.50	5.50
Nominal capacity	Caslina	2°C	35°C	kW	4.40	5.60	6.80
		35°C	18°C		5.50	7.00	9.00
	Cooling	35°C	7°C		5.50	7.00	9.00
		7°C	35°C	kW	1.17	1.49	1.96
	Heating	7°C	55°C		2.04	2.04	2.04
Nominal power input		2°C	35°C		1.22	1.58	1.94
	Cooling	35°C	18°C		1.17	1.56	2.14
	Cooling	35°C	7°C		1.67	2.19	2.90
		7°C	35°C		4.70	4.70	4.60
COP	Heating	7°C	55°C	W/W	2.70	2.70	2.70
		2°C	35°C		3.60	3.55	3.50
EER	Cooling	35°C	18°C	W/W	4.70	4.50	4.20
LLIN	Cooling	35°C	7°C	00/00	3.30	3.20	3.10

PRODUCT SPECIFICATION

1) OAT: Outdoor Air Temperature

Product specification

Technical spe	ecification			Unit	HM051MR U44	HM071MR U44	HM091MR U44 HM093MR U44	
	Operation range	Heating			15 ~ 65			
	(leaving water	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾			
Water side	temperature)	DHW				15 ~ 80 ²⁾		
vvater side	Piping connections	Water Circuit	Inlet	inch	Male PT 1" accor	ding to ISO 7-1 (tape	ered pipe threads)	
	Pipilig Colliections	Water Circuit	Outlet	inch	Male PT 1" accor	Male PT 1" according to ISO 7-1 (tapered pipe threads)		
	Rated water flow rate a	t LWT 35°C		LPM	15.8	20.1	25.9	
	Operation range	Heating	Min ~ Max	°C DB		-25 ~ 35		
	(outdoor temperature)	Cooling	IVIIII ~ IVIAX	CDB	5 ~ 48			
	Compressor	Quantity		EA	1			
Refrigerant	Compressor	Туре		-	Hermetic sealed scroll			
side		Туре		-	R32			
Refrigerant	GWP (Global W	arming Potential)	-		675			
	Precharged amount		g		1,400			
		t-CO2 eq		-		0.945		
C =	laal	Hastina	Rated		57			
Sound power l	level	Heating	Low noise mode	dB(A)	54	55		
<u> </u>	1 1/ . 5)		Rated	15(4)	35			
Sound pressur	re level (at 5 m)	Heating	Low noise mode	dB(A)	32	3	33	
Dimensions		Unit	W×H×D	mm		1,239 × 834 × 330		
Weight		Unit		kg	89	9.5	1 Ø:89.5 / 3 Ø:90.0	
Exterior		Color / RAL cod	e	-	V	Varm gray / RAL 704	14	
		Voltago ph	fraguena	V, Ø, Hz		0, 1, 50	220-240, 1, 50	
		Voltage, phase,	rrequency	V, Ø, HZ	220-24	0, 1, 50	380-415, 3, 50	
Power supply		Rated running	Heating	А	5.2	6.6	1 Ø:8.7 / 3 Ø:2.9	
		current	Cooling	А	5.2	6.9	1 Ø: 9.5 / 3 Ø: 3.2	
			circuit breaker	А	16	20	1 Ø: 25 / 3 Ø: 16	
Wiring connections Power supply cable (included earth, H07RN-F)			mm ² x cores	// // / / / / / / / / / / / / / / / / /		1 Ø : 4.0 x 3 C / 3 Ø : 2.5 x 5 C		

1) When a fan coil unit is not used.

2) DHW 55 ~ 80°C Operating is available only when the booster heater is operating.

1. Due to our policy of innovation, some specifications may be changed without notification.

Wiring cable size must comply with the applicable local and national codes.Especially the power cable and circuit breaker should be selected in accordance with that.

3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.

Rated sound power level is in accordance with EN12102-1 under condition of EN14825. 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation

• Rated running current: outdoor temp. 7°C DB / 6°C WB, LWT 35°C

5. This product contains fluorinated greenhouse gases.

6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

²⁾ LWT: Leaving Water Temperature

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HM051MR U44

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C		
temperature		Capacity (kW)								
-25°C DB	5.50	5.50	5.50	5.50	-	-	-	-		
-20°C DB	5.50	5.50	5.50	5.50	5.23	-	-	-		
-15°C DB	5.50	5.50	5.50	5.50	5.23	5.23	-	-		
-7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-		
-4°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
-2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
15°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
18°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50		

HM071MR U44

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C		
temperature		Capacity (kW)								
-25°C DB	5.85	5.85	5.85	5.85	-	-	-	-		
-20°C DB	6.43	6.43	6.43	6.43	6.10	-	-	-		
-15°C DB	7.00	7.00	7.00	7.00	6.65	6.65	-	-		
-7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-		
-4°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		
-2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		
2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		
7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		
15°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		
18°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00		

HM091MR U44 / HM093MR U44

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capaci	ty (kW)			
-25°C DB	6.20	6.20	6.20	6.20	-	-	-	-
-20°C DB	7.60	7.60	7.60	7.60	7.22	-	-	-
-15°C DB	9.00	9.00	9.00	9.00	8.55	8.55	-	-
-7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-4°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
-2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
15°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
18°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HM051MR U44

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C		
temperature		Capacity (kW)							
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
30°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50		
40°C DB	5.29	5.32	5.36	5.38	5.41	5.43	5.45		
45°C DB	5.09	5.15	5.21	5.25	5.31	5.36	5.40		

HM071MR U44

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
30°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	6.36	6.45	6.55	6.61	6.71	6.77	6.84
45°C DB	5.71	5.82	5.92	5.99	6.10	6.17	6.24

HM091MR U44 / HM093MR U44

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C		
temperature		Capacity (kW)							
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00		
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00		
30°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00		
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00		
40°C DB	7.66	7.66	7.65	7.65	7.65	7.65	7.65		
45°C DB	6.31	6.35	6.39	6.42	6.45	6.48	6.51		

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
 2. Direct interpolation is permissible. Do not extrapolate.
 3. Measuring procedure follows EN-14511.

- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

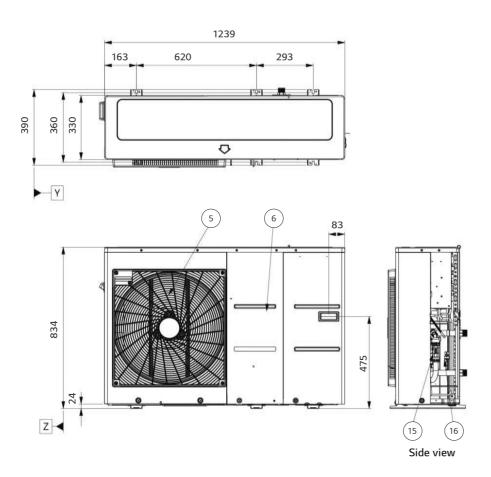
PRODUCT SPECIFICATION

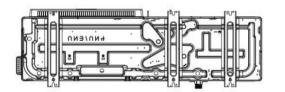
Drawings

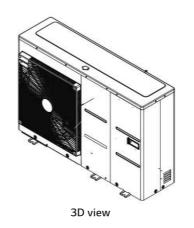
		Model name						
Category	Unit	Capacity (kW)						
		5.5	7.0	9.0				
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Monobloc unit	HM051MR U44	HM071MR U44	HM091MR U44				
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz		-	-	HM093MR U44				

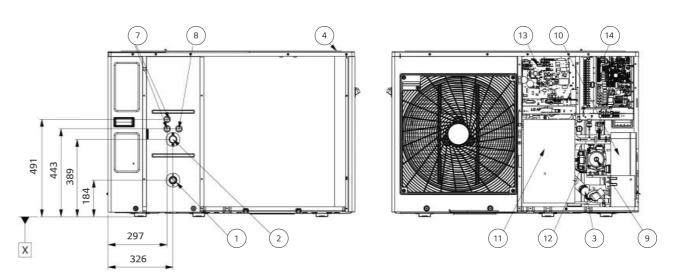
HM051MR U44 / HM071MR U44 / HM091MR U44 / HM093MR U44

[Unit: mm]









No.	Part name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Strainer	Filtering and stacking particles inside circulating water
4	Top cover	-
5	Front panel	-
6	Side panel	-
7	Low voltage	Communication cable hole
8	Unit power	Power cable hole
9	Water pump	To circulate water inside the system
10	Plate heat exchanger	Heat exchange between refrigerant and water
11	Compressor shield panel	-
12	Safety valve	Open at water pressure 3 bar
13	Indoor control box	Indoor PCB and terminal blocks
14	Outdoor control box	Outdoor PCB and terminal blocks
15	Flow sensor	To measure the water flow rate (5-80 LPM)
16	Pressure sensor	To measure the water pressure (0-2 MPa)

THERMA V_{TM} (R32) MONOBLOC S

R32 Monobloc S































Features

- All-in-one outdoor unit
- SCOP up to 4.67 (average climate / low temp. application): SCOP up to 3.47 (average climate / mid temp. application):
- COP up to 4.90 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -15°C OAT (@ LWT 35°C, except for 16 kW model)
- Low sound level allowing high installation location flexibility
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Improved heat exchanger design (new Black Fin)
- Keymark / EHPA (for Germany, Austria and Switzerland) / MCS / Eurovent / Quiet Mark (12 kW only) certification

Model line-up

	Unit	Model name						
Capacity		Capacity (kW)						
		12.0	14.0	16.0				
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Monobloc unit	HM121MR U34	HM141MR U34	HM161MR U34				
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Wonobloc unit -	HM123MR U34	HM143MR U34	HM163MR U34				

Seasonal energy

Description			Unit		HM141MR U34 (1 Ø) HM143MR U34 (3 Ø)	HM161MR U34 (1 Ø) HM163MR U34 (3 Ø)
	Average climate water outlet 35°C	SCOP	-	4.67	4.62	4.53
		Seasonal space heating efficiency (ηs)	%	184	182	178
Space heating (according to		Seasonal space heating eff. class (A+++ to D Scale)	-	A+++	A+++	A+++
EN14825)	Average climate water outlet 55°C	SCOP	-	3.47	3.46	3.45
,		Seasonal space heating efficiency (ηs)	%	136	135	135
		Seasonal space heating eff. class (A+++ to D Scale)	-	A++	A++	A++

Nominal capacity and nominal power input

December		CATI) (DD)	LWT ²⁾ (DB)	Unit	HM121MR U34 (1 Ø)	HM141MR U34 (1 Ø)	HM161MR U34 (1 Ø)
Description		UAI" (DB)	LWI~(DB)	Unit	HM123MR U34 (3 Ø)	HM143MR U34 (3 Ø)	HM163MR U34 (3 Ø)
		7°C	35°C		12.00	14.00	16.00
Nominal capacity	Heating	7°C	55°C		11.00	11.50	12.00
		2°C	35°C	kW	11.00	12.00	13.80
	Cooling	35°C	18°C		12.00	14.00	16.00
		35°C	7°C		12.00	14.00	16.00
	Heating	7°C	35°C	kW	2.45	2.92	3.40
		7°C	55°C		3.79	4.04	4.29
Nominal power input		2°C	35°C		3.01	3.31	3.83
	Cooling	35°C	18°C		2.53	3.26	4.00
	Cooling	35°C	7°C		3.64	4.24	5.16
		7°C	35°C		4.90	4.80	4.70
COP	Heating	7°C	55°C	W/W	2.90	2.85	2.80
		2°C	35°C		3.65	3.63	3.60
EER	Cooling	35°C	18°C	W/W	4.75	4.30	4.00
EER	Cooling	35°C	7°C	V V / V V	3.30	3.30	3.10

PRODUCT SPECIFICATION

Product specification

Technical s	pecification			Unit	HM121MR U34	HM141MR U34	HM161MR U34	HM123MR U34	HM143MR U34	HM163MR L	
	Operation range	Heating					15 -	~ 65			
	(leaving water	Cooling	Min. ~ Max.	°C DB	°C DB 5 ~ 27 (16 ~ 27)¹¹						
Water	temperature)	DHW					15 ~	- 80 ²⁾			
side	Piping	Water	Inlet	inch		Male PT 1" ad	ccording to ISC	7-1 (tapered	pipe threads)		
	connections	circuit	Outlet	inch		Male PT 1" ad	ccording to ISC	7-1 (tapered	pipe threads)		
	Rated water flow	ow rate at LWT 35°C		LPM	34.5	40.3	46.0	34.5	40.3	46.0	
	Operation range	Heating	B.41 . B.4	0C DD			-25	~ 35			
	(outdoor temp.)	Cooling	Min. ~ Max.	°C DB			5 ~	48			
	6	Quantity		EA	1						
Refrigerant	Compressor	Туре		-		Hermetic sealed scroll					
side	Туре			-	R32						
	D.C.	GWP (Global Wa	rming Potential)	-		675					
	Refrigerant	Precharged amo	unt	g			2,0	000			
		t-CO ₂ eq		-	1.350						
C	.11	II. at a	Rated Low noise mode dB(A)		60	6	51	60	6	51	
Sound power	er level	Heating			56	5	57	56	5	57	
C		H	Rated	ID(A)	38	3	39	38	3	39	
Souna press	ure level (at 5m)	Heating	Low noise mode	dB(A)	34	3	35	34	3	35	
Dimensions		Unit	WxHxD	mm			1,239 x 1,	380 x 330			
Weight		Unit		kg			11	9.1			
Exterior		Color / RAL cod	le	-			Warm gray	/ RAL 7044			
		Voltage, phase,	frequency	V, Ø, Hz	-	220-240, 1, 5	0	3	880-415, 3, 50	0	
Danier area	h.,	Rated running	Heating	А	10.9	12.9	15.1	3.6	4.3	5.0	
Power supp	ıy	current	Cooling	А	11.2	14.4	17.7	3.7	4.8	5.9	
		Recommended	circuit breaker	А		40			16		
Wiring conn	Niring connections Power supply cable (included earth, H07RN-F)		mm² x cores	6.0 x 3 C			4.0 x 5 C				

- 1. Due to our policy of innovation, some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that. 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
- Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.
- Rated sound power level is in accordance with EN12102-1 under condition of EN14825. $4. \ Performances \ are in accordance \ with EN14511 \ and \ reflect \ ErP \ testing \ conditions. Above gives the declared \ values \ at \ rated \ conditions \ acc. \ ErP \ regulation$
- Rated running current: Outdoor Temp. 7°C DB / 6°C WB, LWT 35°C 5. This product contains fluorinated greenhouse gases.
- 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

¹⁾ OAT : Outdoor Air Temperature

²⁾ LWT : Leaving Water Temperature

²⁾ DHW 55 \sim 80°C Operating is available only when the booster heater is operating.

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Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HM121MR U34 / HM123MR U34

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
-25°C DB	9.50	9.50	9.50	9.50	-	-	-	-
-20°C DB	10.75	10.75	10.75	10.75	10.21	-	-	-
-15°C DB	12.00	12.00	12.00	12.00	11.50	11.50	-	-
-7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	-
-4°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
-2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
15°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
18°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00

HM141MR U34 / HM143MR U34

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C				
temperature		Capacity (kW)										
	10.00	10.00	10.00	10.00	-	-	-	-				
-20°C DB	12.00	12.00	12.00	12.00	11.40	-	-	-				
-15°C DB	14.00	14.00	14.00	14.00	13.30	13.30	-	-				
-7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	-				
-4°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00				
-2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00				
2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00				
7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00				
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00				
15°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00				
18°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00				
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00				
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00				

HM161MR U34 / HM163MR U34

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C					
temperature		Capacity (kW)											
-25°C DB	10.50	10.50	10.50	10.50	-	-	-	-					
-20°C DB	13.25	13.25	13.25	13.25	12.59	-	-	-					
-15°C DB	16.00	14.40	14.40	14.40	13.68	13.68	-	-					
-7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	-					
-4°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00					
-2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00					
2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00					
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00					
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00					
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00					
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00					
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00					
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00					

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HM121MR U34 / HM123MR U34

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C				
temperature	Capacity (kW)										
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00				
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00				
30°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00				
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00				
40°C DB	11.05	11.19	11.33	11.43	11.57	11.67	11.76				
45°C DB	10.10	10.37	10.64	10.83	11.10	11.28	11.46				

HM141MR U34 / HM143MR U34

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C					
temperature		Capacity (kW)										
10°C DB	12.50	12.80	13.10	13.30	13.60	13.80	14.00					
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00					
30°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00					
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00					
40°C DB	12.35	12.60	12.84	13.01	13.26	13.42	13.59					
45°C DB	10.69	11.19	11.69	12.02	12.51	12.84	13.17					

HM161MR U34 / HM163MR U34

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C				
temperature	Capacity (kW)										
10°C DB	13.00	13.60	14.20	14.60	15.20	15.60	16.00				
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00				
30°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00				
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00				
40°C DB	13.60	13.96	14.32	14.56	14.92	15.16	15.40				
45°C DB	11.20	11.76	12.32	12.69	13.25	13.62	14.00				

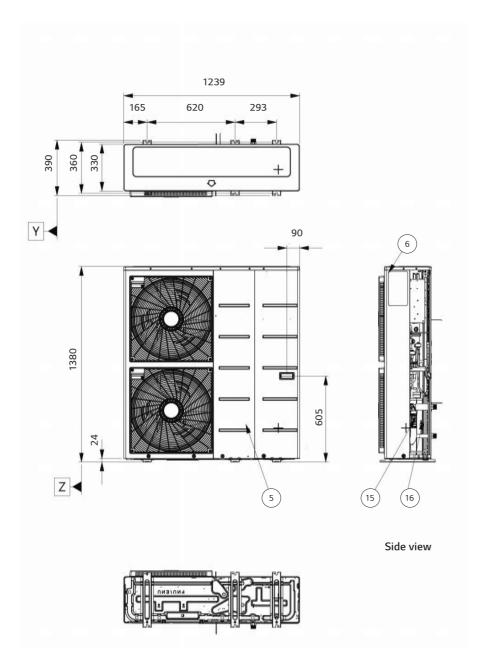
- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
 2. Direct interpolation is permissible. Do not extrapolate.
 3. Measuring procedure follows EN-14511.

- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

Drawings

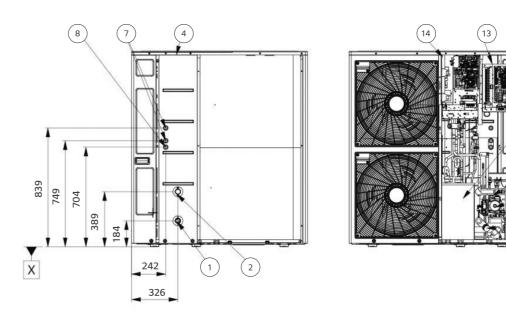
		Model name						
Category	Unit	Capacity (kW)						
		12.0	14.0	16.0				
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Manablacunit	HM121MR U34	HM141MR U34	HM161MR U34				
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Monobloc unit	HM123MR U34	HM143MR U34	HM163MR U34				

HM121MR U34 / HM141MR U34 / HM161MR U34 HM123MR U34 / HM143MR U34 / HM163MR U34 [Unit: mm]



PRODUCT SPECIFICATION





No.	Part name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Strainer	Filtering and stacking particles inside circulating water
4	Top cover	-
5	Front panel	-
6	Side panel	-
7	Low voltage	Communication cable hole
8	8 Unit power Power cable hole	
9	Water pump	To circulate water inside the system
10	Plate heat exchanger	Heat exchange between refrigerant and water
11	Compressor shield panel	-
12	Safety valve	Open at water pressure 3 bar
13	Indoor control box	Indoor PCB and terminal blocks
14	Outdoor control box	Outdoor PCB and terminal blocks
15	Flow sensor	To measure the water flow rate (5-80 LPM)
16	Pressure sensor	To measure the water pressure (0-2 MPa)

PRODUCT SPECIFICATION

Electric Backup Heater

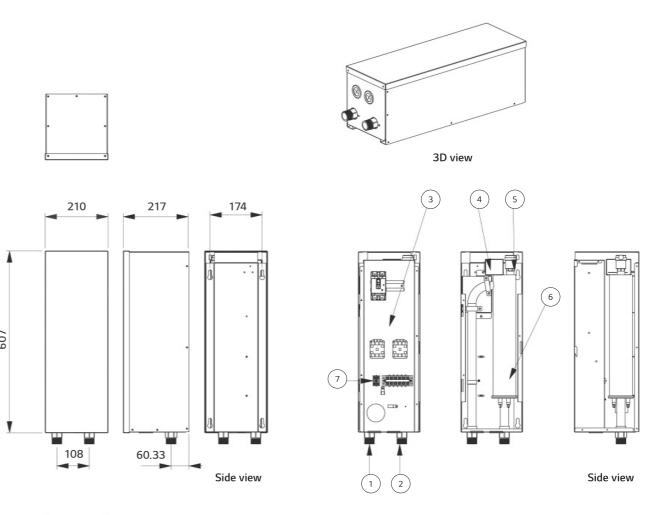
HA031M E1 HA061M E1 HA063M E1



Backup heater specification

Electrical spe	cification	Unit	HA031M E1	HA061M E1	HA063M E1		
	Туре	-	- Sheath				
	Number of heating coil	EA	1	2	3		
	Capacity combination	kW	3.0	3.0 + 3.0	2.0 + 2.0 + 2.0		
Backup	Heating steps	Step	1	2	1		
heater	Power supply	V, Ø, Hz	220 ~ 240, 1, 50		380 ~ 415, 3, 50		
	Rated running current	А	12.5	25.0	8.7		
	Dimensions (W x H x D)	mm	210 x 607 x 217				
	Net weight (unit)	kg	12.8	13.4	13.1		
Wiring	Power supply cable (included earth, H07RN-F)	mm ² x cores	1.5 x 3 C	4.0 x 3 C	2.5 x 4 C		
connections	Communication cable (H07RN-F)	mm ² x cores	0.75	x 4 C	0.75 x 2 C		

Note
1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes.
Especially the power cable and circuit breaker should be selected in accordance with that.



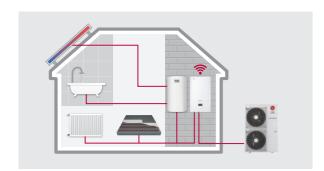


No.	Part name	Description
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Control box	Circuit breaker, Magnetic switch, Terminal blocks
4	Thermal switch	Cut-off power input to E/heater at 90°C
5	Air vent	Air purging when charging water
6	Electric heater	Refer the related information
7	Backup heater outlet sensor	Connect to unit (heat pump)

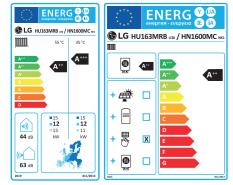








Energy Label



- * 16 kW 3 Ø model.

Excellent performance & efficiency









User convenience











Easy installation & maintenance



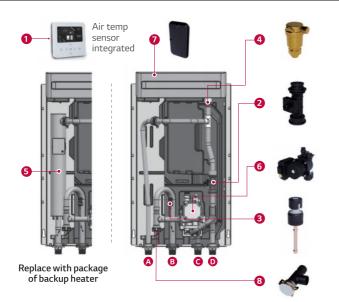




R32 Hydrosplit Hydro Box Introduction

The Therma V R32 Hydrosplit Hydro Box is a heating and cooling solution, where indoor and outdoor units are connected by water pipes, while the unit's heat exchanger is located with the outdoor unit, thus eliminating the risk of indoor refrigerant leakage, which makes it perfect for renovation projects.

Key Components



- 1 Standard III remote controller (attached on the front panel)
- 2 Flow sensor
- 3 Water pressure sensor
- 4 Air vent valve
- **S** Backup electric heater (6 kW, accessory)
- 6 Water pump
- **7** Expansion vessel (8 ℓ)
- 8 Strainer
- A Heating circuit outlet pipe (male PT 1")
- B Heating circuit inlet pipe (male PT 1")
- Outlet pipe to outdoor unit (male PT 1")
- Inlet pipe from outdoor unit (male PT 1")

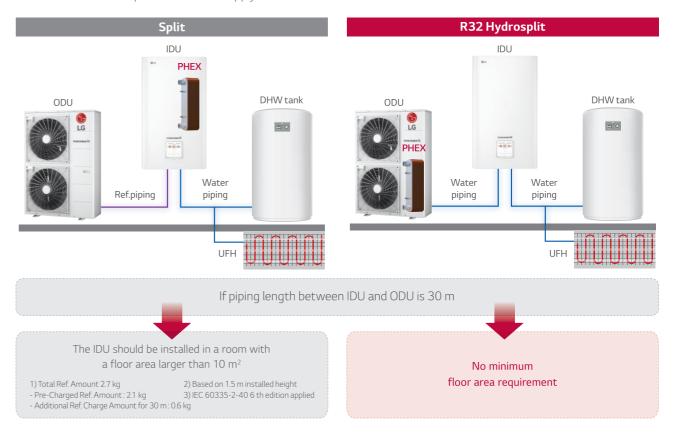
Hydrosplit Concept

The Therma V R32 Hydrosplit Hydro Box connects an IDU and ODU by water pipes due to the heat exchanger's location in the outdoor unit, thus reducing the risk of indoor refrigerant leakage.



No Risk of Indoor Refrigerant Leakage

The Hydrosplit architecture, with no refrigerant circulating indoors, makes it possible to expand the living space, as the minimum floor area requirements do not apply.



^{*} Detailed description for each function is presented on page 44 ~ 54.

R32 Hydrosplit Hydro Box





Indoor unit

HN1600MC NK1

Outdoor unit

HU121MRB U30 / HU123MRB U30 HU141MRB U30 / HU143MRB U30 HU161MRB U30 / HU163MRB U30

























Features

- Water pipes connect IDU & ODU
- SCOP up to 4.60 (average climate / low temp. application): SCOP up to 3.50 (average climate / mid temp. application):
- COP up to 5.04 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Black Fin heat exchanger
- LG ThinQ
- Keymark / EHPA (for Germany, Austria and Switzerland) / MCS / Eurovent certification

Model line-up

		Model name					
Category	Unit	Capacity (kW)					
		12.0	14.0	16.0			
1 Phase model	Outdoor unit	HU121MRB U30	HU141MRB U30	HU161MRB U30			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN1600MC NK1					
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Outdoor unit	HU123MRB U30	HU163MRB U30				
	Indoor unit		HN1600MC NK1				

PRODUCT SPECIFICATION

Seasonal energy

				HU121MRB U30 (1 Ø)	HU141MRB U30 (1 Ø)	HU161MRB U30 (1 Ø)		
Description	1		Outdoor unit	HU123MRB U30 (3 Ø)	HU143MRB U30 (3 Ø)	HU163MRB U30 (3 Ø)		
			Indoor unit	HN1600MC NK1				
	Average climate water	SCOP	-	4.60	4.57	4.55		
Space		climate water	climate water		Seasonal space heating efficiency (ηs)	%	181	180
heating	outlet 35°C	Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++	A+++		
(according	Average	SCOP	-	3.50	3.47	3.45		
to EN14825)	climate water	Seasonal space heating efficiency (ηs)	%	137	136	135		
	outlet 55°C Seasonal space heating eff. class (A+++ to D scale)		-	A++	A++	A++		

Nominal capacity and nominal power input

Description				Outdoor unit	HU121MRB U30 (1 Ø)	HU141MRB U30 (1 Ø)	HU161MRB U30 (1 Ø)			
		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Outdoor unit	HU123MRB U30 (3 Ø)	HU143MRB U30 (3 Ø)	HU163MRB U30 (3 Ø)			
				Indoor unit		HN1600MC NK1				
		7°C	35°C		12.00	14.00	16.00			
	Heating	7°C	55°C		11.00	11.50	12.00			
Nominal capacity		2°C	35°C	kW	11.00	12.00	13.80			
	Caalina	35°C	18°C		12.00	14.00	16.00			
	Cooling	35°C	7°C		12.00	14.00	16.00			
		7°C	35°C	kW	2.38	2.86	3.33			
	Heating	7°C	55°C		3.79	4.04	4.29			
Nominal power input		2°C	35°C		3.01	3.31	3.83			
power input	C I'	35°C	18°C		2.53	3.26	4.00			
	Cooling	35°C	7°C		4.44	5.38	6.40			
		7°C	35°C		5.04	4.89	4.80			
COP	Heating	7°C	55°C	W/W	2.90	2.85	2.80			
		2°C	35°C		3.65	3.63	3.60			
FFD	Caalina	35°C	18°C	10//10/	4.75	4.30	4.00			
EER	Cooling	35°C	7°C	W/W	2.70	2.60	2.50			

¹⁾ OAT: Outdoor Air Temperature

²⁾ LWT: Leaving Water Temperature

THERMA V. (R32) HYDROSPLIT HYDRO BOX

R32 Hydrosplit Hydro Box

Product specification (outdoor unit)

Technical Specification	on		Unit	HU121MRB U30	HU141MRB U30	HU161MRB U30	1161MRB U30 HU123MRB U30 HU143MRB U30 HU163MRB			
Operation range	Heating	Min. ~ Max.	°C DB		-25 ~ 35					
(outdoor temp.)	Cooling	IVIIII. ~ IVIAX.	CDB			5 ~	48			
Compressor	Quantity		EA			-	1			
Compressor	Type - Hermetic sealed scroll									
	Туре		-			R:	32			
Refrigerant	GWP (Global Warmir	ng Potential)	-			6	75			
Refrigerant	Precharged amount		g			2,1	00			
	t-CO ₂ eq		-			1.4	118			
Piping connections	Water Circuit Inlet		mm (inch)	Male PT 1" according to ISO 7-1 (tapered pipe threads)						
riping connections	vvater Circuit	Outlet	mm (inch)	ı	Male PT 1" according to ISO 7-1 (tapered pipe threads)					
Rated water flow rate (a	it LWT 35°C)		LPM	34.5	40.3	46.0	34.5	40.3	46.0	
Sound power level	Heating	Rated	dB(A)	61	62	63	61	62	63	
Sound pressure level (at 1m)	Heating	Rated	dB(A)	53	54	55	53	54	55	
Dimensions	Unit	WxHxD	mm			950 × 1,3	80 × 330			
Weight	Unit		kg			91	1.7			
Exterior	Color / RAL code		-			Warm gray	/ RAL 7044			
	Voltage, phase, frequ	ency	V, Ø, Hz	1	220-240, 1, 5	0	3	380-415, 3, 50)	
Power supply	Rated	Heating	А	10.6	12.7	14.8	3.5	4.2	4.9	
rower supply	running current	Cooling	А	11.2	14.4	17.7	3.7	4.8	5.9	
	Recommended circuit	t breaker	А		40			16		
Wiring connections	Power supply cable (include	ed earth, H07RN-F)	mm ² x cores	6.0 x 3 C 2.5 x 5 C						

Product specification (indoor unit)

Technical specification	1		Unit	HN1600MC NK1
0	Heating			15 ~ 65
Operation range (leaving water)	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾
(leaving water)	DHW			15 ~ 80 ²⁾
Flow sensor	Measuring range	Min. ~ Max.	ℓ/min	5 ~ 80
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20
Expansion vessel	l Volume		l	8
Safety valve	Pressure limit	Upper limit	bar	3
		Outlet to heat load		Male PT 1" according to ISO 7-1 (tapered pipe threads)
Dining connections	Water circuit	Inlet from heat load	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
Piping connections		Outlet to outdoor unit	IIICII	Male PT 1" according to ISO 7-1 (tapered pipe threads)
		Inlet from outdoor unit		Male PT 1" according to ISO 7-1 (tapered pipe threads)
Wiring connections	Power and communication cal	ole (included earth, H07RN-F)	mm ² x cores	0.75 x 4 C
Sound power level	Heating	Rated	dB(A)	44
Dimensions	Unit	WxHxD	mm	490 × 850 × 315
Weight	Unit		kg	30.5
Exterior	Color / RAL code		-	Noble white / RAL 9016

1) When a fan coil unit is not used.

2) DHW 55 ~ 80°C operating is available only when the booster heater is operating.

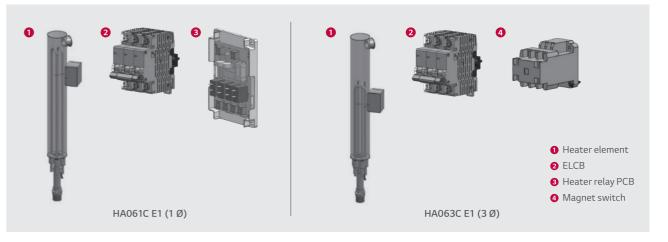
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- 1. Due to our policy of innovation, some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.
- 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard
- Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
- 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation Rated running current: Outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
- 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

PRODUCT SPECIFICATION

Accessory Parts (Optional Accessory)

Backup heater



Electrical specificat	ion		HA061C E1 (1 Ø)	HA063C E1 (3 Ø)	
	Туре	-	Sheath		
	No. of heating coil	EA	2	3	
	Max. power consumption	kW	3.0 + 3.0	2.0 + 2.0 + 2.0	
Backup heater	Heating step	Step	1	1	
	Power supply	V, Ø, Hz	220 ~ 240, 1, 50	380 ~ 415, 3, 50	
	Current (rated)	А	24.0	8.7	
	Circuit breaker (ELCB)	А	40	20	
Wiring connection	Power cable (included earth, H07RN-F)	mm² x cores	6.0 x 3 C	2.5 x 5 C	

^{*} The backup heater should be purchased and installed separately.

Accessory Parts

Strainer



Technical specif	ication	Details
Material	Body	Brass
Material	Mesh	Stainless steel (STS304)
Mesh	Mesh no.	30
iviesii	Max. particle size	0.6 mm
Piping connection	ping connection Female G 1" according to ISO 228-1	

^{*} The strainer is supplied with the product, but it needs to be installed separately.

^{*} This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU121MRB U30 / HU123MRB U30 + HN1600MC NK1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	
temperature	Capacity (kW)								
-25°C DB	9.66	8.85	8.42	8.29	-	-	-	-	
-20°C DB	10.13	10.00	9.88	9.75	9.63	-	-	-	
-15°C DB	11.50	11.50	11.50	11.50	11.50	11.50	-	-	
-7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	-	
-4°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
-2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
15°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
18°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	

HU141MRB U30 / HU143MRB U30 + HN1600MC NK1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
-25°C DB	10.04	9.21	8.76	8.62	-	-	-	-
-20°C DB	11.82	11.25	10.95	10.67	10.59	-	-	-
-15°C DB	12.52	12.90	13.26	12.88	12.81	12.63	-	-
-7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	-
-4°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
-2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
15°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
18°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00

HU161MRB U30 / HU163MRB U30 + HN1600MC NK1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
-25°C DB	10.98	10.00	9.50	9.33	-	-	-	-
-20°C DB	13.43	12.54	12.03	11.78	11.47	-	-	-
-15°C DB	14.23	14.39	14.50	13.95	13.86	13.12	-	-
-7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	-
-4°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
-2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU121MRB U30 / HU123MRB U30 + HN1600MC NK1

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature							
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
30°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
40°C DB	11.75	12.00	12.00	12.00	12.00	12.00	12.00
45°C DB	11.50	12.00	12.00	12.00	12.00	12.00	12.00

HU141MRB U30 / HU143MRB U30 + HN1600MC NK1

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C			
temperature	Capacity (kW)									
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
30°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
40°C DB	13.75	14.00	14.00	14.00	14.00	14.00	14.00			
45°C DB	13.50	14.00	14.00	14.00	14.00	14.00	14.00			

HU161MRB U30 / HU163MRB U30 + HN1600MC NK1

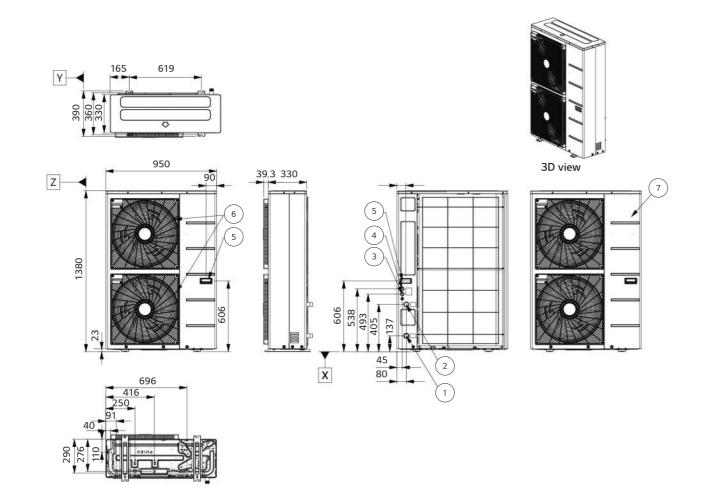
Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature							
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
30°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
40°C DB	15.75	16.00	16.00	16.00	16.00	16.00	16.00
45°C DB	15.50	16.00	16.00	16.00	16.00	16.00	16.00

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

Drawings

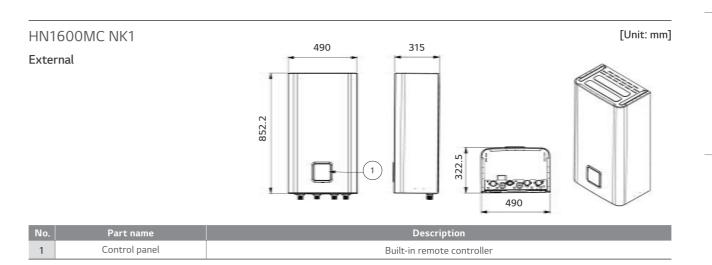
		Model name							
Category	Unit	Capacity (kW)							
		12.0	14.0	16.0					
1 Phase model	Outdoor unit	HU121MRB U30	HU141MRB U30	HU161MRB U30					
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN1600MC NK1						
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Outdoor unit	HU123MRB U30	HU143MRB U30	HU163MRB U30					
	Indoor unit	HN1600MC NK1							

HU121MRB U30 / HU141MRB U30 / HU161MRB U30 HU123MRB U30 / HU143MRB U30 / HU163MRB U30 [Unit: mm]

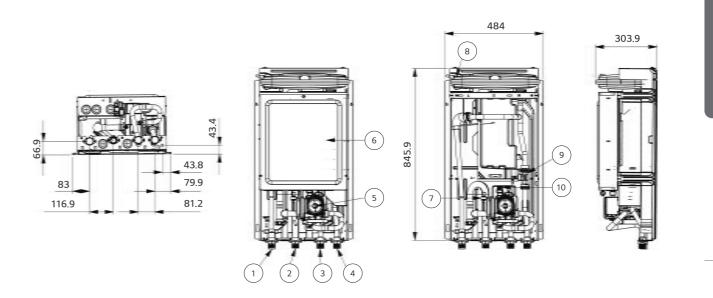


No.	Part name	Description				
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)				
2	2 Leaving water pipe Male PT 1" according to ISO 7-1 (tapered pipe threads)					
3	Unit power	Power cable hole				
4	Low voltage	Communication cable hole				
5	Handle	-				
6	Air outlet	-				
7	Side panel	-				

PRODUCT SPECIFICATION



Internal



No.	Part name	Description			
1	Heating circuit outlet pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)			
2	Heating circuit inlet pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)			
3	Outlet pipe to outdoor unit Male PT 1" according to ISO 7-1 (tapered pipe threads)				
4	4 Inlet pipe to outdoor unit Male PT 1" according to ISO 7-1 (tapered pipe threads)				
5	5 Water pump To circulate water inside the system				
6	Control box	PCB and Terminal blocks			
7	Pressure sensor	To measure the water pressure (0-2MPa)			
8	Expansion tank	8 Liter, 3/4" connection			
9	Flow sensor	To measure the water flow rate (5-80 LPM)			
10	Safety valve	Open at water pressure 3 bar			



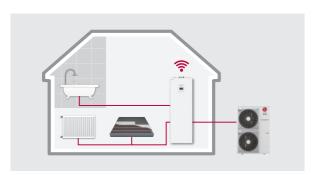
R32 HYDROSPLIT IWT



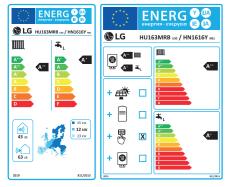
THERMA V_{TM} (R32) R32 HYDROSPLIT IWT







Energy Label



- * 16 kW 3 Ø model.

Excellent performance & efficiency









User convenience













Easy installation & maintenance







* Detailed description for each function is presented on page 44 ~ 54.

R32 Hydrosplit IWT Introduction

Therma V R32 Hydrosplit IWT is the perfect space-saving solution for heating, cooling and hot water supply due to its fully integrated hot water tank. This all-in-one solution's hydronic and domestic hot water components are pre-wired, reducing installation time and space occupancy, making it perfect for new builds.

Key Components



- ① DHW storage tank (200 ℓ)
- 2 Main water pump
- 3 Water pump for DHW charging
- 4 Plate heat exchanger for DHW (water / DHW)
- 5 Electric heater (max. 6 kW)
- **6** 3-way diverting valve
- **7** Expansion vessel for heating (12 ℓ)
- 8 Flow sensor
- Water pressure sensor
- Expansion vessel for DHW (8 ℓ, option)
- ① Buffer tank (40 ℓ, option)
- ② Standard III remote controller (attached on the front panel)
- A Inlet pipe from outdoor unit (female G1")
- **B** Outlet pipe to outdoor unit (female G1")
- Domestic hot water outlet pipe (female G3/4")
- Domestic cold water outlet pipe (female G3/4")
- **(E)** DHW recirculation pipe (female G3/4")
- Heating circuit inlet pipe (female G1")
- **G** Heating circuit outlet pipe (female G1")

Hydrosplit Concept

The Therma V R32 Hydrosplit IWT connects an IDU and ODU by water pipes due to the heat exchanger's location in the outdoor unit, thus reducing the risk of indoor refrigerant leakage.



Sophisticated and Harmonious Exterior

Varied installation options due to a small, wall-mounted indoor unit, which can be easily connected to an existing third-party water tank. The indoor unit's sleek design fits into diverse indoor spaces, such as a utility or laundry room, a garage or a kitchen.

Save Space and Time

Unlike in the case of a conventional system, this all-in-one solution requires reduced installation time and saves valuable living space.





All in one

- Small footprint for product installation
- Quick & easy installation
- DHW tank (200 ℓ) & hydronic component integration
- Integrated max. 6 kW back up heater
- Integrated expansion tank for heating (12 l)
- Integrated buffer tank (40 ℓ) & expansion tank for DHW circuit (8 ℓ) (optional)

R32 Hydrosplit IWT (Integrated Water Tank)







Indoor unit

HN1616Y NB1

Outdoor unit

HN121MRB U30 / HU123MRB U30 HN141MRB U30 / HU143MRB U30 HN161MRB U30 / HU163MRB U30





















Features

- Water pipes connect IDU & ODU
- SCOP up to 4.60 (average climate / low temp. application): SCOP up to 3.50 (average climate / mid temp. application): COP_{DHW} 2.74 (water heating efficiency 120 %, profile L): A*
- COP up to 5.04 (outdoor air 7°C / leaving water 35°C)
- DHW tank (200 ℓ) & hydronic component integration
- Integrable buffer tank (40 ℓ) & expansion tank for DHW circuit (8 ℓ) (optional)
- 100 % heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Black Fin heat exchanger
- LG ThinQ
- Keymark / EHPA (for Germany, Austria and Switzerland) / Eurovent certification
- * Only the outdoor units are registered in EHPA certification.

Model line-up

			Model name						
Category	Unit	Capacity (kW)							
		12.0	14.0	16.0					
1 Phase model	Outdoor unit	HU121MRB U30	HU141MRB U30	HU161MRB U30					
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN1616Y NB1						
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Outdoor unit	HU123MRB U30	HU143MRB U30	HU163MRB U30					
	Indoor unit	HN1616Y NB1							

PRODUCT SPECIFICATION

Seasonal energy

			Outdoor unit		HU141MRB U30 (1 Ø)	
Description	1			HU123MRB U30 (3 Ø)	HU143MRB U30 (3 Ø)	HU163MRB U30 (3 Ø)
			Indoor unit		HN1616Y NB1	
	Average	SCOP	-	4.60	4.57	4.55
Space	climate water	Seasonal space heating efficiency (η _s)	%	181	180	179
heating	outlet 35°C	Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++	A+++
(according	Average	SCOP	-	3.50	3.47	3.45
to EN14825)	climate water	Seasonal space heating efficiency (ηs)	%	137	136	135
	outlet 55°C	Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++	A++
		Declared load profile	-	L	L	L
	Average	Water heating efficiency (η _{WH})	%	120	120	120
	climate	COP _{DHW}	-	2.74	2.74	2.74
		Water heating eff. class	-	A+	A+	A+
Domestic		Declared load Profile	-	L	L	L
hot water efficiency	Warmer	Water heating efficiency (η _{WH})	%	151	151	151
(according	climate	COP _{DHW}	-	3.43	3.43	3.43
to EN16147)		Water heating eff. class	-	A++	A++	A++
		Declared load profile	-	L	L	L
	Colder	Water heating efficiency (η _{WH})	%	101	101	101
	climate	COP _{DHW}	-	2.34	2.34	2.34
		Water heating eff. class	-	А	А	А

Nominal capacity and nominal power input

				Outdoor unit	HU121MRB U30 (1 Ø)	HU141MRB U30 (1 Ø)	HU161MRB U30 (1 Ø)		
Description		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Outdoor unit	HU123MRB U30 (3 Ø)	HU143MRB U30 (3 Ø)	HU163MRB U30 (3 Ø)		
				Indoor unit		HN1616Y NB1			
		7°C	35°C		12.00	14.00	16.00		
	Heating	7°C	55°C		11.00	11.50	12.00		
Nominal capacity		2°C	35°C	kW	11.00	12.00	13.80		
	Caalina	35°C	18°C		12.00	14.00	16.00		
	Cooling	35°C	7°C		12.00	14.00	16.00		
		7°C	35°C		2.38	2.86	3.33		
Manageria	Heating	7°C	55°C		3.79	4.04	4.29		
Nominal power input		2°C	35°C	kW	3.01	3.31	3.83		
power input	Cooling	35°C	18°C		2.53	3.26	4.00		
	Cooling	35°C	7°C		4.44	5.38	6.40		
		7°C	35°C		5.04	4.89	4.80		
COP	Heating	7°C	55°C	W/W	2.90	2.85	2.80		
		2°C	35°C		3.65	3.63	3.60		
EED	Cooling	35°C	18°C	W/W	4.75	4.30	4.00		
EER	Cooling	35°C	7°C	VV/ VV	2.70	2.60	2.50		

¹⁾ OAT: Outdoor Air Temperature

²⁾ LWT: Leaving Water Temperature

R32 Hydrosplit IWT (Integrated Water Tank)

Product specification (outdoor unit)

Technical Specification	on		Unit	HU121MRB U30	HU141MRB U30	HU161MRB U30	HU123MRB U30	HU143MRB U30	HU163MRB U30			
Operation range	Heating	Min. ~ Max.	°C DB			-25	~ 35					
(outdoor temp.)	Cooling	IVIIII. ~ IVIAX.	CDB	5~48								
Compressor	Quantity		EA				1					
Compressor	Туре		-			Hermetic s	ealed scroll					
	Туре		-			R	32					
Defriesvent	GWP (Global Warmin	-			6	75						
Refrigerant	Precharged amount	g			2,1	100						
	t-CO ₂ eq		-			1.4	118					
Dining connections	Water circuit	mm (inch)	Male PT 1" according to ISO 7-1 (tapered pipe threads)									
Piping connections	vvater circuit	Outlet	mm (inch)	Male PT 1" according to ISO 7-1 (tapered pipe threads)								
Rated water flow rate (a	t LWT 35°C)		LPM	34.5	40.3	46.0	34.5	40.3	46.0			
Sound power level	Heating	Rated	dB(A)	61	62	63	61	62	63			
Sound pressure level (at 1m)	Heating	Rated	dB(A)	53	54	55	53	54	55			
Dimensions	Unit	WxHxD	mm			950 × 1,3	380 × 330					
Weight	Unit		kg			9	1.7					
Exterior	Color / RAL code		-			Warm gray	/ RAL 7044					
	Voltage, phase, frequ	ency	V, Ø, Hz		220-240, 1, 5	0	3	380-415, 3, 50)			
Dower supply	Rated	Heating	А	10.6	12.7	14.8	3.5	4.2	4.9			
Power supply	running current	Cooling	А	11.2	14.4	17.7	3.7	4.8	5.9			
	Recommended circuit	t breaker	А		40 16							
Wiring connections	Power supply cable (include	ed earth, H07RN-F)	mm ² x cores		6.0 x 3 C			2.5 x 5 C				

Product specification (indoor unit)

Technical Specificat	ion		Unit	HN1616Y NB1		
Operation range	Heating			15 ~ 65		
(leaving water	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾		
temperature)	DHW			15 ~ 80 ²⁾		
Domestic hot water	Volume		l	200		
tank	Internal thermal prote	ect limit	°C	85		
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80		
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20		
Expansion vessel (heating circuit)	Volume		l	12		
Safety valve	Heating circuit	Upper limit	bar	3		
Safety valve	DHW circuit	Upper limit	bar	10		
	Туре		-	Sheath		
	Number of heating co	oil	EA	1/2/3		
Electric heater	Capacity combination		kW	2.0 / 2.0 + 2.0 / 2.0 + 2.0 + 2.0		
(Case 1 / Case 2 /	Heating step		Step	1		
Case 3) 3)	Power supply		V, Ø, Hz	220-240, 1, 50 / 220-240, 1, 50 / 380-415, 3, 50		
	Power supply cable (i	ncluded earth, H07RN-F)	mm² x cores	4.0 x 3 C / 4.0 x 3 C / 2.5 x 5 C		
	Rated running curren	t	А	8.7 / 17.4 / 8.7		
		Inlet	inch			
	Water circuit	Outlet	inch	Female G 1" according to ISO 228-1 (parallel pipe threads)		
	vvater circuit	Inlet from outdoor unit	inch	Terriale G T according to 150 220-1 (parallet pipe till eads)		
Piping connections		Outlet to outdoor unit	inch			
	DHW tank water	Cold inlet	inch			
	circuit	Hot outlet	inch	Female G 3/4" according to ISO 228-1 (parallel pipe threads		
		Recirculation	inch			
Wiring connections	Power and communication cable (included earth, H07RN-F)		mm ² x cores	0.75 x 4 C		
Sound power level	Heating	Rated	dB(A)	43		
Dimensions	Unit	W×H×D	mm	601 × 1,812 × 685		
Weight	Unit		kg	130.0		
Exterior	Color / RAL code		-	White / RAL 9002		

- 1) When a fan coil unit is not used.
- 2) DHW 55 \sim 80 °C Operating is available only when the electric heater is operating.
- 3) The capacity of electric heater can be adjusted by wiring.

- Note
 1. Due to our policy of innovation, some specifications may be changed without notification.
 2. Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.
 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
 Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.
 Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 Rated running current: Outdoor Temp, 7°C DB / 6°C WB, LWT 35°C
 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

PRODUCT SPECIFICATION

Accessory Parts (Optional Accessory)

Buffer tank for space heating



A standard 40 ℓ buffer tank for can be installed as an optional accessory for space heating. Fitting seamlessly into the main casing, it can be attached to the backside of the indoor unit.

Buffer tank for space heating	Unit	OSHB-40KT.AEU
Water volume	l	40
Dimensions (W x H x D)	mm	518 x 560 x 175
Weight (w/o water) Product	ka	24

^{*} The buffer tank for space heating should be purchased and installed separately.

Expansion vessel for DHW



A standard 8 ℓ DHW expansion vessel, that conveniently fits inside the indoor unit, can be installed as an optional accessory. It is provided with an accessory kit that includes a flexible connection tube.

Expansion vessel for DHW	Unit	OSHE-12KT.AEU
Expansion volume	l	8
Connection	inch	3/4
Max. pressure	bar	10
Pre-charge	bar	3
Dimensions (W x H x D)	mm	416 x 238 x 502
Weight (w/o water) Product	kg	2.5

^{*} The expansion vessel for DHW should be purchased and installed separately.

Accessory Parts

Shut-off valve



Shut-off valve with strainer



Strainer



Technical specification		Details		
Material	Body	Brass		
Material	Mesh	Stainless steel (STS304)		
Mesh	Mesh no.	30		
IVIESTI	Max. particle size	0.6 mm		
Piping connection		Female G 1" according to ISO 228-1		

^{*} The strainer and valves are supplied with the product, but it need to be installed separately.

^{*} This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU121MRB U30 / HU123MRB U30 + HN1616Y NB1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	
temperature		Capacity (kW)							
-25°C DB	9.66	8.85	8.42	8.29	-	-	-	-	
-20°C DB	10.13	10.00	9.88	9.75	9.63	-	-	-	
-15°C DB	11.50	11.50	11.50	11.50	11.50	11.50	-	-	
-7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	-	
-4°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
-2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
15°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
18°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	

HU141MRB U30 / HU143MRB U30 + HN1616Y NB1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature	Capacity (kW)							
-25°C DB	10.04	9.21	8.76	8.62	-	-	-	-
-20°C DB	11.82	11.25	10.95	10.67	10.59	-	-	-
-15°C DB	12.52	12.90	13.26	12.88	12.81	12.63	-	-
-7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	-
-4°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
-2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
15°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
18°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00

HU161MRB U30 / HU163MRB U30 + HN1616Y NB1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	
temperature		Capacity (kW)							
-25°C DB	10.98	10.00	9.50	9.33	-	-	-	-	
-20°C DB	13.43	12.54	12.03	11.78	11.47	-	-	-	
-15°C DB	14.23	14.39	14.50	13.95	13.86	13.12	-	-	
-7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	-	
-4°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
-2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU121MRB U30 / HU123MRB U30 + HN1616Y NB1

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C			
temperature		Capacity (kW)								
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00			
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00			
30°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00			
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00			
40°C DB	11.75	12.00	12.00	12.00	12.00	12.00	12.00			
45°C DB	11.50	12.00	12.00	12.00	12.00	12.00	12.00			

HU141MRB U30 / HU143MRB U30 + HN1616Y NB1

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C			
temperature		Capacity (kW)								
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
30°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
40°C DB	13.75	14.00	14.00	14.00	14.00	14.00	14.00			
45°C DB	13.50	14.00	14.00	14.00	14.00	14.00	14.00			

HU161MRB U30 / HU163MRB U30 + HN1616Y NB1

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
30°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
40°C DB	15.75	16.00	16.00	16.00	16.00	16.00	16.00
45°C DB	15.50	16.00	16.00	16.00	16.00	16.00	16.00

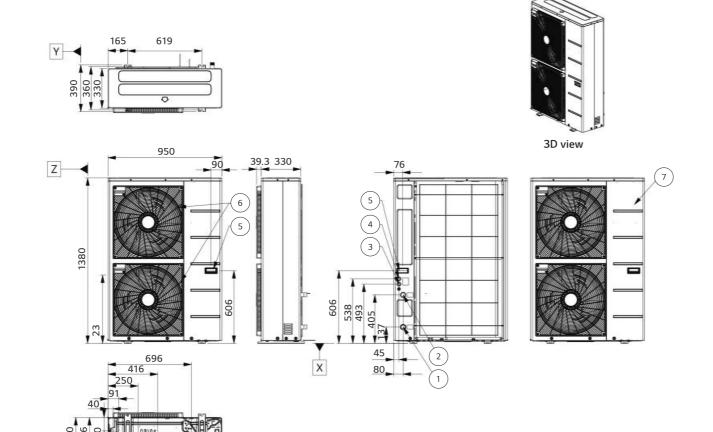
- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
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THERMA V_{TM} (R32) HYDROSPLIT IWT

Drawings

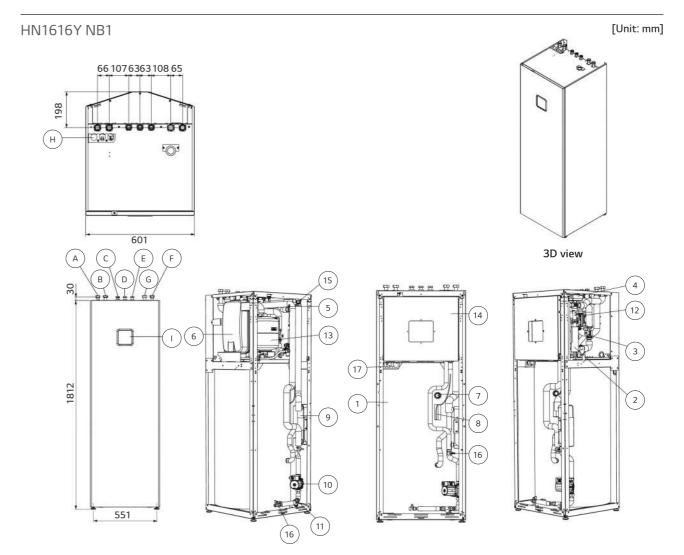
			Model name					
Category	Unit		Capacity (kW)					
		12.0	14.0	16.0				
1 Phase model	Outdoor unit	HU121MRB U30	HU141MRB U30	HU161MRB U30				
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN1616Y NB1					
3 Phase model	Outdoor unit	HU123MRB U30	HU143MRB U30	HU163MRB U30				
380 ~ 415 V, 3 Ø, 50 Hz	Indoor unit		HN1616Y NB1					

HU121MRB U30 / HU141MRB U30 / HU161MRB U30 HU123MRB U30 / HU143MRB U30 / HU163MRB U30 [Unit: mm]



No.	Part name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Unit power	Power cable hole
4	Low voltage	Communication cable hole
5	Handle	-
6	Air outlet	-
7	Side panel	-

PRODUCT SPECIFICATION



No.	Part name	Description			
1	Domestic hot water tank	200 ℓ			
2	Electric heater	Max 6 kW			
3	Flow sensor	To measure the water flow rate (5-80 LPM)			
4	3 way valve	Heating / DHW circuit			
5	Water pressure sensor	To measure the water pressure (0-2 MPa)			
6	Expansion vessel	12 ℓ for heating circuit			
7	Magnesium anode	To prevent corrosion			
8	DHW tank sensor	Temperature sensor			
9	Plate heat exchanger	Heat exchange (water / DHW tank)			
10	DHW water pump	To circulate water for DHW heating			
11	Strainer for DHW tank	Filtering and stacking particles			
12	Main water pump	To circulate water inside the system			
13	Expansion vessel	8 ℓ For DHW circuit (accessory)			
14	Control box	PCB and terminal blocks			
15	Air vent	Air purging when charging water			
16	Drain cock	Valve for water draining			
17	Electrical conduits	For electric wiring			

No.	Part name	Part name		
Α	Inlet pipe from outdoor unit	Female G1"		
В	Outlet pipe to outdoor unit	Female G1"		
С	Domestic hot water outlet pipe	Female G3/4"		
D	Domestic cold water inlet pipe	Female G3/4"		
Е	Domestic re-circulation pipe	Female G3/4"		
F	Heating circuit inlet pipe	Female G1"		
G	Heating circuit outlet pipe	Female G1"		
Н	Electrical conduits	For electric wiring		
1	Control panel	Built-in remote controller		



R32 SPLIT HYDRO BOX

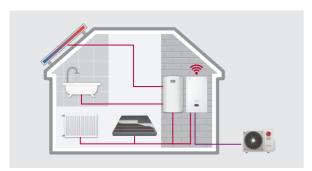


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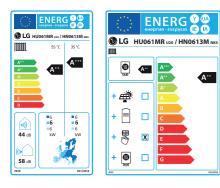
THERMA V_{TM} (R32) R32 SPLIT 4/6 kW HYDRO BOX







Energy Label



- * 6 kW 1 Ø model.

Excellent performance & efficiency









User convenience













Pressure

Easy installation & maintenance





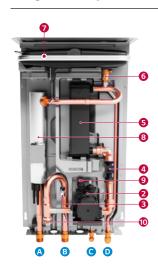


R32 Split Hydro Box Introduction

The LG Therma V R32 Split Hydro Box is a hydro box type system consisting of an indoor hydro box unit and an outdoor unit. The two units are connected by refrigerant piping only, thus hydronic components such as plate heat exchanger, expansion tank and water pump are located within the indoor unit. Due to the split nature, freezing will not compromise this unit regardless of outdoor ambient temperatures.

The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 4/6 kW model is suitable for new build houses that are well insulated and require a small heating load

Key Components





Components

- 1 Standard III remote controller (attached on the front panel)
- 2 Water pump
- 3 Water pressure sensor
- 5 Plate type heat exchanger (ref/water)
- 6 Air vent valve
- **7** Expansion vessel (8 ℓ)
- 8 Back up electric heater (3 kW)
- Safety valve
- 10 Strainer

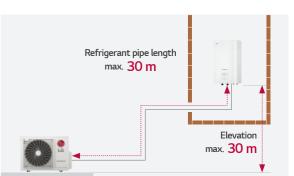
Connections

- A Heating circuit outlet pipe (male PT 1" *)
- B Heating circuit inlet pipe (male PT 1" *)
- © Refrigerant liquid pipe (SAE 1/4" with connector **) D Refrigerant gas pipe (SAE 1/2" with connector **)
- * According to ISO 7-1 (tapered pipe threads) ** In case of Split 4/6 kW model, the adaptors provided with the outdoor unit must be separately installed on the gas/liquid connection of the indoor unit when connecting the refrigerant pipe. After installing the adaptors, the liquid and gas connection size becomes Ø 6.35 (1/4 inch) and Ø 12.7 (1/2 inch) respectively.

Small Refrigerant Amount - free from minimum floor area requirements due to R32 refrigerant

Minimum floor space requirements do not apply to R32 Split 4/6 kW, as the maximum refrigerant amount (including 30 m pipes) used in the product is smaller than the minimum set by regulation. As a result, there are more opportunities for flexible design and installation.



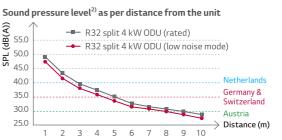


Reduced Noise Level

The R32 Split outdoor unit can be installed at the minimum of 4.5 m away¹⁾ from neighboring houses while complying with noise-related requirements in most European countries, including Germany. (based on 4 kW ODU & low noise mode)

Description		Germany	Austria	Switzerland	Netherlands
C	Day time	50 dB (A) (06:00 ~ 22:00)	40 dB (A) (06:00 ~ 19:00)	40 dB (A) (07:00 ~ 19:00)	45 dB (A) (07:00 ~ 19:00)
Sound pressure threshold	Evening	-	35 dB (A) (19:00 ~ 22:00)	-	-
cilicanota	Night time	35 dB (A) (22:00 ~ 06:00)	30 dB (A) (22:00 ~ 06:00)	35 dB (A) (19:00 ~ 07:00)	40 dB (A) (19:00 ~ 07:00)





- 1) Minimum distance to be away from a neighboring property may vary depending on installation conditions and noise regulations in individual countries



R32 Split 4/6 kW Hydro Box







Indoor unit

HN0613M NK5

Outdoor unit

HU041MR U20 HU061MR U20













Features

- Answers the needs of new build houses with good insulation and a small heating demand
- Demonstrates a lower noise level

(sound pressure level at 3 m: 39 dB (A) for 4 kW / 40 dB (A) for 6 kW)

Enhanced installation flexibility

- Free from minimum floor area requirements due to R32 refrigerant (Max. refrigerant amount (including 30 m pipes) < 1.842 kg)
- · Light weight and compact size
- Max. 30 m refrigerant piping
- Integrated 3 kW backup heater and expansion tank for heating (8 ℓ)

High efficiency & operational range

- SCOP up to 4.65 / 3.23 (low temp. / mid temp. application): A*** / A***
- COP up to 5.10 (outdoor air 7°C / leaving water 35°C)
- Operation range (ambient: -20 ~ 35°C / water side: 15 ~ 55°C)

Innovative design & technology

• Energy monitoring of estimated power consumption

Control & connectivity

- LG ThinQ Wi-Fi control and monitoring solution
- PV / ESS or smart grid connectivity

Model line-up

	Unit	Model name				
Category		Capacity (kW)				
		4.0	6.0			
1 Phase model	Outdoor unit	HU041MR U20	HU061MR U20			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN0613M NK5				

Seasonal energy

Description			Outdoor unit	HU041MR U20	HU061MR U20
Description		Indoor unit	HN0613	3M NK5	
	Average	SCOP	-	4.65	4.65
Space climate	climate water	Seasonal space heating efficiency (ηs)	%	183	183
heating	outlet 35°C	Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++
(according Average to EN14825) climate water	Average	SCOP	-	3.23	3.23
	825) climate water	Seasonal space heating efficiency (ηs)	%	126	126
	outlet 55°C	Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++

Nominal capacity and nominal power input

-	_		-	-		
Description		OAT ¹⁾ (DP)	LWT ²⁾ (DB)	Outdoor unit	HU041MR U20	HU061MR U20
Description		UAI (DB)	LVV I (DB)	Indoor unit	HN061	3M NK5
		7°C	35°C		4.00	6.00
	Heating	7°C	55°C		3.70	4.60
Naminal canacity	Heating	2°C	35°C	kW	3.60	4.80
Nominal capacity		-7°C	35°C	KVV	4.00	6.00
	Cooling	35°C	18°C		4.00	6.00
	Cooling	35°C	7°C		4.00	6.00
	Heating	7°C	35°C		0.78	1.21
		7°C	55°C	kW	1.30	1.59
Nominal		2°C	35°C		0.96	1.32
power input		-7°C	35°C		1.30	2.01
	Cooling	35°C	18°C		0.83	1.25
	Cooling	35°C	7°C		1.18	1.88
		7°C	35°C		5.10	4.95
СОР	Heating	7°C	55°C	W/W	2.85	2.90
COP	Heating	2°C	35°C	VV/VV	3.75	3.65
		-7°C	35°C		3.08	2.98
EER	Cooling	35°C	18°C	W/W	4.80	4.80
EEK	Cooling	35°C	7°C VV/ VV	3.40	3.20	

¹⁾ OAT : Outdoor Air Temperature

Product specification (outdoor unit)

Technical specification			Unit	HU041MR U20	HU061MR U20		
Operation range	Heating	Min. ~ Max.	°C DB	-20 ~	35		
(outdoor temp.)	Cooling	IVIIII. ~ IVIAX.	CDB	5 ~ 48			
Compressor	Туре		-	Hermetic seale	d twin rotary		
	Туре		-	R3	2		
Refrigerant	GWP (Global War	ming Potential)	-	67	5		
Kerrigeranc	Precharged amou	nt	g	1,10	00		
	t-CO ₂ eq		-	0.74	13		
	Outer diameter	Liquid	mm (inch)	Ø 6.35	(1/4)		
	Outer diameter	Gas	mm (inch)	Ø 12.7	(1/2)		
	Length	Standard	m	5			
Piping connections	Length	Max.	m	30			
	Level difference	Max.	m	30			
	Chargeless-pipe length		m	10)		
	Additional chargin	ig volume	g/m	20			
Rated water flow rate (at L'	WT 35°C)		ℓ/min	11.5	17.3		
Sound power level	Heating	Rated	dB(A)	57	58		
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	49	50		
Dimensions	Unit	WxHxD	mm	870 × 65	0 × 330		
Weight	Unit		kg	44.	7		
Exterior	Color / RAL code		-	Warm gray /	RAL 7044		
	Voltage, phase, fr	equency	V, Ø, Hz	220-240), 1, 50		
Dower supply	Rated	Heating	А	3.5	5.6		
Power supply	running current	Cooling	А	3.7	5.4		
	Recommended ci		А	16	20		
Wiring connections	Power supply cabl H07RN-F)	e (included earth,	mm ² x cores	2.5 x 3 C			

Product specification (indoor unit)

Technical specification			Unit	HN0613M NK5
Operation range (leaving water)	Heating Cooling	Min. ~ Max.	°C DB	15 ~ 55 5 ~ 27 (16 ~ 27) ¹⁾
<u> </u>	DHW	DAT DA	LDM	15 ~ 80 ²⁾
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20
Expansion vessel	Volume		l	8
Safety valve	Pressure limit	Upper limit	bar	3
	Туре		-	Sheath
	Number of heating coil		EA	2
	Capacity combination		kW	1.5 + 1.5
Backup heater	Heating steps		Step	2
•	Power supply		V, Ø, Hz	220-240, 1, 50
	Rated running current		A	13
	Power supply cable (included earth,	, H07RN-F)	mm² x cores	2.5 x 3 C
	Water circuit	Inlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
Piping connections	vvater circuit	Outlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 6.35 (1/4) ³⁾
	Refrigerant circuit	Liquid (outside diameter)	mm (inch)	Ø 12.7 (1/2) ³⁾
Wiring connections	Power and communication cable (i	ncluded earth, H07RN-F)	mm ² x cores	0.75 x 4 C
Sound power level	Heating	Rated	dB(A)	44
Dimensions	Unit	W×H×D	mm	490 × 850 × 315
Weight	Unit		kg	37.8
Exterior	Color / RAL code		-	Noble white / RAL 9016

- 1) When a fan coil unit is not used.
- 2) DHW 50 ~ 80 $^{\circ}\text{C}$ operating is available only when the booster heater is operating.
- 3) When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor unit.

- 1. Due to our policy of innovation, some specifications may be changed without
- 2. Wiring cable size must comply with the applicable local and national codes. Especially the power cable and circuit breaker should be selected in accordance
- 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
- 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
- Rated running current: outdoor Temp. 7°C (DB) / 6 °C (WB), Leaving Water Temp. 35°C • Interconnected pipe length is standard length and difference of elevation

PRODUCT SPECIFICATION

- (outdoor ~ indoor unit) is 0 m. 5. This product contains fluorinated greenhouse gases.
- 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

^{*} MCS and EHPA label under development

²⁾ LWT: Leaving Water Temperature



THERMA V... SPLIT 4/6 kW HYDRO BOX

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU041MR U20 + HN0613M NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C				
temperature	Capacity (kW)									
-20°C DB	4.00	4.00	4.00	4.00	-	-				
-15°C DB	4.00	4.00	4.00	4.00	4.00	-				
-7°C DB	4.00	4.00	4.00	4.00	4.00	4.00				
-4°C DB	4.00	4.00	4.00	4.00	4.00	4.00				
-2°C DB	4.00	4.00	4.00	4.00	4.00	4.00				
2°C DB	4.00	4.00	4.00	4.00	4.00	4.00				
7°C DB	4.00	4.00	4.00	4.00	4.00	4.00				
10°C DB	4.00	4.00	4.00	4.00	4.00	4.00				
15°C DB	4.00	4.00	4.00	4.00	4.00	4.00				
18°C DB	4.00	4.00	4.00	4.00	4.00	4.00				
20°C DB	4.00	4.00	4.00	4.00	4.00	4.00				
35°C DB	4.00	4.00	4.00	4.00	4.00	4.00				

HU061MR U20 + HN0613M NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C				
temperature	Capacity (kW)									
-20°C DB	4.92	4.78	4.64	4.50	-	-				
-15°C DB	5.56	5.52	5.48	5.44	5.40	-				
-7°C DB	6.00	6.00	6.00	6.00	6.00	6.00				
-4°C DB	6.00	6.00	6.00	6.00	6.00	6.00				
-2°C DB	6.00	6.00	6.00	6.00	6.00	6.00				
2°C DB	6.00	6.00	6.00	6.00	6.00	6.00				
7°C DB	6.00	6.00	6.00	6.00	6.00	6.00				
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00				
15°C DB	6.00	6.00	6.00	6.00	6.00	6.00				
18°C DB	6.00	6.00	6.00	6.00	6.00	6.00				
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00				
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00				

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- 1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C)

- 2. Direct interpolation is permissible. Do not extrapolate.

 3. Measuring procedure follows EN-14511.

 Rated values are based on standard conditions and and can be found on specifications.
- Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU041MR U20 + HN0613M NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C			
temperature		Capacity (kW)								
10°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
20°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
30°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
35°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
40°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
45°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			

HU061MR U20 + HN0613M NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C					
temperature		Capacity (kW)										
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00					
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00					
30°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00					
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00					
40°C DB	5.74	5.81	5.87	5.91	6.00	6.00	6.00					
45°C DB	5.48	5.61	5.73	5.81	5.94	6.00	6.00					

- Note 1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C)

- 2. Direct interpolation is permissible. Do not extrapolate.

 3. Measuring procedure follows EN-14511.

 Rated values are based on standard conditions and and can be found on specifications.
- Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

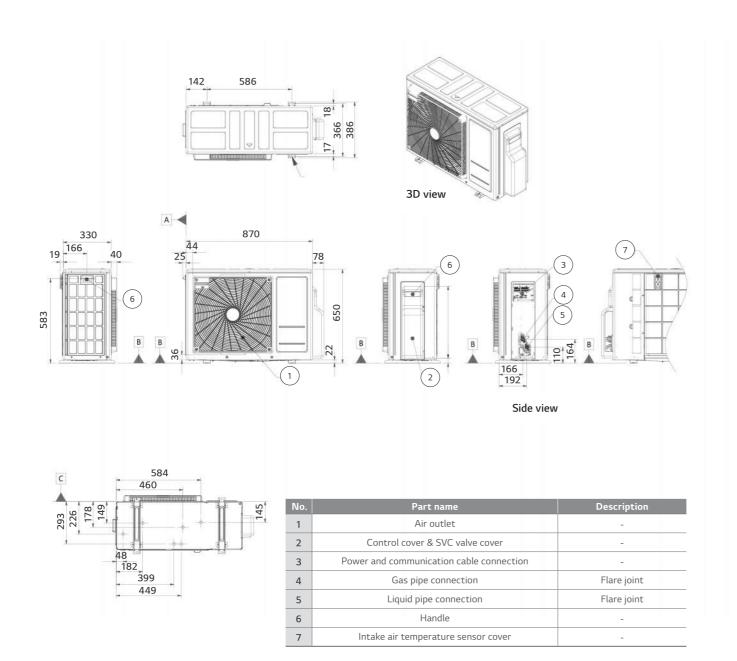
PRODUCT SPECIFICATION

Drawings

		Model	name			
Category	Unit	Capacity (kW)				
		4.0	6.0			
1 Phase model	Outdoor unit	HU041MR U20	HU061MR U20			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN0613M NK5				

HU041MR U20 / HU061MR U20

[Unit: mm]

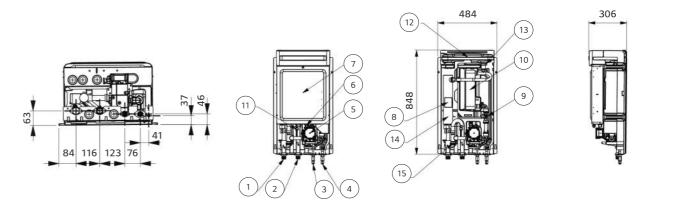


HN0613M NK5 [Unit: mm]

Built-in remote controller

Internal

Control panel



No.	Part name	Description					
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)					
2	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)					
3	Refrigerant piping connection	Ø 6.35 ¹⁾ (mm)					
4	Refrigerant piping connection	Ø 12.7¹) (mm)					
5	Water pump	To circulate water inside the system					
6	Safety valve	Open at water pressure 3 bar					
7	Control box	PCB and terminal blocks					
8	Thermostat	Cut-off power input to electric heater at 90°C					
9	Flow sensor	To measure the water flow rate (5-80 LPM)					
10	Plate heat exchanger	Heat exchange between refrigerant and water					
11	Pressure sensor	To measure the water pressure (0-2 MPa)					
12	Expansion tank	Absorbing volume change of heated water					
13	Air vent	Air purging when charging water					
14	Backup heater	3 kW					
15	Strainer	Filtering and stacking particles inside circulating water					

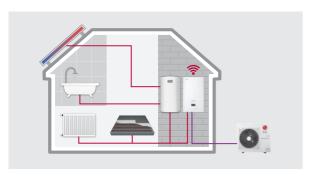
1) When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor unit.

THERMA V... (R32)

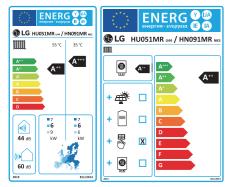
R32 SPLIT 5/7/9 kW HYDRO BOX







Energy Label



* 5 kW 1 Ø model.

Excellent performance & efficiency









User convenience











Easy installation & maintenance



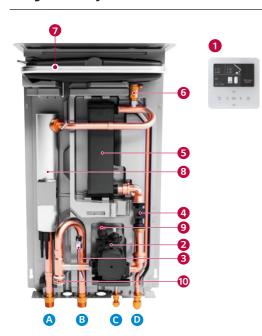


R32 Split Hydro Box Introduction

The LG Therma V R32 Split Hydro Box is a hydro box type comprising a separate indoor and outdoor unit, which are connected by refrigerant piping. Hydronic components such as a plate heat exchanger, an expansion tank and a water pump are located within the indoor unit, making the unit capable of withstanding freezing outside ambient temperatures.

The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 5/7/9 kW model is suitable for both new build and renovation projects.

Key Components



Components

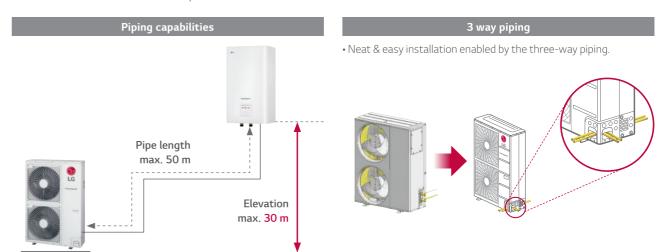
- 1 Standard III remote controller (attached on the front panel)
- Water pump
- 3 Water pressure sensor
- 4 Flow sensor
- 5 Plate type heat exchanger (ref/water)
- 6 Air vent valve
- **7** Expansion vessel (8 ℓ)
- 8 Back up electric heater (6 kW)
- Safety valve
- Strainer

Connections

- A Heating circuit outlet pipe (male PT 1" *)
- B Heating circuit inlet pipe (male PT 1" *)
- © Refrigerant liquid pipe (SAE 3/8")
- D Refrigerant gas pipe (SAE 5/8")

Flexible Refrigerant Piping Design

Installation flexibility is enabled by Therma V Split's long pipe length (up to 50 m) and the fact that the refrigerant piping can be connected in three directions: front, side and rear.



^{*} Detailed description for each function is presented on page 44 ~ 54.



THERMA V_{III} SPLIT 5/7/9 kW HYDRO BOX

R32 Split 5/7/9 kW Hydro Box







Indoor unit HN091MR NK5 **Outdoor unit** HU051MR U44 HU071MR U44















EHPA Austria and

Features

011-1W0315

- Refrigerant pipes connect IDU & ODU
- SCOP up to 4.65 (average climate / low temp. application): SCOP up to 3.23 (average climate / mid temp. application) A**
- COP up to 4.90 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit Switzerland) / MCS / Eurovent certification
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Black Fin heat exchanger
- LG ThinQ
- · Keymark / EHPA (for Germany, Austria and

Model line-up

		Model name						
Category	Unit	Capacity (kW)						
		5.5	7.0	9.0				
1 Phase model	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44				
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN091MR NK5						

Seasonal energy

Description			Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
Description			Indoor unit		HN091MR NK5	
	heating outlet 35°C Seasonal (according to EN14825) Average climate water Seasonal	SCOP	-	4.65	4.65	4.65
Space		Seasonal space heating efficiency (ηs)	%	183	183	183
		Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++	A+++
		SCOP	-	3.23	3.23	3.23
to EN14825)		Seasonal space heating efficiency (ηs)	%	126	126	126
		Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++	A++

Nominal capacity and nominal power input

B		OAT1) (DD)	LM(T2) (DD)	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
Description		OAI " (DB)	LWT ²⁾ (DB)	Indoor unit			
		7°C	35°C		5.50	7.00	9.00
Nominal capacity	Heating	7°C	55°C		5.50	5.50	5.50
		2°C	35°C	kW	3.30	4.20	5.40
	Cooling	35°C	18°C		5.50	7.00	9.00
	Cooling	35°C	7°C		5.50	7.00	9.00
		7°C	35°C	kW	1.12	1.43	1.94
NI I	Heating	7°C	55°C		2.04	2.04	2.04
Nominal power input		2°C	35°C		0.94	1.20	1.54
power input	Caaliaa	35°C	18°C		1.20	1.56	2.14
	Cooling	35°C	7°C		1.96	2.59	3.46
		7°C	35°C		4.90	4.90	4.65
COP	Heating	7°C	55°C	W/W	2.70	2.70	2.70
		2°C	35°C		3.52	3.51	3.50
EED	Cooling	35°C	18°C	W/W	4.60	4.50	4.20
EER	Cooling	35°C	7°C		2.80	2.70	2.60

1) OAT: Outdoor Air Temperature

2) LWT : Leaving Water Temperature

PRODUCT SPECIFICATION

Product specification (outdoor unit)

Technical specification			Unit	HU051MR U44	HU071MR U44	HU091MR U44		
Operation range	Heating	Min. ~ Max.	°C DB		-25 ~ 35			
(outdoor temp.)	Cooling	IVIIII. ~ IVIAX.	CDB	5 ~ 48				
Compressor	Quantity		EA	1				
Compressor	Туре		-	ŀ	Hermetic sealed scroll			
	Туре		-		R32			
Refrigerant	GWP (Global Warming Pot	ential)	-		675			
Remigerant	Precharged amount		g		1,500			
	t-CO ₂ eq		-		1.013			
	Outside diameter	Gas	mm (inch)		Ø 15.88 (5/8)			
	Outside diameter	Liquid	mm (inch)	Ø 9.52 (3/8)				
Piping connections	Length	Standard	m	5				
	Length	Max.	m	50				
Connections	Level difference	m		30				
	Chargeless-pipe length	m		10				
	Additional charging volume	g/m	40					
Rated water flow rate (at	t LWT 35°C)		LPM	15.8	20.1	25.9		
Sound power level	Heating	Rated	dB(A)		60			
Sound pressure level (at 1 m)	Heating	Rated	dB(A)		52			
Dimensions	Unit	WxHxD	mm		950 × 834 × 330			
Weight	Unit		kg		60.0			
Exterior	Color / RAL code		-	V	Varm gray / RAL 704	4		
	Voltage, phase, frequency		V, Ø, Hz		220-240, 1, 50			
Power supply	Rated running current	Heating	А	5.0	6.3	8.6		
rower supply	Nateu running current	Cooling	А	5.3	6.9	9.5		
	Recommended circuit brea	aker	А	20	25	30		
Wiring connections	Power supply cable (include	ed earth, H07RN-F)	mm ² x cores		4.0 x 3 C			

Product specification (indoor unit)

Technical specification			Unit	HN091MR NK5	
Operation range	Heating			15 ~ 65	
(leaving water)	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾	
	DHW	nt included earth, H07RN-F) m Inlet Outlet Gas (outside diameter) r Liquid (outside diameter) r		15 ~ 80 ²⁾	
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80	
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20	
Expansion vessel	Volume		l	8	
Safety valve	Pressure limit	Upper limit	bar	3	
	Туре		-	Sheath	
Backup heater	Number of heating coil		EA	2	
	Capacity combination		kW	3.0 + 3.0	
	Heating steps		Step	2	
	Power supply		V, Ø, Hz	220-240, 1, 50	
	Rated running current		A	25.0	
	Power supply cable (included earth,	H07RN-F)	mm² x cores	4.0 x 3 C	
		Inlot	inch	Male PT 1" according to ISO 7-1	
	Water circuit	inter	IIICII	(tapered pipe threads)	
Piping connections	vvacer circuit	Outlot	inch	Male PT 1" according to ISO 7-1	
riping connections		Outlet		(tapered pipe threads)	
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 15.88 (5/8)	
	Kerrigerant circuit	Liquid (outside diameter)		Ø 9.52 (3/8)	
Wiring connections	Power and communication cable (in	ncluded earth, H07RN-F)	mm ² x cores	0.75 x 4 C	
Sound power level	Heating	Rated	dB(A)	44	
Dimensions	Unit	W×H×D	mm	490 × 850 × 315	
Weight	Unit		kg	38.1	
Exterior	Color / RAL code		-	Noble white / RAL 9016	

1) When a fan coil unit is not used.

2) DHW 55 ~ 80°C operating is available only when the booster heater is operating.

Due to our policy of innovation, some specifications may be changed without notification.

Due to our policy of innovation, some specifications may be changed without notification.
 Wirring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.
 Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
 Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.
 Therefore, these values can be increased owing to ambient conditions during operation.
 Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
 Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
 Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
 This product contains fluorinated greenhouse gases.
 All installation sites must be equipped with an earth leakage circuit breaker (ELCB).



THERMA V_{TM} (R32) SPLIT 5/7/9 kW HYDRO BOX

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU051MR U44 + HN091MR NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	
temperature	Capacity (kW)								
-25°C DB	4.02	3.90	3.78	3.66	-	-	-	-	
-20°C DB	4.64	4.51	4.38	4.26	4.13	-	-	-	
-15°C DB	5.26	5.12	4.99	4.85	4.72	4.58	-	-	
-7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-	
-4°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-	
-2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-	
2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	
7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	
15°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	
18°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	

HU071MR U44 + HN091MR NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C			
temperature	Capacity (kW)										
-25°C DB	5.00	4.85	4.71	4.56	-	-	-	-			
-20°C DB	5.58	5.43	5.27	5.11	4.95	-	-	-			
-15°C DB	6.17	6.00	5.83	5.66	5.49	5.32	-	-			
-7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-			
-4°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-			
-2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-			
2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
15°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
18°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			

HU091MR U44 + HN091MR NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	
temperature	Capacity (kW)								
-25°C DB	6.40	6.20	6.00	5.80	-	-	-	-	
-20°C DB	7.23	7.00	6.77	6.54	6.31	-	-	-	
-15°C DB	8.06	7.80	7.54	7.28	7.02	6.76	-	-	
-7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-	
-4°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-	
-2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-	
2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	
7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	
15°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	
18°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU051MR U44 + HN091MR NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	6.42	6.95	7.49	7.85	8.39	8.75	9.11
20°C DB	6.05	6.37	6.70	6.91	7.23	7.45	7.66
30°C DB	5.68	5.79	5.90	5.97	6.08	6.15	6.22
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40°C DB	5.32	5.34	5.35	5.37	5.38	5.40	5.41
45°C DB	5.13	5.17	5.21	5.23	5.27	5.29	5.32

HU071MR U44 + HN091MR NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	8.17	8.85	9.54	9.99	10.68	11.13	11.59
20°C DB	7.70	8.11	8.52	8.80	9.21	9.48	9.75
30°C DB	7.23	7.37	7.51	7.60	7.74	7.83	7.92
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	6.77	6.79	6.81	6.83	6.85	6.87	6.88
45°C DB	6.53	6.58	6.63	6.66	6.70	6.74	6.77

HU091MR U44 + HN091MR NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C		
temperature	Capacity (kW)								
10°C DB	10.50	11.38	12.26	12.85	13.73	14.31	14.90		
20°C DB	9.90	10.43	10.96	11.31	11.84	12.19	12.54		
30°C DB	9.30	9.48	9.65	9.77	9.95	10.06	10.18		
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00		
40°C DB	8.70	8.73	8.76	8.78	8.81	8.83	8.85		
45°C DB	8.40	8.46	8.52	8.56	8.62	8.66	8.70		

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.



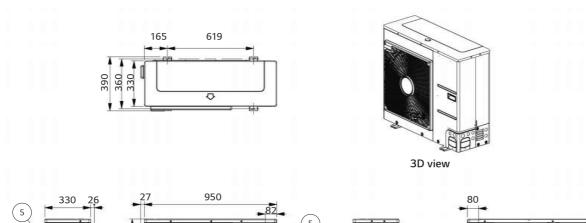
THERMA V_m (R32) SPLIT 5/7/9 kW HYDRO BOX

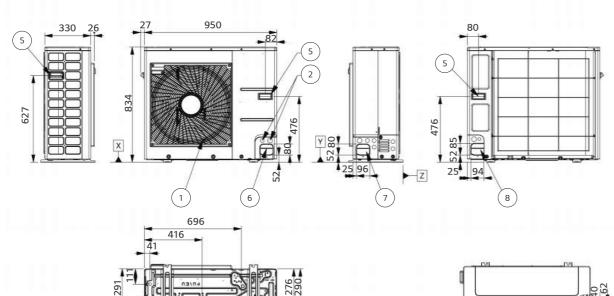
Drawings

			Model name			
Category	Unit	Capacity (kW)				
		5.5	7.0	9.0		
1 Phase model	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44		
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN091MR NK5				

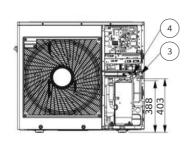
HU051MR U44 / HU071MR U44 / HU091MR U44

[Unit: mm]

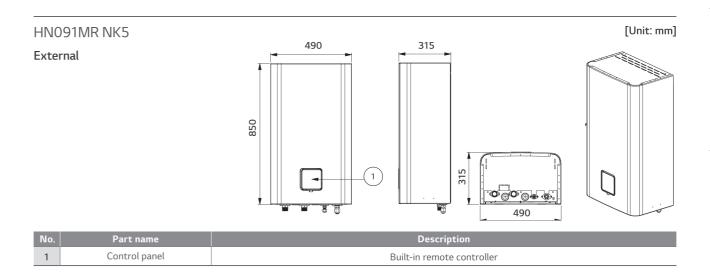




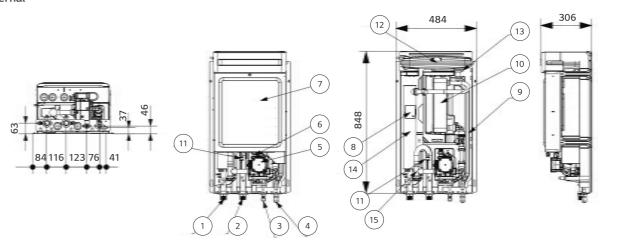
No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-



PRODUCT SPECIFICATION



Internal



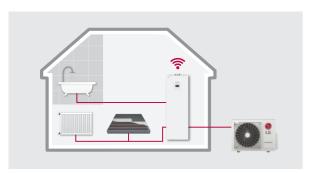
No.	Part name	Description					
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)					
2	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)					
3	Refrigerant pipe (liquid)	Ø 9.52 (mm)					
4	Refrigerant pipe (gas)	Ø 15.88 (mm)					
5	Water pump	To circulate water inside the system					
6	Safety valve	Open at water pressure 3 bar					
7	Control box	PCB and terminal blocks					
8	Thermal switch	Cut-off power input to electric heater at 90℃					
9	Flow sensor	To measure the water flow rate (5-80 LPM)					
10	Plate heat exchanger	Heat exchange between refrigerant and water					
11	Pressure sensor	To measure the water pressure (0-2 MPa)					
12	Expansion tank	Absorbing volume change of heated water					
13	Air vent	Air purging when charging water					
14	Backup heater	6 kW					
15	Strainer	Filtering and stacking particles inside circulating water					



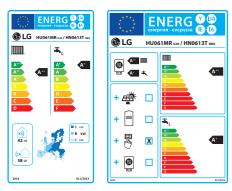
THERMA V_m (R32) R32 SPLIT 4/6 kW IWT







Energy Label



- * 16 kW 3 Ø model.

Excellent performance & efficiency









User convenience











Easy installation & maintenance











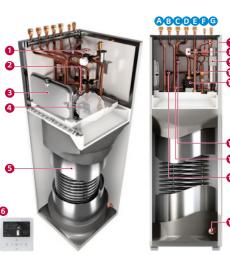
* Detailed description for each function is presented on page 44 ~ 54.

R32 Split IWT Introduction

LG Therma V Split IWT with an integrated indoor hot water tank – a domestic hot water supply, space heating and cooling solution - has reached a new era of innovation. A stainless steel water tank reduces the risk of corrosion, while an internal coil type heat exchanger contributes to higher efficiency. Compact and lightweight components allow quicker and easier installation, with various advanced control options providing for user convenience.

The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 4/6 kW model is suitable for new build houses that are well insulated and require a small heating load.

Key Components



Components

- 1 Plate heat exchanger (ref. / water)
- 3 Expansion tank for heating (8 ℓ) 4 Reserved space for DHW expansion tank
- with internal coil type heat exchanger
- 6 Standard III remote controller (attached on front panel)
- Air vent valve
- 8 3 Way diverting valve (DC)
 - 9 Electric back-up heater (3 kW)
 - Water flow sensor
 - Main water pump with air vent and safety valve (water circuit, 3 bar)
 - Water pressure sensor
 - 13 Drain valve for water circuit
 - 14 Safety valve (DHW tank, 10 bar)
 - 15 Drain valve for DHW tank

Connections

- A DHW recirculation pipe (female G1" *)
- B Domestic hot water outlet pipe (female G1" *) Opmostic cold water inlet pipe (female G1" *)
- D Heating circuit inlet pipe (female G1" *)
- F Refrigerant liquid pipe (SAE 1/4" with connector **)
- **G** Refrigerant gas pipe (SAE 1/2" with connector **)
- * According to ISO 228-1 (parallel pipe threads)
 ** In case of Split 4/6 kW model, the adaptors provided with the outdoor unit must be separately installed on the gas/liquid connection of the indoor unit when connecting the refrigerant pipe. After installing the adaptors, the liquid and gas connection size becomes Ø 6.35 (1/4 inch) and Ø 12.7 (1/2 inch) respectively.

All-in-One Solution: Integrated Water Tank Type

Therma V R32 Split IWT is the perfect spacesaving solution for residential application thanks to its fully integrated hot water tank. Unlike in the case of typical separate installation, in this all-inone solution hydronic components and Domestic Hot Water (DHW) are pre-wired, which requires reduced installation time and saves valuable living space. Therma V R32 Split IWT is easy to set up and operate while it demonstrates outstanding reliability and efficiency.





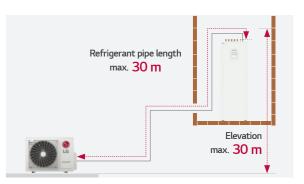
LG Therma V R32 Split IWT (less installation space required)

Small Refrigerant Amount - free from minimum floor area requirements due to R32 refrigerant

Minimum floor space requirements do not apply to R32 Split 4/6 kW, as the maximum refrigerant amount (including 30 m pipes) used in the product is smaller than the minimum set by regulation. As a result, there are more opportunities for flexible design and





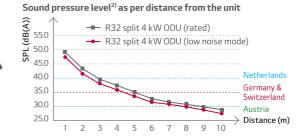


Reduced Noise Level

The R32 Split outdoor unit can be installed at the minimum of 4.5 m away¹⁾ from neighboring houses while complying with noise-related requirements in most European countries, including Germany. (based on 4 kW ODU & low noise mode)

Description		Germany	Austria	Switzerland	Netherlands
Sound pressure threshold	Day time	50 dB (A) (06:00 ~ 22:00)	40 dB (A) (06:00 ~ 19:00)	40 dB (A) (07:00 ~ 19:00)	45 dB (A) (07:00 ~ 19:00)
	Evening	-	35 dB (A) (19:00 ~ 22:00)	-	-
	Night time	35 dB (A) (22:00 ~ 06:00)	30 dB (A) (22:00 ~ 06:00)	35 dB (A) (19:00 ~ 07:00)	40 dB (A) (19:00 ~ 07:00)





- 1) Minimum distance to be away from a neighboring property may vary depending on installation conditions and noise regulations in individual countries
- 2) Sound pressure level is converted from sound power level of low noise mode based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.

THERMA V_{III} SPLIT 4/6 kW IWT

R32 Split 4/6 kW IWT







Indoor unit HN0613T NK0 **Outdoor unit**

HU041MR U20 HU061MR U20













0000011

-22



Features

- Answers the needs of new build houses with good insulation
 Innovative design & technology and a small heating demand
- Demonstrates a lower noise level (sound pressure level at 3 m: 39 dB (A) for 4 kW / 40 dB (A) for 6 kW)

All-in-one integration

- Quick and easy installation
- DHW tank and hydronic component integration
- Integrated 3 kW backup heater and expansion tank for heating (8 ℓ)

Enhanced installation flexibility

- Free from minimum floor area requirements due to R32
- (max. refrigerant amount (including 30 m pipes) < 1.842 kg)
- Light weight and compact size
- Max. 30 m refrigerant piping

High efficiency & operational range

- SCOP up to 4.65 / 3.23 (low temp. / mid temp. application): A*** / A**
- Water heating efficiency 133 % (4,6 kW, profile L): A*
- COP up to 5.10 (outdoor air 7°C / leaving water 35°C)
- Operation range (ambient: -20 ~ 35°C / water side: 15 ~ 55°C)

- Duplex stainless steel water tank (200 ℓ)
- Durable stainless steel: no need to install an anode and replace it on a regular basis in the case of a magnesium anode, or no electricity consumption in the case of an impressed current anode.



- Internal coil type heat exchanger
- Built-in water flow and pressure sensors to monitor the water circuit in real time
- PWM-pump with option to control by ΔT
- Energy monitoring of estimated power consumption

Control & connectivity

- LG ThinQ Wi-Fi control and monitoring solution
- PV / ESS or smart grid connectivity
- · Modbus connectivity without a gateway
- Schedule-based control logic for DHW recirculation pump
- Enhanced 2nd circuit control logic

Model line-up

	Unit	Model name			
Category		Capacity (kW)			
		4.0	6.0		
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Outdoor unit	HU041MR U20	HU061MR U20		
	Indoor unit	HN0613T NK0			

PRODUCT SPECIFICATION

Seasonal energy

Description			Outdoor unit	HU041MR U20	HU061MR U20	
Description	резсприон			Indoor unit HN0613T NK0		
	Average	SCOP	-	4.65	4.65	
Space	climate water	Seasonal space heating efficiency (ηs)	%	183	183	
heating	outlet 35°C	Seasonal space Heating eff. class	-	A+++	A+++	
(according	Average	SCOP	-	3.23	3.23	
to EN14825)	climate water	Seasonal space heating efficiency (ηs)	%	126	126	
	outlet 55°C	Seasonal space heating eff. class	-	A++	A++	
		Declared load profile	-	L	L	
	Average	Water heating efficiency (η _{WH})	%	133	133	
	climate	COP _{DHW}	-	3.15	3.15	
		Water heating eff. class	-	A+	A+	
Domestic		Declared load profile	-	L	L	
hot water efficiency	Warmer	Water heating efficiency (η _{WH})	%	160	160	
(according	climate	COP _{DHW}	-	3.69	3.69	
to EN16147)		Water heating eff. class	-	A++	A++	
		Declared load profile	-	L	L	
	Colder	Water heating efficiency (ηwн)	%	110	110	
	climate	COP _{DHW}	-	2.54	2.54	
		Water heating eff. class	-	А	А	

Nominal capacity and nominal power input

Technical specification		OAT 1)	LWT ²⁾	Outdoor unit	HU041MR U20	HU061MR U20
		UAI	LVVI	Indoor unit	N0613T NK0	
		7°C	35°C	kW	4.00	6.00
	Heating	7°C	55°C	kW	3.70	4.60
Naminal consoitu	Heating	2°C	35°C	kW	3.60	4.80
Nominal capacity		-7°C	35°C	kW	4.00	6.00
	Cooling	35°C	18°C	kW	4.00	6.00
	Cooling	35°C	7°C	kW	4.00	6.00
	Heating	7°C	35°C	kW	0.78	1.21
		7°C	55°C	kW	1.30	1.59
Naminal names innut		2°C	35°C	kW	0.96	1.32
Nominal power input		-7°C	35°C	kW	1.30	2.01
	Cooling	35°C	18°C	kW	0.83	1.25
	Cooling	35°C	7°C	kW	1.18	1.88
		7°C	35°C	W/W	5.10	4.95
COD	H	7°C	55°C	W/W	2.85	2.90
COP	Heating	2°C	35°C	W/W	3.75	3.65
		-7°C	35°C	W/W	3.08	2.98
FFD	Cooling	35°C	18°C	W/W	4.80	4.80
EER	Cooling	35°C	7°C	W/W	3.40	3.20

¹⁾ OAT: Outdoor Air Temperature

^{*} Keymark, Eurovent and EHPA label under development

²⁾ LWT: Leaving Water Temperature



R32 Split 4/6 kW IWT

Product specification (outdoor unit)

Technical specification			Unit	HU041MR U20	HU061MR U20	
Operation range	Heating	Min. ~ Max.	°C DB	-20 ~ 35		
(outdoor temp.)	Cooling Min. ~ Max.		CDB	5~	48	
Compressor	Туре		-	Hermetic seale	d twin rotary	
	Туре		-	R3	2	
Refrigerant	GWP (Global Warmin	ng Potential)	-	67	5	
Remgerant	Precharged amount		g	1,10	00	
	t-CO ₂ eq		-	0.74	13	
	Outer diameter	Liquid	mm (inch)	Ø 6.35	(1/4)	
	Outer diameter	Gas	mm (inch)	Ø 12.7	(1/2)	
	Length	Standard	m	5		
Piping connections	Length	Max.	m	30		
	Level difference	Max.	m	30)	
	Chargeless-pipe length		m	10)	
	Additional charging v	/olume	g/m	20)	
Rated water flow rate (at LWT	35°C)		ℓ/min	11.5	17.3	
Sound power level	Heating	Rated	dB(A)	57	58	
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	49	50	
Dimensions	Unit	WxHxD	mm	870 × 65	0 × 330	
Weight	Unit		kg	44.	7	
Exterior	Color / RAL code		-	Warm gray /	RAL 7044	
	Voltage, phase, frequ	iency	V, Ø, Hz	220-240), 1, 50	
Power supply	Rated	Heating	А	3.5	5.6	
rower supply	running current	Cooling	А	3.7	5.4	
	Recommended circu	iit breaker	А	16	20	
Wiring connections	Power supply cable (i	included earth, H07RN-F)	mm ² x cores	2.5 x 3 C		

Product specification (indoor unit)

Technical specificati	on		Unit	HN0613T NK0
Operation range	Heating			15 ~ 55
(Leaving water	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾
temperature)	DHW			15 ~ 80 ²⁾
	Volume		l	200
Domestic hot water tank	Material		-	Duplex stainless steel
	Internal thermal protect lin	nit	°C	85
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80
Nater pressure sensor	Measuring range	Min. ~ Max.	bar (G)	0 ~ 20
Expansion vessel (heating circuit)	Volume		l	8
Safety valve	Heating circuit	Upper limit	bar	3
Sarety valve	DHW circuit	Upper limit	bar	10
	Refrigerant circuit	Liquid (outside diameter)	mm (inch)	Ø 6.35 (1/4) ³⁾
		Gas (outside diameter)	mm (inch)	Ø 12.7 (1/2) ³⁾
	Water circuit	Inlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
Piping connections	vvacer circuit	Outlet	inch	Terriale of according to 150220 T (parallel pipe timeaus)
	DHW tank water circuit	Cold inlet	inch	
		Hot outlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
		Recirculation	inch	
Sound power level	Heating	Rated	dB(A)	42
Dimensions	Unit	W×H×D	mm	600 × 1,750 × 660
Neight	Unit		kg	118
Exterior	Color / RAL code		-	Noble white / RAL 9016
Niring connections	Power and communication of	cable (included earth, H07RN-F)	mm ² x cores	0.75 x 4 C
	Туре		-	Sheath
	No. of heating coil		EA	2
	Capacity combination		kW	3
Electric heater	Heating step		Step	1
	Power supply		V, Ø, Hz	220-240, 1, 50
	Wiring connections power sup	ply cable (included earth, H07RN-F)	mm² x cores	2.5 x 3 C
	Rated current		А	13

- When a fan coil unit is not used.
 DHW 50 80°C operating is available only when the booster heater is operating.
 When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor unit.

- Note
 1. Due to our policy of innovation, some specifications may be changed without notification.
 2. Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.
 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
 Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.
 Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
 Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
 5. This product contains fluorinated greenhouse gases,
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).



Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU041MR U20 + HN0613T NK0

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C		
temperature	Capacity (kW)							
-20°C DB	4.00	4.00	4.00	4.00	-	-		
-15°C DB	4.00	4.00	4.00	4.00	4.00	-		
-7°C DB	4.00	4.00	4.00	4.00	4.00	4.00		
-4°C DB	4.00	4.00	4.00	4.00	4.00	4.00		
-2°C DB	4.00	4.00	4.00	4.00	4.00	4.00		
2°C DB	4.00	4.00	4.00	4.00	4.00	4.00		
7°C DB	4.00	4.00	4.00	4.00	4.00	4.00		
10°C DB	4.00	4.00	4.00	4.00	4.00	4.00		
15°C DB	4.00	4.00	4.00	4.00	4.00	4.00		
18°C DB	4.00	4.00	4.00	4.00	4.00	4.00		
20°C DB	4.00	4.00	4.00	4.00	4.00	4.00		
35°C DB	4.00	4.00	4.00	4.00	4.00	4.00		

HU061MR U20 + HN0613T NK0

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C		
temperature	Capacity (kW)							
-20°C DB	4.92	4.78	4.64	4.50	-	-		
-15°C DB	5.56	5.52	5.48	5.44	5.40	-		
-7°C DB	6.00	6.00	6.00	6.00	6.00	6.00		
-4°C DB	6.00	6.00	6.00	6.00	6.00	6.00		
-2°C DB	6.00	6.00	6.00	6.00	6.00	6.00		
2°C DB	6.00	6.00	6.00	6.00	6.00	6.00		
7°C DB	6.00	6.00	6.00	6.00	6.00	6.00		
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00		
15°C DB	6.00	6.00	6.00	6.00	6.00	6.00		
18°C DB	6.00	6.00	6.00	6.00	6.00	6.00		
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00		
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00		

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)

- 2. Direct interpolation is permissible. Do not extrapolate.

 3. Measuring procedure follows EN-14511.

 Rated values are based on standard conditions and and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU041MR U20 + HN0613T NK0

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C		
temperature		Capacity (kW)							
10°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00		
20°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00		
30°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00		
35°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00		
40°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00		
45°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00		

HU061MR U20 + HN0613T NK0

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature	Capacity (kW)						
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
30°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
40°C DB	5.74	5.81	5.87	5.91	6.00	6.00	6.00
45°C DB	5.48	5.61	5.73	5.81	5.94	6.00	6.00

- Note 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)

- 2. Direct interpolation is permissible. Do not extrapolate.

 3. Measuring procedure follows EN-14511.

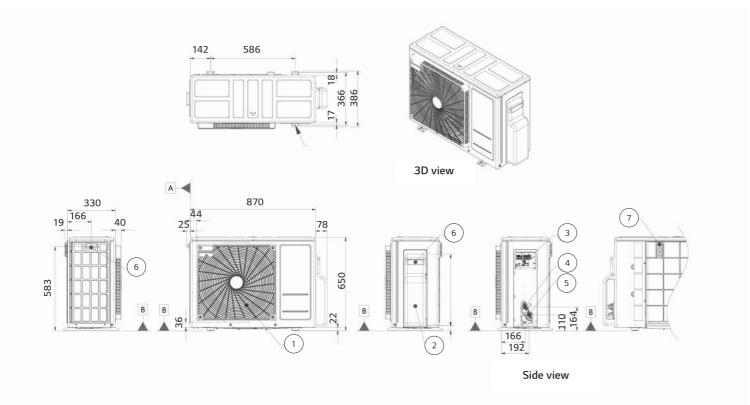
 Rated values are based on standard conditions and and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

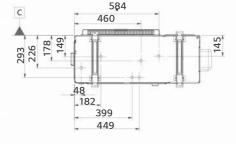
Drawings

		Model	name		
Category	Unit	Capacity (kW)			
		4.0	6.0		
1 Phase model	Outdoor unit	HU041MR U20	HU061MR U20		
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN0613T NK0			

HU041MR U20 / HU061MR U20

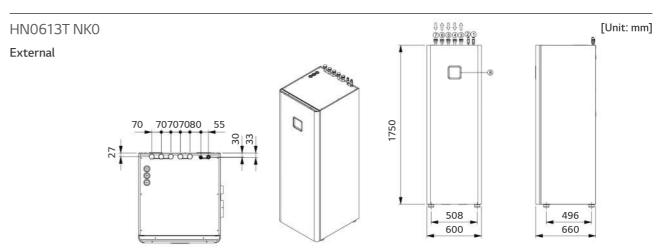
[Unit: mm]





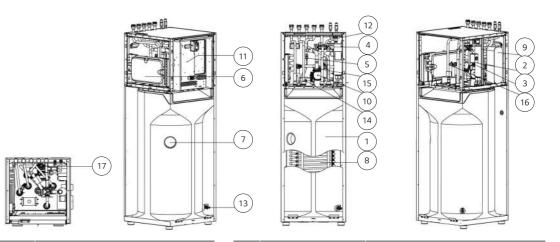
No.	Part name	Description
1	Air outlet	-
2	Control cover & SVC valve cover	-
3	Power and communication cable connection	-
4	Gas pipe connection	Flare joint
5	Liquid pipe connection	Flare joint
6	Handle	-
7	Intake air temperature sensor cover	-

PRODUCT SPECIFICATION



No.	Part name	Description
1	Refrigerant gas pipe	SAE 1/2"1)
2	Refrigerant liquid pipe	SAE 1/4"1)
3	Heating circuit outlet pipe	
4	Heating circuit inlet pipe	
5	Domestic cold water inlet pipe	Female G1" according to ISO228-1 (parallel pipe threads)
6	Domestic cold water outlet pipe	
7	DHW re-circulation pipe	
8	Control panel	Built-in remote controller

1) When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor units.



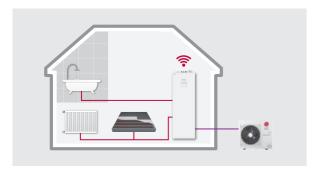
No.	Part name	Description		
1	DHW tank	Domestic hot water tank (200 ℓ)		
2	Heater	Electric heater (3 kW)		
3	Flow sensor	Flow metering sensor		
4	3 way valve	For DHW / heating		
5	Pressure sensor	Pressure sensor		
6	Expansion vessel	8 ℓ for Heating circuit		
7	DHW tank sensor	Temperature sensor		
8	Heat exchanger 1	Coil heat exchange (water / DHW)		
9	Heat exchanger 2	Plate heat exchange (ref. / Water)		

Part name	Description
Water pump	Main circulation pump
Control box	PCB'A and terminal blocks
Air vent	For air purging
Drain cock 1	Valve for DHW tank drain
Drain cock 2	Valve for water circuit drain
Strainer	For water circuit
Safety valve	For DHW (10 bar)
Safety valve	For water circuit (3 bar)
	Control box Air vent Drain cock 1 Drain cock 2 Strainer Safety valve

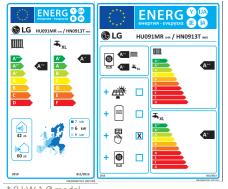
THERMA V_{TM} (R32) R32 SPLIT 5/7/9 kW IWT







Energy Label



- * 9 kW 1 Ø model

Excellent performance & efficiency









User convenience













Easy Installation & Maintenance









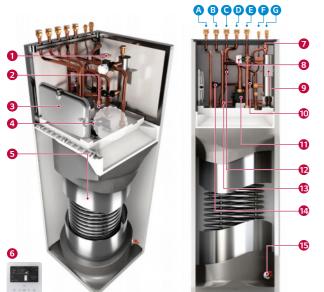
* Detailed description for each function is presented on page 44 \sim 54.

R32 Split IWT Introduction

LG Therma V Split IWT with an integrated indoor hot water tank – a domestic hot water supply, space heating and cooling solution - has reached a new era of innovation. A stainless steel water tank reduces the risk of corrosion, while an internal coil type heat exchanger contributes to higher efficiency. Compact and lightweight components allow quicker and easier installation, with various advanced control options providing for user convenience.

The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 5/7/9 kW model is suitable for both new build and renovation projects.

Key Components



Components

- 1 Plate heat exchanger (ref. / water)
- 2 Strainer
- **3** Expansion tank for heating (8 ℓ)
- 4 Reserved space for DHW expansion tank
- **⑤** DHW storage tank (stainless steel, 200 ℓ) with internal
- coil type heat exchanger

 Standard III remote controller (attached on front panel)
- Air vent valve
- **8** 3 way diverting valve (DC)
- 9 Electric back-up heater (3 kW)
- 10 Water flow sensor
- 1 Main water pump with air vent and safety valve (water circuit, 3 bar)
- Water pressure sensor
- 13 Drain valve for water circuit
- Safety valve (DHW tank, 10 bar) 15 Drain valve for DHW tank

Connections

- A DHW recirculation pipe (female G1" *)
- Domestic hot water outlet pipe (female G1" *)
- O Domestic cold water inlet pipe (female G1" *)
- D Heating circuit inlet pipe (female G1" *)
- Heating circuit outlet pipe (female G1" *)
- Refrigerant liquid pipe (SAE 3/8")
- **G** Refrigerant gas pipe (SAE 5/8")

All-in-One Solution: Integrated Water Tank Type

Therma V R32 Split IWT is the perfect spacesaving solution for residential application thanks to its fully integrated hot water tank. Unlike in the case of typical separate installation, in this all-inone solution hydronic components and Domestic Hot Water (DHW) are pre-wired, which requires reduced installation time and saves valuable living space. Therma V R32 Split IWT is easy to set up and operate while it demonstrates outstanding reliability and efficiency.

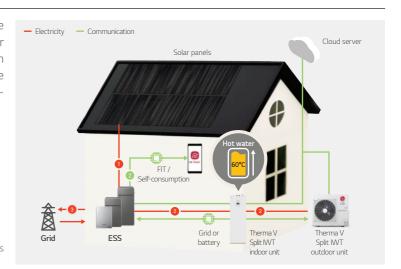




LG Therma V R32 Split IWT (less installation space required)

Energy States Interlock

Therma V R32 Split IWT provides an energy state interlock function enabling customers to use their own renewable energy as much as possible. It can shift set points depending on input signal from the Energy Storage System (ESS) or any other thirdparty device using Modbus or Digital 230 V inputs.



- 1) Energy is generated from solar panels and sent to your
- 2) Once the battery is fully charged, the surplus energy from the ESS will heat the water tank. The user gets to monitor the status with the LG ThinQ app.
- 3) Once the water is heated, the user can choose to sell surplus energy to the grid.

Easy Draining System

It is convenient for maintenance or moving as the water inside can be easily drained through the built-in drain valve.







DHW Recirculation Pump Control

Therma V can be connected to the DHW recirculation pump, which can then be managed via the scheduling function. When a user opens the faucet, hot water is immediately accessible thanks to the DHW recirculating function. This feature also has the added advantage of preventing Legionella growth in the hot water pipe.



* According to ISO 228-1 (parallel pipe threads)

THERMA V_{TM} (R32) SPLIT 5/7/9 kW IWT

R32 Split IWT (Integrated Water Tank)







Indoor unit

HN0913T NK0

Outdoor unit

HU051MR U44 HU071MR U44 HU091MR U44











Austria and











R1Compressor™ Black Fin ThinQ

Features

All-in-one integration

- Quick and easy installation
- DHW tank and hydronic component integration
- Integrated 3 kW backup heater and expansion tank for heating (8 ℓ)

Enhanced installation flexibility

- Refrigerant pipes connect IDU & ODU
- · Light weight and compact size indoor unit
- Max. 50 m refrigerant piping and 3-way piping connection availability

High efficiency & wide operational range

- R32 Refrigerant with low GWP
- SCOP up to 4.65 / 3.23 (low temp. / mid temp. application): A*** / A**
- Water heating efficiency 133 % (5,7 kW, profile L) / 140 % (9 kW, profile XL): A*
- COP up to 4.90 (outdoor air 7°C / leaving water 35°C)
- Operation range (ambient: $-25 \sim 35^{\circ}$ C / water side: $15 \sim 65^{\circ}$ C)

Innovative design & technology

- Duplex stainless steel water tank (200 ℓ)
- Durable stainless steel: no need to install an anode and replace it on a regular basis in the case of a magnesium anode, or no electricity consumption in the case of an impressed current anode.



- Internal coil type heat exchanger
- Built-in water flow and pressure sensors to monitor the water circuit in real time
- \bullet PWM-pump with option to control by ΔT
- Energy monitoring of estimated power consumption

Control & connectivity

- LG ThinQ Wi-Fi control and monitoring solution
- PV / ESS or smart grid connectivity
- · Modbus connectivity without a gateway
- Schedule-based control logic for DHW recirculation pump
- Enhanced 2nd circuit control logic

Model line-up

			Model name				
Category	Unit	Capacity (kW)					
		5.0	7.0	9.0			
1 Phase model	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN0913T NK0					

PRODUCT SPECIFICATION

Seasonal energy

Description		Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44		
Description			Indoor unit	HN0913T NK0			
	Average	SCOP	-	4.65	4.65	4.65	
Space	climate water	Seasonal space heating efficiency (ηs)	%	183	183	183	
heating	outlet 35°C	Seasonal space heating eff. Class	-	A+++	A+++	A+++	
(according	Average	SCOP	-	3.23	3.23	3.23	
to EN14825)	Climate water	Seasonal space heating efficiency (ηs)	%	126	126	126	
	outlet 55°C	Seasonal space heating eff. class	-	A++	A++	A++	
		Declared load profile	-	L	L	XL	
	Average climate	Water heating efficiency (η _{WH})	%	133	133	140	
		COP _{DHW}	-	3.15	3.15	3.40	
		Water heating eff. class	-	A+	A+	A+	
Domestic	Warmer	Declared load profile	-	L	L	XL	
hot water efficiency		Water heating efficiency (η _{WH})	%	160	160	170	
(according	climate	COP _{DHW}	-	3.69	3.69	4.10	
to EN16147)		Water heating eff. class	-	A++	A++	A++	
		Declared load profile	-	L	L	XL	
	Colder	Water heating efficiency (η _{WH})	%	110	110	115	
	climate	COP _{DHW}	-	2.54	2.54	2.65	
		Water heating eff. class	-	А	А	А	

Nominal capacity and nominal power input

Description		OAT1) (DD)	LVA(T2) (DD)	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
		UAI " (DB)	LWT ²⁾ (DB)	Indoor unit	HN0913T NK0		
		7°C	35°C		5.50	7.00	9.00
Nominal capacity	Heating	7°C	55°C		5.50	5.50	5.50
		2°C	35°C	kW	3.30	4.20	5.40
	Cl:	35°C	18°C		5.50	7.00	9.00
	Cooling	35°C	7°C		5.50	7.00	9.00
	Heating	7°C	35°C	kW	1.12	1.43	1.94
		7°C	55°C		2.04	2.04	2.04
Nominal power input		2°C	35°C		0.94	1.20	1.54
power input	Cooling	35°C	18°C		1.20	1.56	2.14
		35°C	7°C		1.96	2.59	3.46
		7°C	35°C		4.90	4.90	4.65
COP	Heating	7°C	55°C	W/W	2.70	2.70	2.70
		2°C	35°C		3.52	3.51	3.50
FED	Caaliaa	35°C	18°C	10//10/	4.60	4.50	4.20
EER	Cooling	35°C	7°C	W/W	2.80	2.70	2.60

¹⁾ OAT: Outdoor Air Temperature

2) LWT: Leaving Water Temperature

R32 Split 5/7/9 kW IWT (Integrated Water Tank)

Product specification (outdoor unit)

Technical specification			Unit	HU051MR U44	HU071MR U44	HU091MR U44		
Operation range	Heating	Min. ~ Max.	°C DB		-25 ~ 35			
(outdoor temp.)	Cooling	TVIIII. TVIGA.	000	5 ~ 48				
Compressor	Туре		-		Hermetic sealed scroll			
	Туре		-		R32			
Refrigerant	GWP (Global Warm		-		675			
Remgeranc	Precharged amount		g		1,500			
	t-CO ₂ eq		-		1.013			
	Outer diameter	Liquid	mm (inch)		Ø 9.52 (3/8)			
Piping connections	Outer diameter	Gas	mm (inch)	Ø 15.88 (5/8)				
	Length	Standard	m	5				
	Length	Max.	m	50				
	Level difference	Max.	m	30				
	Chargeless-pipe length		m	10				
	Additional charging volume		g/m	40				
Rated water flow rate (at LWT	35°C)		ℓ/min	15.8	20.1	25.9		
Sound power level	Heating	Rated	dB(A)	60				
Sound pressure level (at 1 m)	Heating	Rated	dB(A)		52			
Dimensions	Unit	WxHxD	mm		950 × 834 × 330			
Weight	Unit		kg	60.0				
Exterior	Color / RAL code		-	Warm gray / RAL 7044				
	Voltage, phase, free	uency	V, Ø, Hz		220-240, 1, 50			
Power supply	Rated	Heating	А	5.0	6.3	8.6		
Power supply	running current	Cooling	А	5.3	6.9	9.5		
	Recommended circu	iit breaker	А	20	25	30		
Wiring connections	Power supply cable	(included earth, H07RN-F)	mm ² x cores		4.0 x 3 C			

Product specification (indoor unit)

Technical specificati	on		Unit	HN0913T NK0
Operation range	Heating			15 ~ 65
(leaving water	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾
temperature)	DHW			15 ~ 80 ²⁾
	Volume		Q.	200
Domestic hot water tank	Material		-	Duplex stainless steel
	Internal thermal protect lin	nit	°C	85
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80
Water pressure sensor	Measuring range	Min. ~ Max.	bar (G)	0 ~ 20
Expansion vessel (heating circuit)	Volume		l	8
Cafaturahia	Heating circuit	Upper limit	bar	3
Safety valve	DHW circuit	Upper limit	bar	10
	Refrigerant circuit	Liquid (outside diameter)	mm (inch)	Ø 9.52 (3/8)
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 15.88 (5/8)
Piping connections	Water circuit	Inlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
		Outlet Cold inlet	inch	3 (111 /
	DHW tank water circuit	Hot outlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
		Recirculation	inch	
Sound power level	Heating	Rated	dB(A)	42
Dimensions	Unit	W×H×D	mm	600 × 1,750 × 660
Weight	Unit		kg	118
Exterior	Color / RAL code		-	White / RAL 9016
Wiring connections	Power and communication	cable (included earth, H07RN-F)	mm² x cores	0.75 x 4 C
	Туре		-	Sheath
	No. of heating coil		EA	2
	Capacity combination		kW	3
Electric heater	Heating step		Step	1
	Power supply		V, Ø, Hz	220-240, 1, 50
	Wiring connections power sup	ply cable (included earth, H07RN-F)	mm² x cores	2.5 x 3 C
	Rated current		A	13.0

1) When a fan coil unit is not used.
2) DHW 55 - 80°C operating is available only when the electric heater is operating.

Note
1. Due to our policy of innovation, some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes.
Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.
Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
• Rated running current: Outdoor Temp. 7°C DB / 6°C/WB, LWT 35°C
• Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
5. This product contains fluorinated greenhouse gases.
6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).



Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU051MR U44 + HN0913T NK0

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
-25°C DB	4.02	3.90	3.78	3.66	-	-	-	-
-20°C DB	4.64	4.51	4.38	4.26	4.13	-	-	-
-15°C DB	5.26	5.12	4.99	4.85	4.72	4.58	-	-
-7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
-4°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
-2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
15°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
18°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50

HU071MR U44 + HN0913T NK0

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature	re Capacity (kW)							
-25°C DB	6.40	6.20	6.00	5.80	-	-	-	-
-20°C DB	7.23	7.00	6.77	6.54	6.31	-	-	-
-15°C DB	8.06	7.80	7.54	7.28	7.02	7.10	-	-
-7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	8.60	-
-4°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
15°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
18°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	7.95

HU091MR U44 + HN0913T NK0

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature Capacity (kW)								
-25°C DB	6.40	6.20	6.00	5.80	-	-	-	-
-20°C DB	7.23	7.00	6.77	6.54	6.31	-	-	-
-15°C DB	8.06	7.80	7.54	7.28	7.02	7.10	-	-
-7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	8.60	-
-4°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
15°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
18°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	7.95

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU051MR U44 + HN0913T NK0

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
30°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40°C DB	5.32	5.34	5.35	5.37	5.38	5.40	5.41
45°C DB	5.13	5.17	5.21	5.23	5.27	5.29	5.32

HU071MR U44 + HN0913T NK0

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
30°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	6.50	6.63	6.81	7.00	7.00	7.00	7.00
45°C DB	6.43	6.48	6.63	6.66	6.70	6.74	6.77

HU091MR U44 + HN0913T NK0

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
30°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
40°C DB	8.10	8.10	8.70	9.00	9.00	9.00	9.00
45°C DB	7.50	7.70	7.80	7.90	8.00	8.10	8.20

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

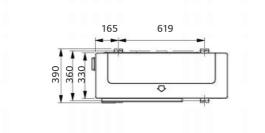
THERMA V_{TM} (R32) SPLIT 5/7/9 kW IWT

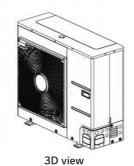
Drawings

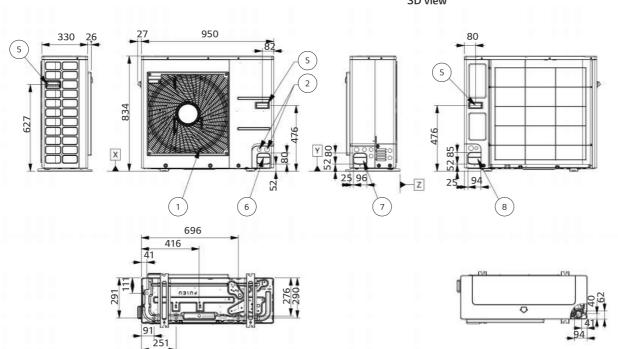
			Model name			
Category	Unit	Capacity (kW)				
		5.0	7.0	9.0		
1 Phase model	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44		
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN0913T NK0			

HU051MR U44 / HU071MR U44 / HU091MR U44

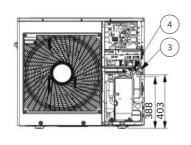
[Unit: mm]



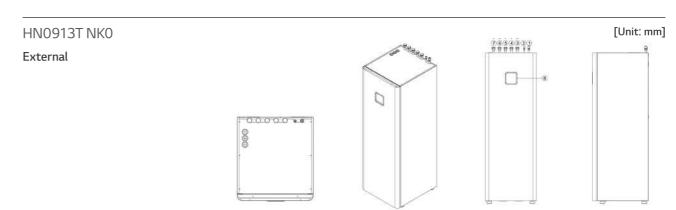




No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-

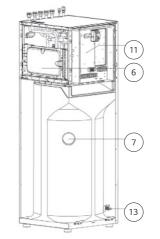


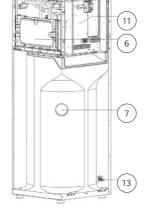
PRODUCT SPECIFICATION



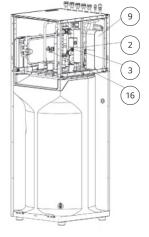
No.	Part name	Description
1	Refrigerant gas pipe	SAE 5/8"
2	Refrigerant liquid pipe	SAE 3/8"
3	Heating circuit outlet pipe	
4	Heating circuit inlet pipe	
5	Domestic cold water inlet pipe	Female G1" according to ISO228-1 (parallel pipe threads)
6	Domestic cold water outlet pipe	
7	DHW re-circulation pipe	
8	Control panel	Built-in remote controller

Internal





	12 4 5 15 10 (14)	
11)	1	



No.	Part name	Description
1	DHW tank	Domestic hot water tank (200 ℓ)
2	Heater	Electric heater (3 kW)
3	Flow sensor	Flow metering sensor
4	3 way valve	For DHW / heating
5	Pressure sensor	Pressure sensor
6	Expansion vessel	8 ℓ for heating circuit
7	DHW tank sensor	Temperature sensor
8	Heat exchanger 1	Coil heat exchange (water / DHW)
9	Heat exchanger 2	Plate heat exchange (ref. / water)

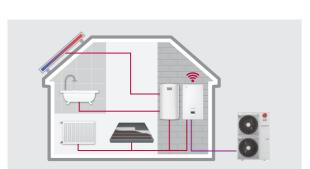
No.	Part name	Description
10	Water pump	Main circulation pump
11	Control box	PCB'A and terminal blocks
12	Air vent	For air purging
13	Drain cock 1	Valve for DHW tank drain
14	Drain cock 2	Valve for water circuit drain
15	Strainer	For water circuit
16	Safety valve	For DHW (10 bar)
17	Safety valve	For water circuit (3 bar)



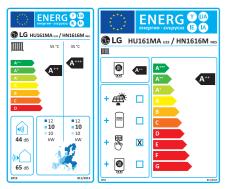
THERMA V_{TM} (R410A) R410A SPLIT HYDRO BOX







Energy Label



- * 16 kW 1 Ø model.

Excellent performance & efficiency







User convenience











Easy installation & maintenance

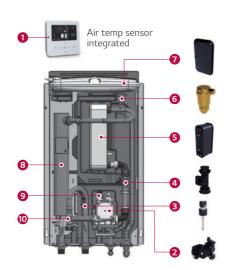




R410A Split Hydro Box Introduction

The LG Therma V R410A Split Hydro Box is a hydro box type comprising a separate indoor and outdoor unit, which are connected by refrigerant piping. Hydronic components such as a plate heat exchanger, an expansion tank and a water pump are located within the indoor unit, making the unit capable of withstanding freezing outside ambient temperatures.

Key Components



- 1 Standard III remote controller (attached on the front panel)
- 2 Water pump
- 3 Water pressure sensor
- 4 Flow sensor
- 5 Plate type heat exchanger (ref./water)
- 6 Air vent valve
- **7** Expansion vessel (8 ℓ)
- 8 Back up electric heater (6 kW)
- Safety valve
- 10 Strainer

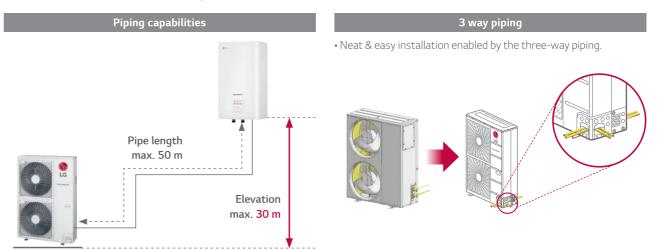
- 1 R1 Compressor
- 2 Gold Fin heat exchanger (ref/air)





Flexible Refrigerant Piping Design

Installation flexibility is enabled by Therma V Split's long pipe length (up to 50 m) and the fact that the refrigerant piping can be connected in three directions: front, side and rear.



^{*} Detailed description for each function is presented on page 44 ~ 54.

THERMA V. (R410A) SPLIT HYDRO BOX

R410A Split Hydro Box







Indoor unit

HN1616M NK5 HN1636M NK5

Outdoor unit

HU121MA U33 HU141MA U33 HU161MA U33 HU123MA U33 HU143MA U33 HU163MA U33



















Features

- Refrigerant pipes connect IDU & ODU
- SCOP up to 4.65 (average climate / low temp. application): SCOP up to 3.37 (average climate / mid temp. application):
- COP up to 4.55 (outdoor air 7°C / leaving water 35°C)
- 100% heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 57°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R1 Compressor
- Gold Fin heat exchanger
- LG ThinQ
- Keymark / MCS / Eurovent certification
- * EHPA label under development

Model line-up

		Model name Capacity (kW)					
Category	Unit						
		12.0	14.0	16.0			
1 Phase model	Outdoor unit	HU121MA U33	HU161MA U33				
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN1616M NK5				
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Outdoor unit	HU123MA U33	HU143MA U33	HU163MA U33			
	Indoor unit		HN1636M NK5				

PRODUCT SPECIFICATION

Seasonal energy

			Outdoor unit	HU121MA U33 (1 Ø)	HU141MA U33 (1 Ø)	HU161MA U33 (1 Ø)	
December	Description			HU123MA U33 (3 Ø)	HU143MA U33 (3 Ø)	HU163MA U33 (3 Ø)	
Description		Indoor unit	HN1616M NK5 (1 Ø)				
			indoor unit	HN1636M NK5 (3 Ø)			
	Average	SCOP	-	4.65	4.61	4.56	
Space	climate water	Seasonal space heating efficiency (ηs)	%	183	182	179	
heating	outlet 35°C	Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++	A+++	
(according	Average	SCOP	-	3.36	3.37	3.32	
to EN14825)	climate water	Seasonal space heating efficiency (η _s)	%	131	132	130	
outlet 55°C	outlet 55°C	Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++	A++	

Nominal capacity and nominal power input

Description				Outdoor	HU121MA U33 (1 Ø)	HU141MA U33 (1 Ø)	HU161MA U33 (1 Ø)
		OAT1) (DP)	LWT ²⁾ (DB)	unit	HU123MA U33 (3 Ø)	HU143MA U33 (3 Ø)	HU163MA U33 (3 Ø)
Description	Description		LVV I (DB)	Indoor		HN1616M NK5 (1 Ø)	
				unit		HN1636M NK5 (3 Ø)	
Nominal capacity		7°C	35°C		12.00	14.00	16.00
	Heating	7°C	55°C		11.00	11.50	12.00
		2°C	35°C	kW	11.00	12.00	13.80
	Cooling	35°C	18°C		10.40	12.00	13.00
	Cooling	35°C	7°C		7.94	8.50	8.92
		7°C	35°C	kW	2.64	3.17	3.76
	Heating	7°C	55°C		4.31	4.51	4.71
Nominal power input		2°C	35°C		3.04	3.32	3.83
power input	Caaliaa	35°C	18°C		2.60	3.08	3.60
	Cooling	35°C	7°C		2.66	3.02	2.53
		7°C	35°C		4.55	4.41	4.26
COP	Heating	7°C	55°C	W/W	2.55	2.55	2.55
		2°C	35°C		3.62	3.61	3.60
EER	Cooling	35°C	18°C	10//10/	4.00	3.90	3.61
	Cooling	35°C	7°C W/W	VV/VV	2.98	2.81	3.53

¹⁾ OAT: Outdoor Air Temperature

2) LWT: Leaving Water Temperature

THERMA V_{TM} (R410A) SPLIT HYDRO BOX

R410A Split Hydro Box

Product specification (outdoor unit)

Technical specific	ation		Unit	HU121MA U33	HU141MA U33	HU161MA U33	HU123MA U33	HU143MA U33	HU163MA U33	
Operation range	Heating	Min. ~ Max.	°C DB			-25	~ 35			
(outdoor temp.)	Cooling	IVIIII. ~ IVIAX.	CDB	5 ~ 48						
Compressor	Compressor Quantity Type		EA		1					
Compressor			-			Hermetic s	ealed scroll			
	Туре		-			R41	0A			
Refrigerant	GWP (Global War	rming Potential)	-			2,0	88			
Remgerant	Precharged amo	unt	g			2,5	00			
	t-CO ₂ eq		-			5.2	19			
	Outside	Gas	mm (inch)			Ø 15.8	8 (5/8)			
	diameter	Liquid	mm (inch)		Ø 9.52 (3/8)					
D	Length	Standard	m	7.5						
Piping connections	Length	Max.	m	50						
L	Level difference	Max.	m			3	0			
	Chargeless-pipe length		m	7.5						
	Additional charg	ing volume	g/m	40						
Rated water flow	rate (at LWT 35°C	()	LPM	34.5	40.3	46.0	34.5	40.3	46.0	
Sound power level	Heating	Rated	dB(A)	63	64	65	63	64	65	
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	55	56	57	55	56	57	
Dimensions	Unit	WxHxD	mm			950 x 1,3	80 x 330			
Weight	Unit		kg		84.8			85.4		
Exterior	Color / RAL code	е	-			Warm gray	/ RAL 7044			
	Voltage, phase, f	requency	V, Ø, Hz		220-240, 1, 50)		380-415, 3, 50	l	
Power supply	Rated running	Heating	А	11.5	13.8	16.3	6.6	8.0	9.4	
1 Ower supply	current	Cooling	А	11.3	13.4	15.7	6.5	7.7	9.0	
	Recommended c		А		40		20			
Wiring connections	Power supply cable ions (included earth, H07RN-F)		mm ² x cores		6.0 x 3 C			2.5 x 5 C		

- 1. Due to our policy of innovation, some specifications may be changed without notification.
- 2. Wiring cable size must comply with the applicable local and national codes.
- Especially the power cable and circuit breaker should be selected in accordance with that. 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
- Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
- 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
- \bullet Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
- Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
- 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

PRODUCT SPECIFICATION

Product specification (indoor unit)

Technical specification			Unit	HN1616M NK5	HN1636M NK5
	Heating			15 -	- 57
Operation range (leaving water)	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (1	6 ~ 27) ¹⁾
(teaving water)	DHW			15 ~	80 ²⁾
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~	80
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~	20
Expansion vessel	Volume		l		3
Safety valve	Pressure limit Upper limit		bar		3
	Туре		-	Sheath	Sheath
	Number of heating coil		EA	2	3
Backup heater	Capacity combination		kW	3.0 + 3.0	2.0 + 2.0 + 2.0
	Heating steps		Step	2	2
	Power supply	V, Ø, Hz	220-240, 1, 50	380-415, 3, 50	
	Rated running current	А	25.0	8.7	
	Power supply cable (included earth	, H07RN-F)	mm² x cores	4.0 x 3 C	2.5 x 4 C
	Water circuit	Inlet	inch		pe threads)
Piping connections	water circuit	Outlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 15.8	8 (5/8)
	Kerrigerant circuit	Liquid (outside diameter)	mm (inch)	Ø 9.52	2 (3/8)
Wiring connections	Power and communication cable (i	included earth, H07RN-F)	mm ² x cores	0.75	x 4 C
Sound power level	Heating	Rated	dB(A)	4	4
Dimensions	Unit	W×H×D	mm	490 × 8!	50 × 315
Weight	Unit			40.5	41.5
Exterior	Color / RAL code		-	Noble white	/ RAL 9016

¹⁾ When a fan coil unit is not used.

2) DHW 50 ~ 80°C Operating is available only when the booster heater is operating.

- 1. Due to our policy of innovation, some specifications may be changed without notification.
- 2. Wiring cable size must comply with the applicable local and national codes.
- Especially the power cable and circuit breaker should be selected in accordance with that.
- 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
 Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
- 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation \bullet Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
- Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
- 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU121MA U33 + HN1616M NK5 / HU123MA U33 + HN1636M NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C				
temperature		Capacity (kW)								
-20°C DB	11.25	10.95	10.22	9.85	-	-				
-15°C DB	12.00	11.32	10.90	10.32	-	-				
-7°C DB	12.00	11.66	11.45	11.16	11.13	-				
-4°C DB	12.00	12.00	12.00	12.00	12.00	11.24				
-2°C DB	12.00	12.00	12.00	12.00	12.00	11.98				
2°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
7°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
15°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
18°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00				

HU141MA U33 + HN1616M NK5 / HU143MA U33 + HN1636M NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C				
temperature		Capacity (kW)								
-20°C DB	11.25	11.17	10.79	10.32	-	-				
-15°C DB	12.11	11.98	11.54	10.90	-	-				
-7°C DB	13.06	12.99	12.77	12.27	12.42	-				
-4°C DB	14.00	14.00	14.00	13.64	13.09	11.67				
-2°C DB	14.00	14.00	14.00	14.00	14.00	12.67				
2°C DB	14.00	14.00	14.00	14.00	14.00	13.98				
7°C DB	14.00	14.00	14.00	14.00	14.00	14.00				
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00				
15°C DB	14.00	14.00	14.00	14.00	14.00	14.00				
18°C DB	14.00	14.00	14.00	14.00	14.00	14.00				
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00				
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00				

HU161MA U33 + HN1616M NK5 / HU163MA U33 + HN1636M NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C				
temperature		Capacity (kW)								
-20°C DB	12.27	12.01	11.48	10.86	-	-				
-15°C DB	13.11	12.90	12.62	12.30	-	-				
-7°C DB	13.73	13.70	13.46	13.16	12.42	-				
-4°C DB	14.36	14.50	14.30	14.01	13.40	12.50				
-2°C DB	15.20	14.80	14.50	14.25	14.00	13.50				
2°C DB	16.00	16.00	16.00	16.00	16.00	14.51				
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00				
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00				
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00				
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00				
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00				
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00				

1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)

- 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
 Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
 The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU121MA U33 + HN1616M NK5 / HU123MA U33 + HN1636M NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
20°C DB	7.60	8.55	9.51	10.33	11.19	11.98	-
30°C DB	8.62	9.05	9.78	10.67	10.90	11.37	-
35°C DB	7.94	8.66	9.33	10.10	10.40	10.75	11.16
40°C DB	7.56	8.02	8.81	9.36	9.54	9.89	10.28
45°C DB	6.38	7.08	7.79	8.44	9.14	9.44	9.78

HU141MA U33 + HN1616M NK5 / HU143MA U33 + HN1636M NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C		
temperature		Capacity (kW)							
20°C DB	8.13	9.87	10.97	11.92	12.91	13.82	-		
30°C DB	9.24	10.44	11.29	12.31	12.58	13.12	-		
35°C DB	8.50	9.99	10.76	11.65	12.00	12.40	12.88		
40°C DB	8.10	9.25	10.17	10.80	11.01	11.42	11.86		
45°C DB	7.17	8.17	8.99	9.73	10.55	10.89	11.23		

HU161MA U33 + HN1616M NK5 / HU163MA U33 + HN1636M NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
20°C DB	8.54	10.69	11.89	12.91	13.98	14.97	-
30°C DB	9.70	11.31	12.22	13.34	13.63	14.21	-
35°C DB	8.92	10.82	11.66	12.63	13.00	13.43	13.96
40°C DB	8.51	10.03	11.02	11.70	11.93	12.37	12.85
45°C DB	7.52	8.85	9.73	10.55	11.42	11.80	12.16
45°C DB	7.52	8.85	9.73	10.55	11.42	11.80	12.16

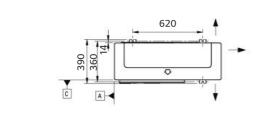
- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
- 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
 Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
 The rating might slightly vary depending on test standards or countries.
 The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

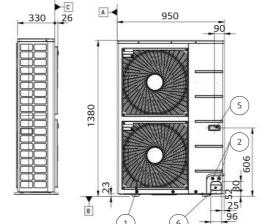
Drawings

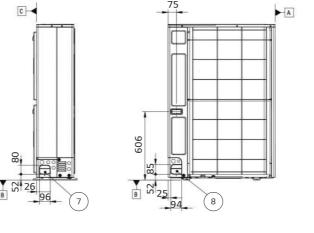
		Model name					
Category	Unit	Capacity (kW)					
		12.0	14.0	16.0			
1 Phase model	Outdoor unit	HU121MA U33	HU141MA U33	HU161MA U33			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN1616M NK5				
3 Phase model	Outdoor unit	HU123MA U33	HU143MA U33	HU163MA U33			
380 ~ 415 V, 3 Ø, 50 Hz	Indoor unit		HN1636M NK5				

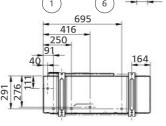
HU121MA U33 / HU141MA U33 / HU161MA U33 / HU123MA U33 / HU143MA U33 / HU163MA U33 [Unit: mm]

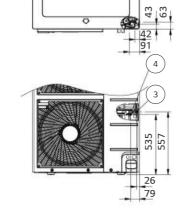






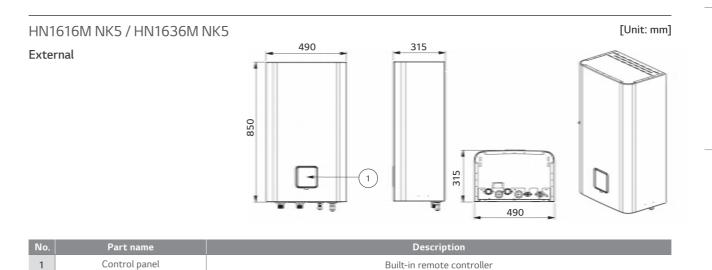


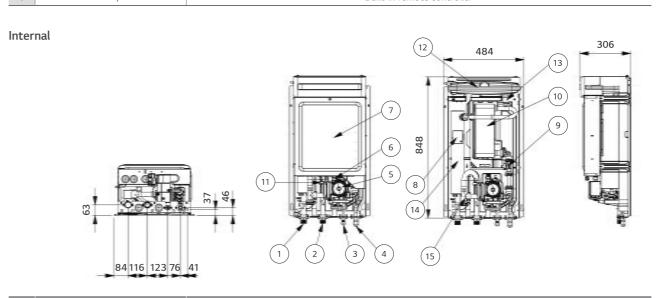




No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-

Piping connection port





No.	Part name	Description
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Refrigerant pipe (liquid)	Ø 9.52 (mm)
4	Refrigerant pipe (Gas)	Ø 15.88 (mm)
5	Water pump	To circulate water inside the system
6	Safety valve	Open at water pressure 3 bar
7	Control box	PCB and terminal blocks
8	Thermal switch	Cut-off power input to electric heater at 90°C
9	Flow sensor	To measure the water flow rate (5-80 LPM)
10	Plate heat exchanger	Heat exchange between refrigerant and water
11	Pressure sensor	To measure the water pressure (0-2 MPa)
12	Expansion tank	Absorbing volume change of heated water
13	Air vent	Air purging when charging water
14	Backup heater	6 kW
15	Strainer	Filtering and stacking particles inside circulating water

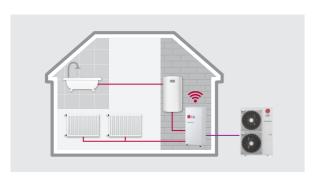
HIGH TEMPERATURE THERMA V.

HIGH TEMPERATURE

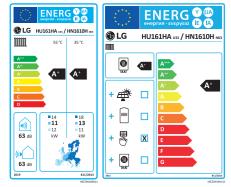








Energy Label



- * 16 kW 1 Ø model.

Excellent performance & efficiency







User convenience





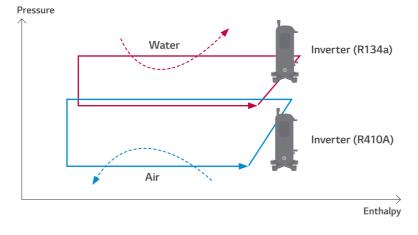


Easy installation & maintenance



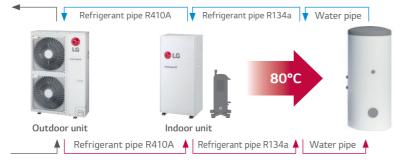
piping design connection

THERMA V High Temperature Cycle



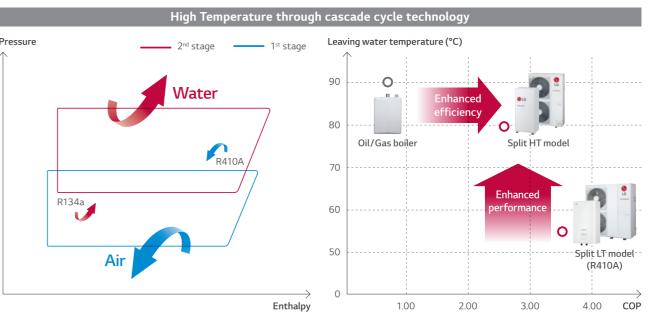
High Temperature Introduction

The LG Therma V High Temperature is a split type unit that consists of a separate indoor and outdoor unit. With cascade 2 stage compression technology, it can supply a high leaving water temperature of up to 80°C, while maintaining high energy efficiency.



Cascade 2 Stage Compression Technology

The Therma V High Temperature unit can produce up to 80°C hot water with high efficiency through cascade 2 stage compression (from R410A to R134a) technology, making it an optimized replacement for a boiler heating system which demands hot water supply.



 * Condition for HT model: outdoor air temp. 18 °C, entering water temp. 70 °C * Condition for LT model: outdoor air temp. 18°C, entering water temp. 55°C

1. OAT: Outdoor Air Temperature, EWT: Entering Water Temperature, LWT: Leaving Water Temperature

Suitable for Old Radiator

The LG Therma V High Temperature product is suitable for houses with poor insulation, an existing radiator heating system, or are required to meet sanitary water regulation needs at high temperatures.



^{*} Detailed description for each function is presented on page 44 ~ 54.

THERMA V. HIGH TEMPERATURE

High Temperature



Indoor unit HN1610H NK3 Outdoor unit HU161HA U33

















R1Compressor™

Black Fin ThinQ

Features

- Maximum 80°C leaving water temperature
- Cascade 2 stage compression
- Only for heating (no cooling)
- Suitable for old radiator
- SCOP up to 3.23 (average climate / low temp. application): SCOP up to 3.01 (average climate / mid temp. application): A
- COP up to 3.27 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 25 ~ 80°C)

- R1 Compressor (for outdoor unit)
- Black Fin heat exchanger
- LG ThinQ
- Keymark / MCS / Eurovent certification

Model line-up

	Unit	Model name
Category		Capacity (kW)
		16.0
1 Phase model	Outdoor unit	HU161HA U33
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN1610H NK3

Seasonal energy

Description			Outdoor unit	HU161HA U33
			Indoor unit	HN1610H NK3
	Average	SCOP	-	3.23
	climate water outlet 35°C	Seasonal space heating efficiency (ηs)	%	126
Space heating (according to		Seasonal space heating eff. class (A+++ to D scale)	-	A+
EN14825)	Average climate water outlet 55°C	SCOP	-	3.01
LIVI-023)		Seasonal space heating efficiency (ηs)	%	117
		Seasonal space heating eff. class (A+++ to D scale)	-	A+

Nominal capacity and nominal power input

Description		OAT 1) (DP)	LWT ²⁾ (DB)	Outdoor unit	HU161HA U33
Description	Description		LVV I (DB)	Indoor unit	HN1610H NK3
		7°C	35°C		16.00
Nominal capacity	Heating	7°C	55°C	kW	14.00
		2°C	35°C		16.00
Naminal	Heating	7°C	35°C		4.89
Nominal power input		7°C	55°C	kW	5.00
power input		2°C	35°C		4.92
	Heating	7°C	35°C		3.27
COP		7°C	55°C	W/W	2.78
		2°C	35°C		3.25

¹⁾ OAT: Outdoor Air Temperature

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Product specification (outdoor unit)

Technical specification			Unit	HU161HA U33
Operation range (outdoor temp.)	Heating	Min. ~ Max.	°C DB	-25 ~ 35
Compressor	Quantity		EA	1
Compressor	Туре		-	Hermetic sealed scroll
	Туре		-	R410A
Refrigerant	GWP (Global Warming F	Potential)	-	2,088
Kerrigerant	Precharged amount		g	3,800
	t-CO₂ eq		-	7.933
	Outside diameter	Gas	mm (inch)	Ø 15.88 (5/8)
	Outside diameter	Liquid	mm (inch)	Ø 9.52 (3/8)
Piping	Length	Standard	m	7.5
connections		Max.	m	50
Connections	Level difference	Max.	m	30
	Chargeless-pipe length		m	7.5
	Additional charging volume		g/m	40
Rated water flow rate	at LWT 35°C		LPM	46.0
Sound power level	Heating	Rated	dB(A)	63
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	55
Dimensions	Unit	WxHxD	mm	950 × 1,380 × 330
Weight	Unit		kg	89.0
Exterior	Color / RAL code		-	Warm gray / RAL 7044
	Voltage, phase, frequen	су	V, Ø, Hz	220-240, 1, 50
Power supply	Rated running current	Heating	А	8.4
	Recommended circuit b	reaker	А	20
Wiring connections	Power cable (included ea	arth)	mm ² x cores	4.0 x 3 C

Product specification (indoor unit)

Technical specification			Unit	HN1610H NK3	
Operation range (leaving water temp.)	Heating	Min. ~ Max.	°C DB	25 ~ 80	
Compressiv	Quantity		EA	1	
Compressor	Туре		-	Hermetic sealed twin rotary	
	Туре		-	R134a	
Refrigerant	GWP (Global Warm	ing Potential)	-	1,430	
Terrigerant	Precharged amount		g	1,800	
	t-CO₂ eq		-	2.574	
	Water circuit	Inlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
	vvater circuit	Outlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
Piping connections	Defrigerent sizerit	Gas (outside diameter)	mm (inch)	Ø 15.88 (5/8)	
	Refrigerant circuit	Liquid (outside diameter)	mm (inch)	Ø 9.52 (3/8)	
Rated water flow rate (at LWT 35°	C)		LPM	46.0	
Sound power level	Heating	Rated	dB(A)	58 / 63 ¹⁾	
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	50	
Dimensions	Unit	WxHxD	mm	520 x 1,080 x 330	
Weight	Unit		kg	84.0	
Exterior	Color / RAL code		-	Morning gray / RAL 7030	
	Voltage, phase, free	quency	V, Ø, Hz	220 ~ 240, 1, 50	
Power supply	Rated running current	Heating	А	9.8	
	Recommended circu	it breaker	А	25	
Mixing connections	Power cable (includ	ed earth)	mm ² x cores	4.0 x 3 C (H07RN-F)	
Wiring connections	Communication cabl	e (included earth)	mm ² x cores	1.0 ~ 1.5 x 2 C (VCTF-SB)	
Accessory kit of the indoor unit			Unit	HN1610H NK3	
Remote controller			-	Standard III	
Water tank temperature	Sensor size		Ø	7	
sensor with holder	Resistance		kΩ	5	
Strainer	Mesh size / materia	l	-	28 mesh / stainless steel	

¹⁾ This sound power level (63 dB(A)) is when AC cooling fan is operated.

Note
1. Due to our policy of innovation, some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes.
Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.
Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
• Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
• Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
5. This product contains fluorinated greenhouse gases.
6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

²⁾ LWT: Leaving Water Temperature

THERMA V... HIGH TEMPERATURE

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU161HA U33 + HN1610H NK3

Outdoor	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C	LWT 80°C		
temperature		Capacity (kW)										
-25°C DB	13.50	13.29	13.07	12.86	12.64	12.43	12.21	12.00	-	-		
-20°C DB	14.19	14.04	13.88	13.73	13.58	13.42	13.27	13.11	12.96	-		
-15°C DB	14.89	14.79	14.70	14.60	14.51	14.41	14.32	14.22	14.10	14.00		
-7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
-4°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
-2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00		

- Note

 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)

 2. Direct interpolation is permissible. Do not extrapolate.

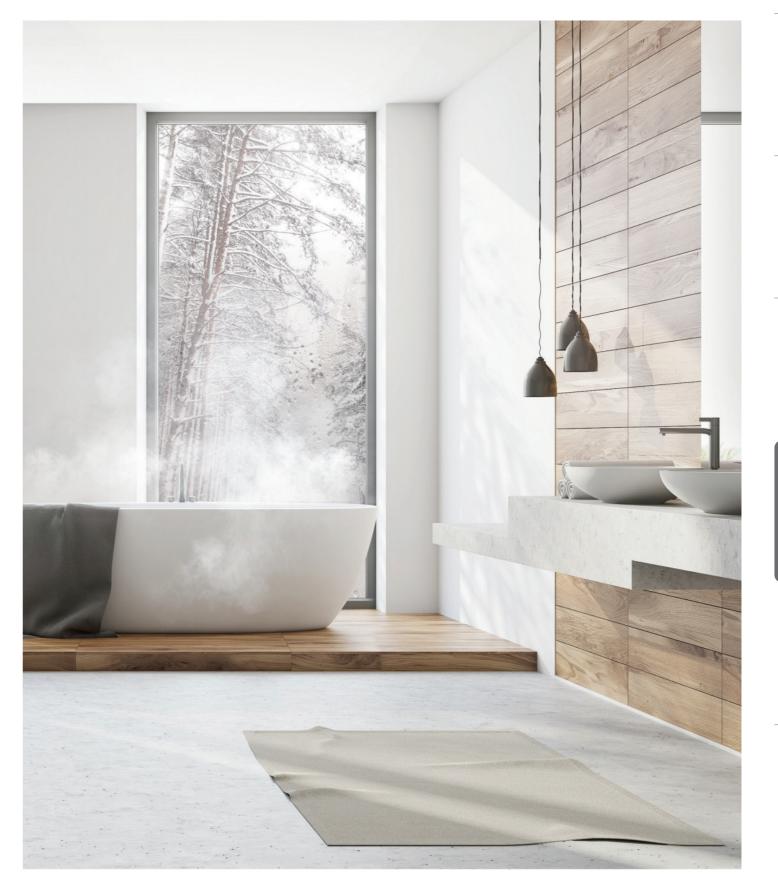
 3. Measuring procedure follows EN-14511.

 Rated values are based on standard conditions and can be found on specifications.

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 The rating might slightly vary depending on test standards or countries.

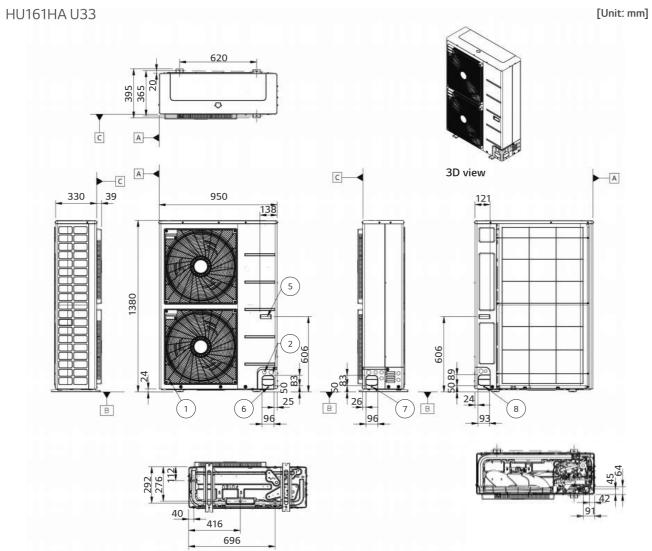
 4. The shaded areas are not guaranteed continuous operation.



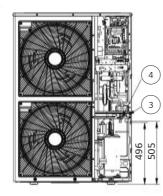
THERMA V... HIGH TEMPERATURE

Drawings

Category	Unit	Model name Capacity (kW) 16.0
1 Phase model	Outdoor unit	HU161HA U33
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN1610H NK3

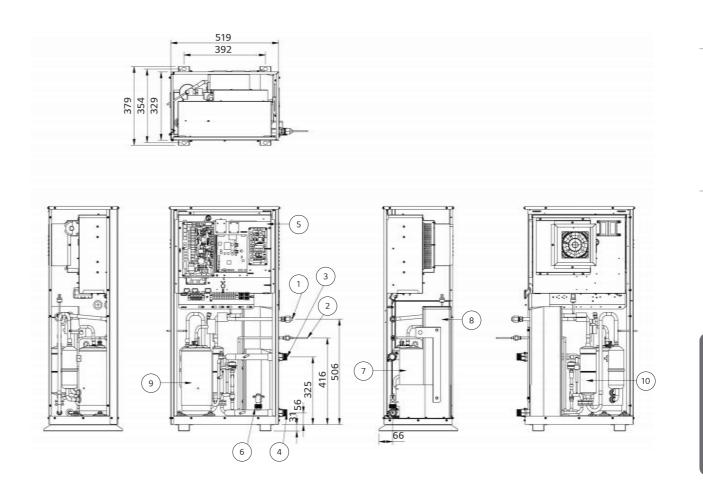


No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-



PRODUCT SPECIFICATION

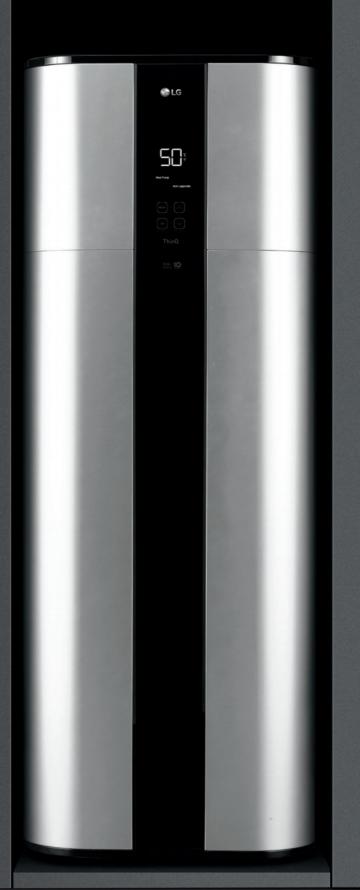
HN1610H NK3 [Unit: mm]



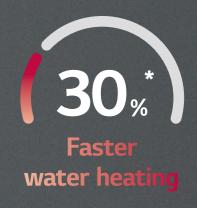
No.	Part name	Description
1	Refrigerant pipe (liquid)	Ø9.52 (mm)
2	Refrigerant pipe (gas)	Ø15.88 (mm)
3	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
4	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
5	Control box	PCB and terminal blocks
6	Flow switch	Minimum operation range at 15 LPM
7	Plate heat exchanger	Heat exchanger between refrigerant and water
8	Plate heat exchanger	Heat exchanger between refrigerant and refrigerant
9	Compressor	EPT525MBA
10	Accumulator	716 cc

HEAT **WATER HEATER** PUMP







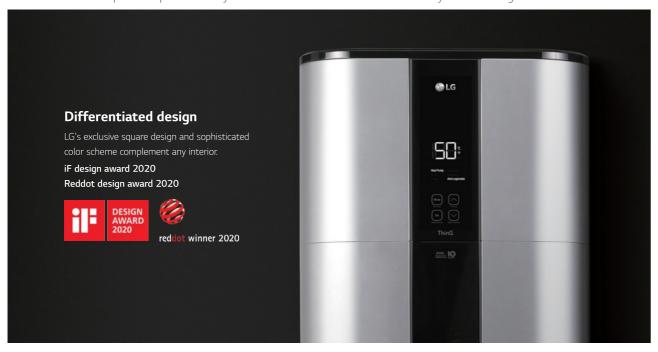


* This figure is the result of LG internal test compared to the electric heater, so it may differ from actual operation.



Stylish Design

LG unit's exclusive square shape and luxury silver color make it an excellent fit for any interior design.





Top Class Energy Efficiency

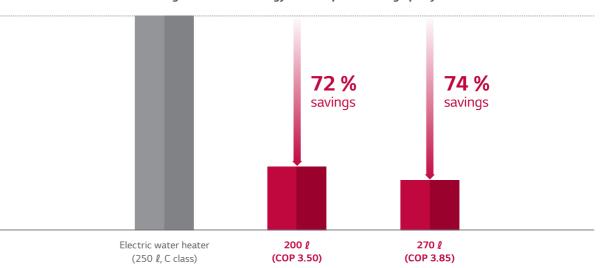
LG's new Inverter Heat Pump Water Heater with the highly efficient DUAL Inverter Compressor allows for impressive energy savings of over 70 % compared to a conventional electric heater.



Energy saving

Benefiting from the market's first DUAL Inverter Compressor, LG's Heat Pump Water Heater can run at low rotational speed (up to 10 Hz), reducing energy consumption by 70 % more than an electric water heater (250 £, C class).

Average estimated energy consumption savings per year



- * Simulation data on daily electricity consumption, based on EU climate conditions (average, 15°C).
- * The data are based on LG internal simulation.
- * The data are depending on the experimental conditions and is changeable according to the usage environment

Powerful Heating Performance

The DUAL Inverter Compressor maximizes the heat pump's power in turbo mode for a 30 % faster heating time for first-use water than in auto operation mode.



Fast & powerful water heating

Turbo mode can run at high speeds (up to 80 Hz) with simultaneous heating. The target water temperature in the tank will be achieved 30 % faster in turbo mode than in in use auto mode or auto mode in one hour of operation starting from an empty tank. Furthermore, turbo mode can recover the water at 25 % warmer temperatures than in use auto mode or auto mode in one hour of operation starting from an empty tank.

- * The data are based on LG internal tests and simulations.
- * The data depend on the experimental conditions and are changeable according to the usage environment.

Continuous operation

The two heat sources, two heaters and a heat pump complement each other perfectly. If the heat pump or one of the heaters fails, the other heat source allows alternative operation.



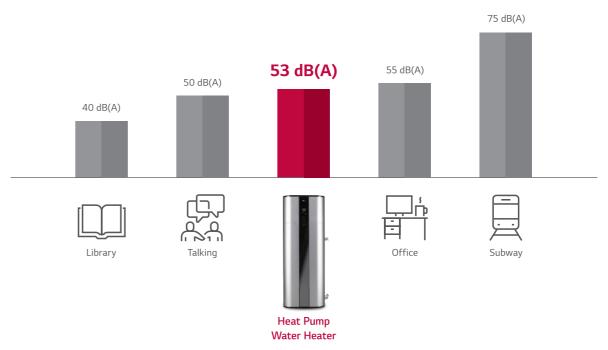




Low Noise Operation

Through BLDC motor and DUAL Inverter Compressor, noise is reduced to 53 dB(A) (sound power) and provides a comfortable environment even in indoor installation scenes.





Sound pressure is 38 dB(A) based on LG internal test. The data are based on LG internal test (sound power).

- * The data are based on LG internal tests and simulations.
- * The data are depending on the experimental conditions and is changeable according to the usage environment.

Various Operation Mode

LG Inverter Heat Pump Water Heater can be operated in four different modes for different conditions.



Operation



Using basic controlDisplay screen

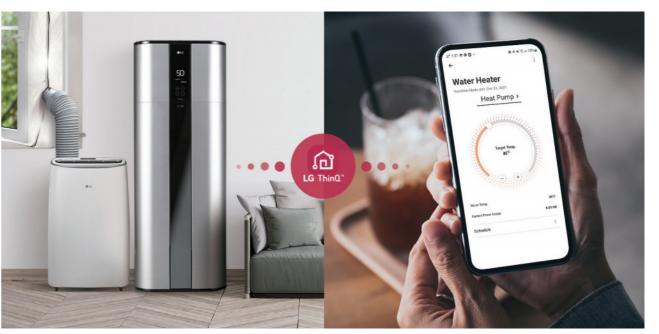
Display Scie	CII	
<u> </u>	°F °C (⊕)	
Auto V	chedu l e acation nti Legione ll a	
2 Display		
Mode Wi-Fi(3s)	"F/"C (3s)	

Button

Button	Display screen	Description		
	Heat pump	To select the heat pump mode		
Mode	Auto	To select the auto mode		
Mode	Turbo	To select the turbo mode		
	Vacation	To select the vacation mode		
-	Schedule	Set schedule mode only in LG ThinQ application		
-	Anti legionella	To select the anti legionella mode		
Set	-	To set the desired water temperature		
$\bigcirc \bigvee$	188	To adjust the desired water temperature		
Wi-Fi (3s)	<u> </u>	To enable the Wi-Fi pairing		
Reset Filter (3s)	₩ W	To reset the filter alarm		
°F/°C (3s)	°F °C	To change unit between °F and °C		
Water Temp (3s)	188	To display the current water temperature for 5 seconds		

Smart Control

With the LG ThinQ smartphone app, users can easily control and monitor the heat pump, checking for current water temperatures, setting operating schedules and more.



Embedded Wi-Fi

You can control the LG ThinQ app, checking information such as current water temperature, operating mode and more.



Smart diagnosis

Smart diagnosis allows users to conveniently check setup, installation, troubleshooting and other information directly from a smartphone.

Easy check & monitoring

Easily comprehensible error messages make detecting a solution and contacting the service center simple and





powered by

DUAL Inverter Compressor[™]

LG's DUAL Inverter Compressor™ - exceptional in the market - saves energy with a wide power-saving operating range and produces efficient heating, performing quietly even in max operation mode. This technology allows the inverter compressor to achieve superior energy efficiency, cooling performance and comfort compared to compressors with on-off capabilities which is rare for monobloc heat pump water heaters.



Varied-speed dual rotary

A compressor motor has a wider energy efficient rotational frequency and a higher volumetric quick cooling capacity compared to a conventional non-inverter compressor.

Product reliability improvement

As twin rotaries balance each other while they are rotating with high speed, it reduces noise dramatically compared to a shaking single rotary compressor. The reduction in vibration reduces the possibility of fractures occurring in the surrounding pipework.

- ** The data are based on LG internal test and simulation.** The data depend on the experimental conditions and are changeable according to the usage environment

Benefit & verification

Reliable air conditioner

The product safety is guaranteed with a 10-year warranty offered to customers.



Verification

TUV Rheinland, long term accelerated-reliability test & high marginal test



Twin rotary type

 Long term accelerated-reliability test LG's unique testing method with reinforced operating condition for a

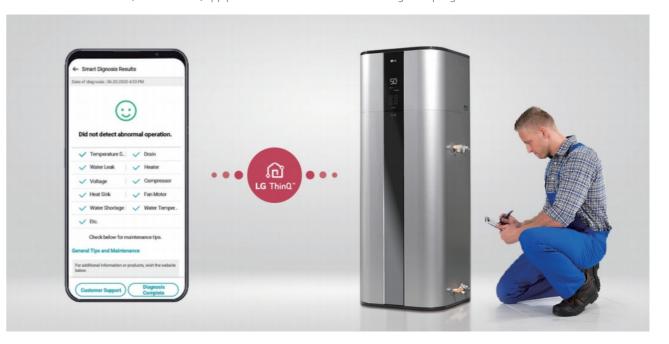
product life assurance to test and determine the product life cycle in a short period of time by accelerating the life cycle. ※ High marginal test

Test method to secure durability in various adverse conditions that may occur in the field by performing compressor reliability test against higher pressure and temperature than the designed range of pressure and temperature which the compressor operates in.

* Verification obtained from TUV rheinland for 10-year product life cycle.

Quick & Easy Installation

The machine's one-direction inlet and outlet piping and easy-to-connect wires in the junction box allow for quick and easy installation. Furthermore, the LG ThinQ app provides service alarm and self diagnosis programs for convenient maintenance.



10-year warranty

The core parts of heat pump water heaters such as water tank and compressor are certified for 10-year durability by TUV rheinland. ceramic coating inside the water tank meets Germany ceramic standard DIN 4753 and guarantees 10 years of corrosion resistance.



* Other parts warranty may vary according to after sales service condition





Product specification

Sales model			WH20S		
Factory model			R5TT20F-SA1		
Capacity	Volume (nominal)	l	200		
Energy efficiency 1)	COP (7°C / 15°C)		3.30 / 3.50		
Energy consumption	Annual energy consumption (7°C / 15°C)	kWh	756 / 709		
Load profile			Large		
Power input	Upper element wattage (230 V)	kW	2		
Power input	Lower element wattage (230 V)	kW	2		
Energy efficiency class (7°C / 1	5°C)	-	A+ / A+		
Power supply		V, Ø, Hz	230 / 1 / 50		
Available voltage range		V	195 ~ 265		
Operating mode			Turbo / Auto / Heat pump / Vacation / Anti legionella		
	H/M	m³/min	6.7 / 4.4		
Air flow rate	H/M	CFM	236.6 / 155.4		
Sound pressure level	Auto	dB(A)+3	38		
Sound power level		dB(A)	55		
Dimensions	Net (W x H x D)	mm	580 x 1,625 x 582		
Weight	Net	kg	100		
Nominal insulation thickness	Min. / Max.	mm	40 / 80		
Heat pump operation range Min. / Max.		°C DB	-5 / 48		
Exterior color code		-	Luxury silver		
	Туре	-	Inverter twin rotary		
	Warranty	Year	10		
Compressor	Manufacturer	-	LG Electronics		
	Motor output	W	510		
	High side	-	2.0 MPa / 290 PSI		
Design pressure (system)	Low side	_	0.9 MPa / 130.5 PSI		
Max. working pressure (water t		_	150 PSI (1,034 kPa)		
Circuit breaker		А	15		
Condensate water connection	I.D	mm	19, 12.7		
V40 (Mixed water at 40°C)		l	260		
· · · · · · · · · · · · · · · · · · ·	Туре	-	R134a		
	Pre charge	kg	0.650		
Refrigerant	GWP	- Mg	1,430		
	t-CO ₂ eq		0.930		
Defrost method	t 552 cq	_	Reverse cycle		
Anode			Impressed current cathodic protection		
T&P relief valve		_	Yes		
Water connection location		-	side		
Water connection location		inch	G ¾ M		
		-			
Digital display			Yes		
Wi-Fi (LG ThinQ) ²⁾		- V-	Yes		
Tank warranty		Year	10		

- 1) Water heater energy efficiency (at auto mode)
- 2) ThinQ main function
- Operation mode (auto. heatpump, turbo, vacation, schedule), temperature setting
- Monitoring hot water temperature
- Maintenance point alarm (filter, anode rod, etc.)
- * This product contains fluorinated greenhouse gases (R134a).
- * GWP: Global Warming Potential
- % t-CO₂eq: F-gas (kg)*GWP/1000
 % Specification, design and feature are subject to change without prior notice.

PRODUCT SPECIFICATION



Product specification

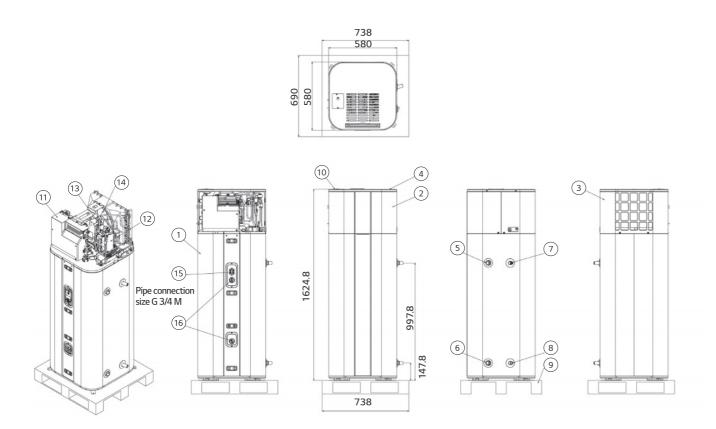
Sales model			WH27S	
Factory model			R5TT27F-SA0	
Capacity	Volume (nominal)	l	270	
Energy efficiency 1)	COP (7°C / 15°C)		3.45 / 3.85	
Energy consumption	y consumption Annual energy consumption (7°C / 15°C)		712 / 646	
Load profile			Large	
	Upper element wattage (230 V)	kW	2	
Power input	Lower element wattage (230 V)	kW	2	
Energy efficiency class (7°C / 1	5°C)	-	A+ / A++ ²⁾	
Power supply		V, Ø, Hz	230 / 1 / 50	
Available voltage range		V	195 ~ 265	
Operating mode			Turbo / Auto / Heat pump / Vacation / Anti legionella	
	H/M	m³/min	6.7 / 4.4	
Air flow rate	H/M	CFM	236.6 / 155.4	
Sound pressure level	Auto	dB(A)+3	38	
Sound power level		dB(A)	55	
Dimensions	Net (W x H x D)	mm	580 × 2,008 × 582	
Neight	Net	kg	119	
Nominal insulation thickness	Min. / Max.	mm	40 / 80	
Heat pump operation range	Min. / Max.	°C DB	-5 / 48	
Exterior color code	11111.7 1110.	-	Luxury silver	
Executor color code	Туре	_	Inverter twin rotary	
	Warranty	Year	10	
Compressor	Manufacturer	-	LG Electronics	
	Motor output	W	510	
	High side	-	2.0 MPa / 290 PSI	
Design pressure (system)	Low side	_	0.9 MPa / 130.5 PSI	
Max. working pressure (water t		_	150 PSI (1,034 kPa)	
Circuit breaker	ainy	A	15	
Condensate water connection	I,D	mm	19, 12.7	
V40 (Mixed water at 40°C)	1.0	l	360	
V40 (IVIIAEU WALEI AL 40 C)	Tuno	-	R134a	
	Type		0.750	
Refrigerant	Pre charge GWP	kg	1,430	
			1,430	
Defrost method	t-CO ₂ eq	_		
		-	Reverse cycle	
Anode			Impressed current cathodic protection	
T&P relief valve		-	Yes	
Water connection location			side	
Water connection size		inch	G ¾ M	
Digital display		-	Yes	
Wi-Fi (LG ThinQ) ²⁾		-	Yes	
Tank warranty		Year	10	

- 1) Water heater energy efficiency (at auto mode) 2) Energy label marked A+ and more than COP 3.75 in EU standard is A++
- Operation mode (auto. heatpump, turbo, vacation, schedule), temperature setting
- Monitoring hot water temperature
 Maintenance point alarm (filter, anode rod, etc.)
- * This product contains fluorinated greenhouse gases (R134a).
- ***** GWP: Global Warming Potential
- * Specification, design and feature are subject to change without prior notice.

Drawings

	Model name				
Category	Capacity (DWH tank volume)				
	200 ℓ	270 ℓ			
1 Phase model 230 V, 1 Ø, 50 Hz	WH20S	WH27S			

WH20S [Unit: mm]

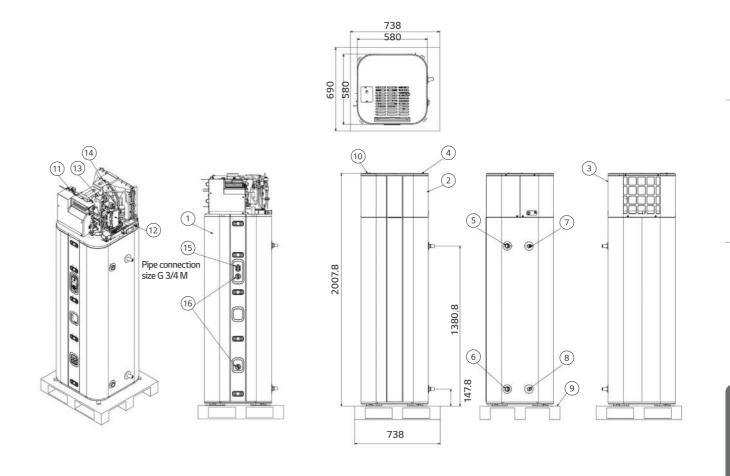


No.	Part name	Description	
1	Water tank	200 ℓ	
2	Front panel	-	
3	Rear panel	-	
4	Top cover	-	
5	T/P valve 210 °F / 99 °C 3/4 NPT		
6	Drain valve	3/4 NPT	
7	Outlet pipe	Water out, 3/4 NPT	
8	Inlet pipe	Water in, 3/4 NPT	

No.	Part name	Description		
9	Wooden pallet	-		
10	Junction cover	Power input		
11	C/B case	-		
12	Compressor EST092MBA			
13	Motor	43 W		
14	Fan propeller 290 Ø			
15	ECO	Emergency cut off (77°C)		
16	Heater	2 EA, 2000 W+2000 W, 220 ~ 240 V		

PRODUCT SPECIFICATION

WH27S [Unit: mm]



No	. Part name	Description
1	Water tank	270 ℓ
2	Front panel	-
3	Rear panel	-
4	Top cover	-
5	T/P valve	210 °F / 99 °C 3/4 NPT
6	Drain valve	3/4 NPT
7	Outlet pipe	Water out, 3/4 NPT
8	Inlet pipe	Water in, 3/4 NPT

No.	Part name	Description			
9	Wooden pallet	-			
10	Junction cover	Power input			
11	C/B case	-			
12	Compressor	EST092MBA			
13	Motor 43 W				
14	Fan propeller 290 Ø				
15	ECO	Emergency cut off (77°C)			
16	Heater	2 EA, 2000 W+2000 W, 220 ~ 240 V			

M **ACCESSORIES**



THERMA V_m ACCESSORIES

Accessories Provided by LG

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
	Room temperature sensor	PQRSTA0	9	All Therma V products	Room temperature based control	To detect room air temperature for room temperature based control	• Max. wire length: 15 m
Sensors	Thermistor for 2 nd circuit or e/heater	PRSTAT5K10	0	All except for High Temperature	2 nd circuit (mixing circuit)	To detect 2 nd circuit temperature when using 2 nd circuit function	• 5 kΩ thermistor, 10 m
	Domestic hot water sensor	PHRSTA0	0	All except for R32 Split IWT and R32 Hydrosplit IWT	Domestic hot water heating	To detect DHW tank temperature	• Included in DHW tank kit
	3 way valve	OSHA-3 V		All except for R32 Split IWT and R32 Hydrosplit IWT	Domestic hot water heating	To divert water flow between space heating and DHW heating	• Size: DN 20 G 1" connection, male threaded
Valves	Thermostatic	OSHA-MV		Regardless of the	Domestic	To blend hot water with cold water for	• Size: 3/4" DN20 male threaded
	mixing valve	OSHA-MV1		model		ensuring constant, safe shower and bath outlet temp.	• Size: 1" DN25 male threaded
	Domestic hot water tank (single coil)	OSHW-200 F		All except for R32 Split IWT and R32 Hydrosplit IWT		To generate and store domestic	• Storage volume: 200 \(\ell_{1}, 300 \(\ell_{2}, 500 \(\ell_{2} \)
		OSHW-300 F					Type: internal single coil Material: stainless steel Capacity of booster heater: 2.4 kW
DHW tanks		OSHW-500 F	The state of the s		Domestic hot water		
Laiks	Domestic hot water tank (double coil)	OSHW-300 FD		All except for R32 Split IWT, R32 Hydrosplit IWT and High Temperature	heating	hot water	 Storage volume: 300 l Type: internal double coil Material: stainless steel Capacity of booster heater: 2.4 kW
		PHLTA		Hydro Box for Split & Hydrosplit		To operate with DHW tank including the booster heater	Parts included: DHW tank sensor
	Domestic hot water	PHLTC		Old Hydro Box for R410A Split - 3 Ø (HN1639 NK3 only)			(thermistor), circuit breaker, relay
Installation kits	tank kit	PHLTB	THERMAN.	R32 Monobloc, R32 Monobloc S	heating		Parts included: DHW tank sensor (thermistor), circuit breaker, relay, multi harness
	Solar thermal kit	PHLLA	10	R32 Split 4/6 kW Hydro Box (HN0613M NK5), R32 Monobloc, R410A Split Hydro Box (HN1616 NK3 / HN1639 NK3)	Solar thermal heat utilization	To operate with solar thermal system	Length of thermistor: 12 m Size of tube connector (W x H x D): 110 x 55 x 22

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
		HA031M E1	Фия				Heater capacity: 3 kW Number of heating coil: 1ea (3.0 kW) Size (W x H x D): 210 x 607 x 217 Power: 220 - 240 V, 1 Ø
		HA061M E1		R32 Monobloc, R32 Monobloc S	Capacity back up & emergency operation	To supplement insufficient capacity	Heater capacity: 6 kW Number of heating coil: 2 ea (3.0 + 3.0 kW) Size (W x H x D): 210 x 607 x 217 Power: 220 - 240 V, 1 Ø
Installation kits	Electric back-up heater	HA063M E1					Heater capacity: 6 kW Number of heating coil: 3 ea (2.0 + 2.0 + 2.0 kW) Size (W x H x D): 210 x 607 x 217 Power: 380 - 415 V, 3 Ø
		HA061C E1		R32 Hydrosplit Hydro Box	Capacity back Up & emergency	To supplement insufficient capacity	Heater capacity: 6 kW Number of heating coil: 2 ea (3.0 + 3.0 kW) Power: 220-240 V, 1 Ø
		HA063C E1		(HN1600MC NK1)	operation		• Heater capacity: 6 kW • Number of heating coil: 3 ea (2.0 + 2.0 + 2.0 kW) • Power: 380-415 V, 3 Ø
	Buffer tank for space heating	OSHB-40KT		R32 Hydrosplit IWT	-	To provide the buffer volume of water to the heating circuit	• Volume: 40 ℓ • Size (W x H x D): 518 x 560 x 175
Vessel	Expansion vessel for DHW	OSHE-12KT		R32 Hydrosplit IWT	-	To absorb the volume changes by temperature of water for the DHW circuit	• Volume: 8 <i>l</i> • Connection: 3/4" • Max. pressure: 10 bar • Size (W x H x D): 416 x 238 x 502
	Extension wire for a wired remote controller	PZCWRC1		All Therma V products	-	To extend the wire between the wired remote controller and the indoor unit	• Length: 10 m
	Extension cable for Wi-Fi modem	PWYREW000		All Therma V products	Wi-Fi control via LG ThinQ	To extend a wire between the WI-Fi modem and the indoor unit	• Length: 10 m
	2-remote control wire	PZCWRC2		All Therma V products	2 remote control	To connect two remote controllers on one indoor unit	• Length: 0.25 m
ETC		PHDPB	-	R32 Split Hydro Box (NK4 suffix), R410A Split Hydro Box (NK3 suffix)		To collect	
	Drain pan	PHDPC		R32 Hydrosplit , R32 Split Hydro Box (NK5 suffix), R410A Split Hydro Box (NK5 suffix)	Cooling operation	in the indoor unit during the cooling operation	-
	Cover plate	PDC-HK10		R32 Hydrosplit Hydro Box, R32 Hydrosplit IWT, R32 Split Hydro Box , R32 Split IWT, R410A Split Hydro Box	-	To fill the blank space of the indoor unit front panel when the remote controller is relocated indoors.	-

THERMA V_{TM} ACCESSORIES

Accessories Provided by LG

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
Remote controller	Wired remote controller	PREMTW101	2 10 10 10 10 10 10 10 10 10 10 10 10 10	All Therma V products	2 remote control	To control the AWHP using two remote controllers (an additional remote controller)	New modern design 4.3 inch color LCD display Information displayed with simple graphic, icon & text Built-in temperature sensor Size (W x H x D): 120 x 120 x 16 Extension cable (PZCWRC1, 10 m) and 2 remote cable (PZCWRC2, 0.25 m) are included
	AC Ez Touch ¹⁾	PACEZA000	## 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				S inch color display User-friendly control with iconographic interface (touch screen) Max. 32 unit control Total 200 schedule events (weekly/monthly/yearly/exception day) Operation history Remote controller lock (all, temp, mode) PC access supported (IPv6 supported) DI 1 ea (emergency stop only) Size (W x H x D): 137 x 121 x 25
Central controller	AC Smart 5 ¹⁾	PACS5A000 (Smart 5)		All Therma V products	Centralized control	To control the AWHP using LG central controller	• 10.2 inch color display • User-friendly control with iconographic interface (touch screen) • Max. IDU 64 • Total 100 schedule events (weekly/monthly/yearly/exception day) • History/operation trend • Interlock with 3 rd party equipment (ACS IO, ACU IO module is needed) • Error alarm by e-mail • Remote controller lock (all, temp, mode) • Map view (visual navigation) • Web access supported with HTML5 (PC, smartphone, tablet) • DI 2 ea, DO 2 ea • BACnet IP/modbus TCP protocol support • Size (W x H x D): 253.2 x 167.7 x 28.9
	ACP 5 ¹⁾	PACP5A000 (ACP5)	**				Web access controller Max. 128 unit control Total 100 schedule events (weekly/monthly/yearly/exception day) History/operation trend Interlock with 3 rd party equipment (ACS IO, ACU IO module is needed) Error alarm by e-mail Remote controller lock (all, temp, mode) Map view (visual navigation) DI 10 ea, DO 4 ea BACnet IP/modbus TCP protocol support Lonworks protocol support* (max. 64 unit control) Size (W x H x D): 270 x 155 x 65

^{*} For using Lonworks protocol, only ACP 5 provides interface for BMS integration, and, need to U60FT module between ACP 5 and BMS system interface between Lonworks FT-10 BMS and LG HVAC unit. U60FT should be purchased separately from 3rd party supplier. Please contact regional LG office for more detailed information.

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
Gateway PI485 ga	Modbus RTU gateway	PMBUSB00A		All Therma V	Centralized control	To communicate and control through the central controller (providing modbus RTU connection between the AWHP and BMS)	Modbus RTU slave (RS485) / 9,600 bps Size (W x H x D): 53.6 x 89.7 x 60.7 Max. 16 IDUs with single module / Max. 64 IDUs with 4 modules Power: DC 12 V
	PI485 gateway for Therma V	PP485A00T		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		To communicate and control through the central controller (converting LG protocol to RS485 protocol)	1 for each outdoor unit Power: supplied by outdoor unit
Simple dry contact Dry contact Dry contact for thermostat		PDRYCB000			-	To connect between the AWHP and external devices to control various functions	1 Set per 1 unit 1 Input contact for turning on/off Input power. 220 ~ 240 V 2 output contacts Operation status - Error status
	contact for	PDRYCB320	•	All Therma V products			1 Set per 1 unit Non voltage or 12 ~ 24 V 8 digital input contacts for thermostat - On/off, operation mode, DHW heating Emergency mode, silent mode 2 Output contacts - Operation status - Error status
ETC	LG Wi-Fi modem	PWFMDD200	© LG	All Therma V products	Wi-Fi control via LG ThinQ	To control the AWHP via a smartphone	Basic control function On/off, operation mode, set temp DHW heating and set temp Weekly on/off schedule Error status check Frequency: 2.4 GHz IEEE 802.11b/g/n supported
	Cloud gateway ¹⁾	PWFMDB200		R32 Monobloc S, R32 Split IWT, New Hydro Box for Split & Hydrosplit	LG BECON cloud service	For remote control, monitoring and diagnosis	• Max 16 indoor units • RS485: 1 channel (LGAP) • Wired/wireless IAN • Power: 12 V DC • Size (W x H x D): 120 x 120 x 29
	Meter interface	PENKTH000	G RA	All Therma V products	Energy monitoring	To measure production / consumption power	• Energy meter interface to monitor Electricity and Heat energy - Max. 3 watt - Hour meter - Max. 1 heat meter - Pulse width: 40 ms ~ 100 ms • Modbus RTU comm. with Therma V - 2 wire RS485 / 9600 bps • Power: DC 12 V • Size (W x H x D): 54 x 90 x 61

Note
1. PI485 Gateway (PP485A00T) should be installed on outdoor unit to use the central controller and cloud gateway.

THERMA V_m ACCESSORIES

LG Wi-Fi Modem

PWFMDD200 ENCXLEU

Access LG Therma V anytime and from anywhere with a Wi-Fi equipped device. LG's exclusive home appliances control app (LG ThinQ) offers simple operation and various functions.

- On / Off
- Operation mode selection
- Current temperature
- Set temperature
- On / Off reservation scheduling
- Energy monitoring
- ESS monitoring
- Silent mode reservation
- Holiday mode
- Quick DHW heating



Model name	PWFMDD200					
Size (mm)	46 x 68 x 14					
Interfaceable products	All Therma V line-ups					
Connection type	Indoor unit 1 : 1					
Communication frequency	2.4 GHz					
Wireless standards	IEEE 802.11b/g/n					
Mobile application	LG ThinQ (Android v4.1 (Jellybean) or higher, iPhone iOS 9.0 or higher)					
Optional extension cable	PWYREW000 (10 m extension)					

Note

- 1. Functionality may be different according to each Indoor model.
- User interface of application shall be revised for its design and contents improvement.
- 3. Application is optimized for smartphone use, so it may not be well functioning with tablet devices.

 For the compatibility with indoor unit, please contact regional office.

Domestic Hot Water Tank

OSHW-200F AEU OSHW-300F AEU OSHW-300FD AEU



Technical specificati	ion	Unit	OSHW-200F	OSHW-300F	OSHW-500F	OSHW-300FD
	Water volume	l	200	300	500	300
General	Diameter	mm	640	640	810	640
	Height	mm	1,350	1,850	1,900	1,850
characteristics	Empty weight	kg	61	100	146	106
	Tank materials	-	STS:F18	STS: F18	STS:F18	STS:F18
	Color	-	Grey (RAL 7035)	Grey (RAL 7035)	Grey (RAL 7035)	Grey (RAL 7035)
c:c	Additional electric heater	W	2,400	2,400	2,400	2,400
Specification of electric back up	Power supply	V, Ø, Hz	230, 1, 50 (60)	230, 1, 50 (60)	230, 1, 50 (60)	230, 1, 50 (60)
ciccure back up	Adjustable thermostat	°C	0 ~ 90	0 ~ 90	0 ~ 90	0 ~ 90
	Exchanger type	-	Internal single coil	Internal single coil	Internal single coil	Internal double coil
Specification of	Material exchanger	-	STS : F18	STS: F18	STS: F18	STS:F18
heat exchanger	Maximum water temp.	°C	90	90	90	90
	Coil surface	m ²	2.3	3.1	4.8	3.1 + 1
	Heat pump inlet	inch	1 BSP female	1 BSP female	1 ¼ BSP female	1 BSP female (upper coil)
	Heat pump outlet	inch	1 BSP female	1 BSP female	1 ¼ BSP female	1 BSP female (upper coil)
Water connections	Solar inlet	inch	-	-	-	¾ BSP Female (lower coil)
	Solar outlet	inch	-	-	-	¾ BSP Female (lower coil)
	City water inlet	inch	¾ BSP male	¾ BSP male	1 BSP male	¾ BSP male
	Hot water outlet	inch	¾ BSP female	1 BSP female	1 BSP female	1 BSP female
Energy efficiency class	(A+ to F scale)	-	В	В	В	В
Standing heat loss		W	61	70	83	70

Mandatory optional accessories							
Domestic hot water tank installation kit	PHLTA (Hydro Box for Split & Hydrosplit), PHLTB (Monobloc), PHLTC (old Hydro Box for R410A Split 3 Ø - HN1639 NK3)						
Optional accessories							
Thermostatic mixing valve (3/4" DN20)	OSHA-MV						
Thermostatic mixing valve (1" DN25)	OSHA-MV1						
3 way valve	OSHA-3V						

THERMA V_{TM} ACCESSORIES

Combined Test with DHW Tank

LG has conducted a combination test of Therma V with DHW tanks in accordance with EN16147 and obtained an ErP label for packages in accordance with the European nZEB regulations.

• R32 Monobloc S (5 ~ 16 kW) + OSHW-200 F

- HM051MR U44
- HM071MR U44
- HM091MR U44
- HM121MR U34
- HM141MR U34
- HM161MR U34
- HM123MR U34
- HM143MR U34
- HM163MR U34







Therma V line-up	R32 Monobloc S (5, 7, 9 kW)	R32 Monobloc S (12, 14, 16 kW)		
Model name	HM051MR U44 HM071MR U44 HM091MR U44	HM121MR U34 HM141MR U34 HM161MR U34 HM123MR U34 HM143MR U34 HM163MR U34		
DHW tank	OSHW-200F AEU	OSHW-200F AEU		
profile	L	L		
Water heating eff. class	A+	A+		
Water heating efficiency (ηwн)	144 %	146 %		
СОРоны	3.1	3.2		
Annual energy consumption	712 kWh	701 kWh		
Water heating eff. class	A++	A++		
Water heating efficiency (ηwн)	174 %	166 %		
СОРоны	3.8	3.6		
Annual energy consumption	588 kWh	616 kWh		
Water heating eff. class	А	А		
Water heating efficiency (ηwн)	87 %	101 %		
COP _{DHW}	1.9	2.2		
Annual energy consumption	1,172 kWh	1,011 kWh		
	ENERG © D G. Greener - Tour Brown D. G. SHOOSHAM _ / COMM 2007 - I D. G	ENERG © 0 G G G MISSIAN (1000 MW W) C MISSIA		
	Model name DHW tank profile Water heating eff. class Water heating efficiency (ηwн) COPDHW Annual energy consumption Water heating efficiency (ηwн) COPDHW Annual energy consumption Water heating efficiency (ηwн) COPDHW Annual energy consumption Water heating eff. class Water heating eff. class Water heating efficiency (ηwн) COPDHW	Model name HM051MR U44 HM071MR U44 HM091MR U44 HM091MR U44 DHW tank OSHW-200F AEU profile L Water heating eff. class Water heating efficiency (ηwh) COPDHW 3.1 Annual energy consumption Water heating efficiency (ηwh) COPDHW 3.8 Annual energy consumption S88 kWh Water heating eff. class A Water heating efficiency (ηwh) COPDHW 1.9 Annual energy consumption 1,172 kWh		



LG Therma V's unique features

LG Therma V has been designed for providing efficient space heating and domestic hot water heating with usage convenience to the customer. To achieve this ultimate goal, LG has developed and applied core technologies and functions for heating to the LG Therma V.

Controller with intuitive interface Various **ature solution temperature control options ***** pressure sensor Built-in flow ≋⊵≋ Advanced pump control User DHW convenience recirculation Interlocking operation with 3rd party boiler Energy information 4 Seasonal auto mode Low noise mode & scheduler Screed drying 2 remote control Suitable Sophisticated & for old harmonious exterior radiator

User convenience

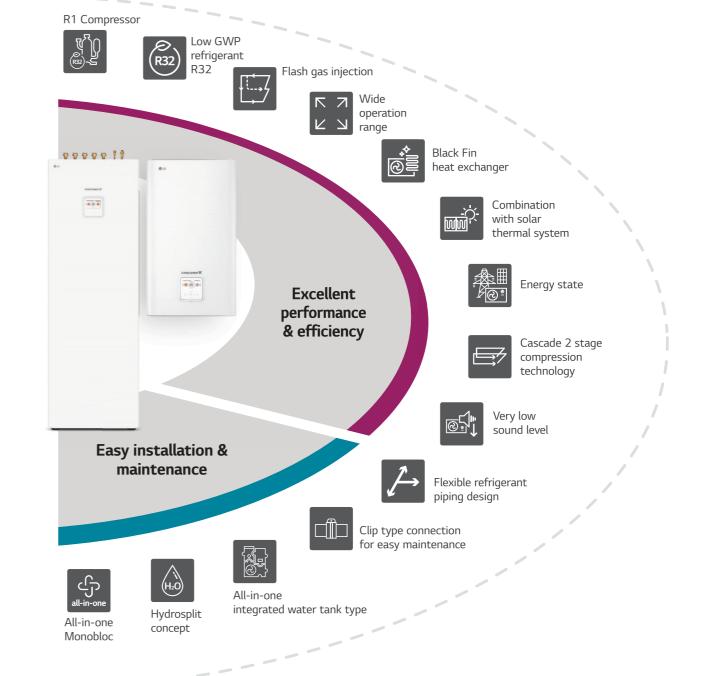
LG Therma V is equipped with various user convenience functions, which guarantee enhanced comfort and control. The textbased user-friendly interface on the remote control allows for optimized user intuition and the unit's wide connectivity also provides for user control convenience.

Excellent performance & efficiency

LG Therma V provides world-class energy efficiency by adopting LG's revolutionary technology such as the R1 Compressor and the Black Fin heat exchanger. LG products have achieved a high heating performance even in extremely cold weather conditions and LG Therma V can bring customers peace of mind through product reliability.

Easy installation & maintenance

LG Therma V offers installation and design flexibility to professional installers. The LG heating configurator also allows professionals to save time during commissioning. During maintenance, the clip type connection allows fast and easy disassembly of the components.



THERMAV

EXCELLENT PERFORMANCE & EFFICIENCY



Eco-Conscious With R32 Refrigerant

Background

Due to accelerated global warming and the destruction of the ozone layer, various international conventions and meetings are held to enhance restrictions to the use of refrigerant or enforce the use of eco-conscious refrigerant R32 which is internationally acclaimed as being eco-friendly. This low volume refrigerant is as efficient as any conventional refrigerant but boasts a 68 % reduced GWP (Global Warming Potential).



What is GWP?

Global Warming Potential is a measure that allows for an accurate comparison of the environmental impact of different gases. GWP measures how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO_2).





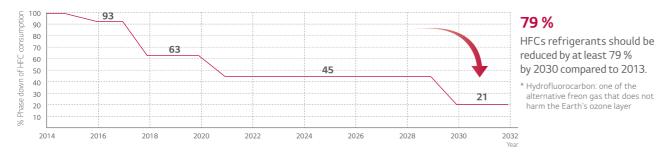


N₂O

° CH4 25 GWP

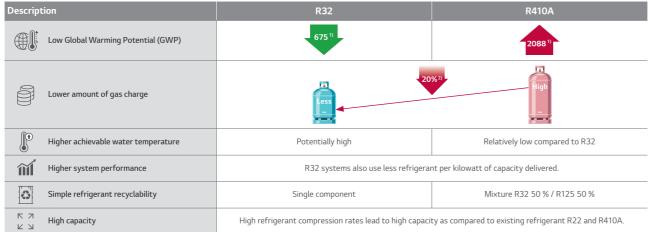
Global trend and EU regulation for F-gas

HFC* phase down 79 % by 2030



Comparison & benefit

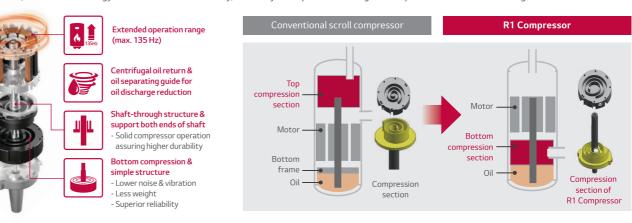
R32 efficiently works even in small volume compared to existing R410A refrigerant, which decreases the potential hazard of global warming. Furthermore, R32 refrigerant is easy to recycle thanks to its single composition.



-) Source: global warming potential values (2007, AR4)
- 2) This ratio is general for helping understanding, It may differ depending on the each product.

R1Compressor™ LG's Revolutionary Technology

R1Compressor™ technology offers advanced efficiency, reliability and operational range due in part to the enhanced tilting motion of the scroll.





Black Fin Heat Exchanger

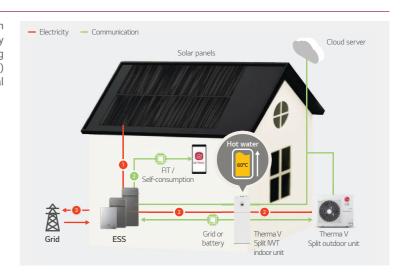
The Therma V line-up includes a heat exchanger enhanced by black coating with enhanced epoxy resin for strong protection. This improvement in durability prolongs the product's lifespan and lowers both the operational and maintenance costs.



Energy States Interlock

LG Therma V provides an energy state interlock function enabling customers to use their own renewable energy as much as possible. It can shift set points depending on input signal from the Energy Storage System (ESS) or any other third-party device using Modbus or Digital 230 V inputs.

- 1) Energy is generated from panels and sent to your battery.
- Once the battery is fully charged, the surplus energy from ESS will heat the water tank. The user gets to monitor the status with the LG ThinQ app.
- 3) Once the water is heated, the user can choose to sell surplus energy to the grid.
- * The figure on the right shows the R32 Split IWT as an example. Therma V High Temperature model does not support this function



EXCELLENT PERFORMANCE & EFFICIENCY

Combination With Solar Thermal System

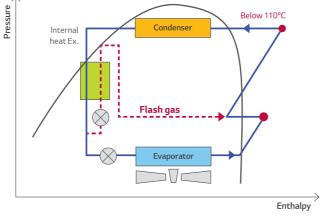
By combining the solar system with Therma V, the efficiency of DHW heating operation can be maximized. During the day when there is a lot of sunlight, heated water by solar give some help heating the DHW tank.



* Therma V IWTs and High Temperature model don't not support

Flash Gas Injection

With the LG Therma V R32 series, flash gas injection technology is applied to control the discharge temperature of the compressor efficiently. As a result of this technology, the heating operation range is expanded and the heating performance at low ambient temperature is enhanced.



Direct Modbus Communication

Therma V can be connected and controlled by a 3rd party control system using Modbus protocol directly, without passing Modbus RTU gateway.



THERMA V.

USER CONVENIENCE

ThinQ Seamless Connectivity

Users can control their Therma V via smart internet devices such as Android or iOS smartphones. Moreover, LG ThinQ works with Google assistant voice control in most EU countries, making it possible to control Therma V using a voice control function.



PWFMDD200 (LG Wi-Fi modem) / PWYREW000 (10 m extension connect cable in between Therma V indoor and LG Wi-Fi modem) could be required depending on installation conditions

- * Search "LG ThinQ" on Google market or App store, then download the app.
- * Google assistant voice control may be restricted in use and language in some countries

Energy Monitoring via Remote Controller and ThinQ

Estimated power consumption and thermal energy can be monitored on both the remote controller and LG ThinQ¹⁾ without connecting meter interface.

- Instant power consumption
- Power consumption by period (daily, weekly, monthly, yearly): categorized as heat, cool, and DHW
- Produced heat output by period (daily, weekly, monthly, yearly)2)

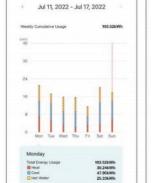
1) To use LG ThinQ, LG Wi-Fi modem (PWFMDD200) 2) When using antifreeze, it will not be available. 3) This energy information is only available with LG

4) This image is intended to help you understand, and there may be some differences in actual use.

ThinQ in Spain.

- Renewable energy by period (daily, weekly, monthly, yearly)^{2), 3)}









THERMA V FEATURES

LG ThinQ app. screen 4)

^{*} The figure on the right shows the R32 Monobloc S as an example. Therma V High Temperature model does not support this function.

THERMA V.

USER CONVENIENCE



Intuitive Control

Therma V is equipped with a new remote controller which supports various functions.

- Premium design (4.3 inch color LCD)
- User friendly interface (simple graphic, icon & text)
- Convenient functions (easy schedule setting & installer setting)
- Energy monitoring without meter interface (estimated power consumption)
- * Instant power consumption and cumulative power consumption



Seasonal Auto Mode

The operation mode and target temperature will be changed according to the outdoor temperature automatically. Moreover, this function can be conveniently set using visualized graphics.

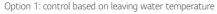
* Therma V High Temperature model has slightly different function as it doesn't support the cooling operation.





Various Temperature Control Options

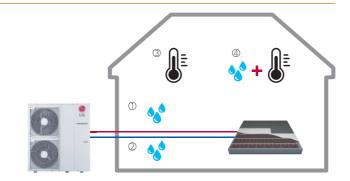
Various temperature control options are possible for the user's comfort and convenience, to include the newly added simultaneous control option (room and water temperature).



Option 2: control based on entering water temperature

Option 3: control based on room air temperature

Option 4: control based on room air and water temperature simultaneously





Advanced Pump Control Options

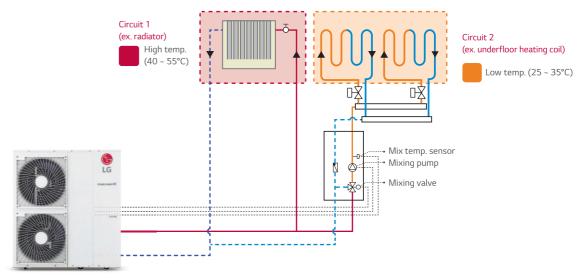
Various pump control options are available for the user's convenience. Now, water flow rate can be changed according to the heat load condition, therefore making it more energy efficient under low load conditions.



Options	Description	Water flow change as per load condition
Pump capacity	It operates with the capacity set for the water pump. (range 10 ~ 100 %)	No
Fixed flow rate	Automatically controlled to maintain the set flow rate. (5, 7, 9 kW range: 8 ~ 26 LPM / 12, 14, 16 kW range: 17 ~ 46 LPM)	No
Fixed ∆T¹)	Automatically controlled to maintain the set ΔT. (range 5 ~ 13 °C)	Yes
Optimal flow rate (default)	ΔT is changed as per target temp.	Yes

¹⁾ ΔT = temperature difference between inlet and outlet water temperature.

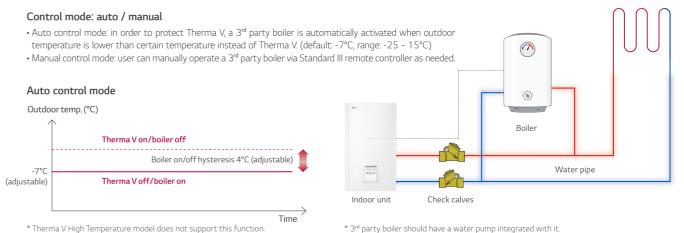
It is possible to control two separate individual zones (circuit 1 & circuit 2) with different temperature using mixing valve kit. It provides adequate heating and comfort to the end-user.



^{*} Mixing valve kit or mixing pump group should be purchased and installed separately. Therma V High Temperature model does not support this function.

Interlocking Operation With 3rd Party Boiler

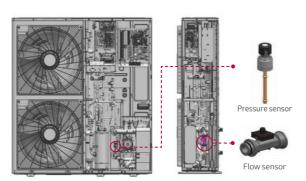
A 3rd party boiler such as oil, gas or electric boiler can be activated automatically or manually by the remote controller as an auxiliary equipment of Therma V.



 $^{^{\}star}$ 3rd party boiler should have a water pump integrated with it.

₩ Water Circuit Monitoring

Not only water circuit temperature but also flow rate and pressure can be monitored via a remote controller. This information is not only useful for the installer during installation, but also helps to periodically clean the strainer during maintenance.





^{*} Therma V High Temperature model does not support this function.

THERMA V.

USER CONVENIENCE



DHW Recirculation Pump Control

Therma V can be connected to the DHW recirculation pump, which can then be managed via the scheduling function. When a user opens the faucet, hot water is immediately accessible thanks to the DHW recirculating function. This feature also has the added advantage of preventing Legionella growth in the hot water pipe.

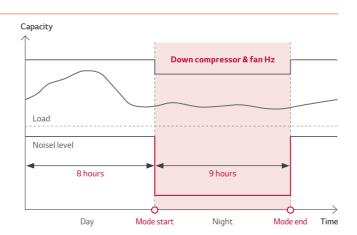


^{*} Therma V High Temperature model does not support this function.



Low Noise Mode & Scheduler

Low noise mode operation can be activated by remote controller and set on a weekly on/off schedule to reduce the unit's noise level.



2 Remote Control

Enhanced convenience with an additional control installed in another residential area.

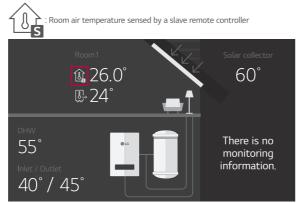
System diagram



- * Master is for the installation setting
- * Slave is for user setting.

Standard III controller interface

• Therma V is operating based on the room where a slave controller is installed.



THERMA V.

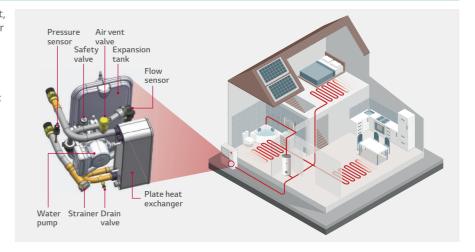
EASY INSTALLATION & MAINTENANCE



Monobloc Concept

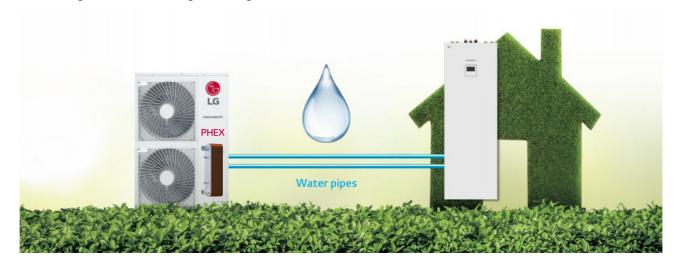
R32 Monobloc S is an all-in-one concept, with its reduced weight allowing guicker and easier installations.

- Additional hydronic components are included in the package
- Easier and quicker installation without refrigerant piping work
- The best solution when space heating only is needed or in case of a 3rd party DHW tank.



Hydrosplit Concept

The Therma V R32 Hydrosplit series connects an IDU and ODU by water pipes due to the heat exchanger's location in the outdoor unit, thus reducing the risk of indoor refrigerant leakage.



All-in-One Solution: Integrated Water Tank Type

Therma V's IWT indoor units are the perfect spacesaving solution for residential application thanks to its fully integrated hot water tank. Unlike in the case of typical separate installation, in this all-inone solution hydronic components and Domestic Hot Water (DHW) are pre-wired, which requires reduced installation time and saves valuable living space. Therma V's IWT indoor units are easy to set up and operate while it demonstrates outstanding reliability and efficiency.





Conventional

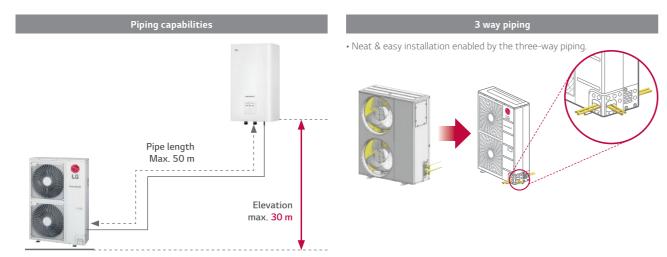
LG Therma V IWT indoor unit

THERMA V.

EASY INSTALLATION & MAINTENANCE

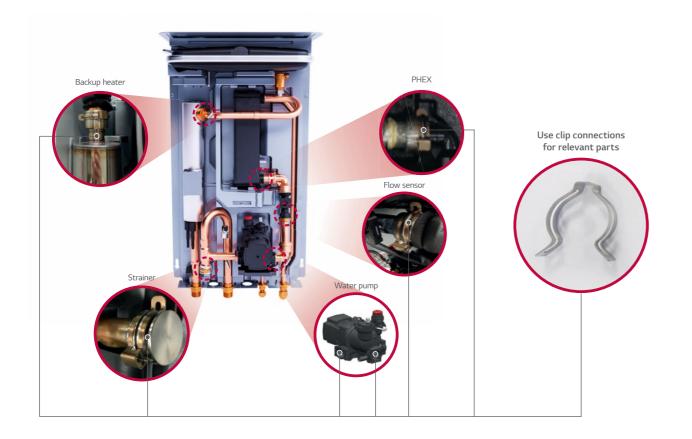
Flexible Refrigerant Piping Design

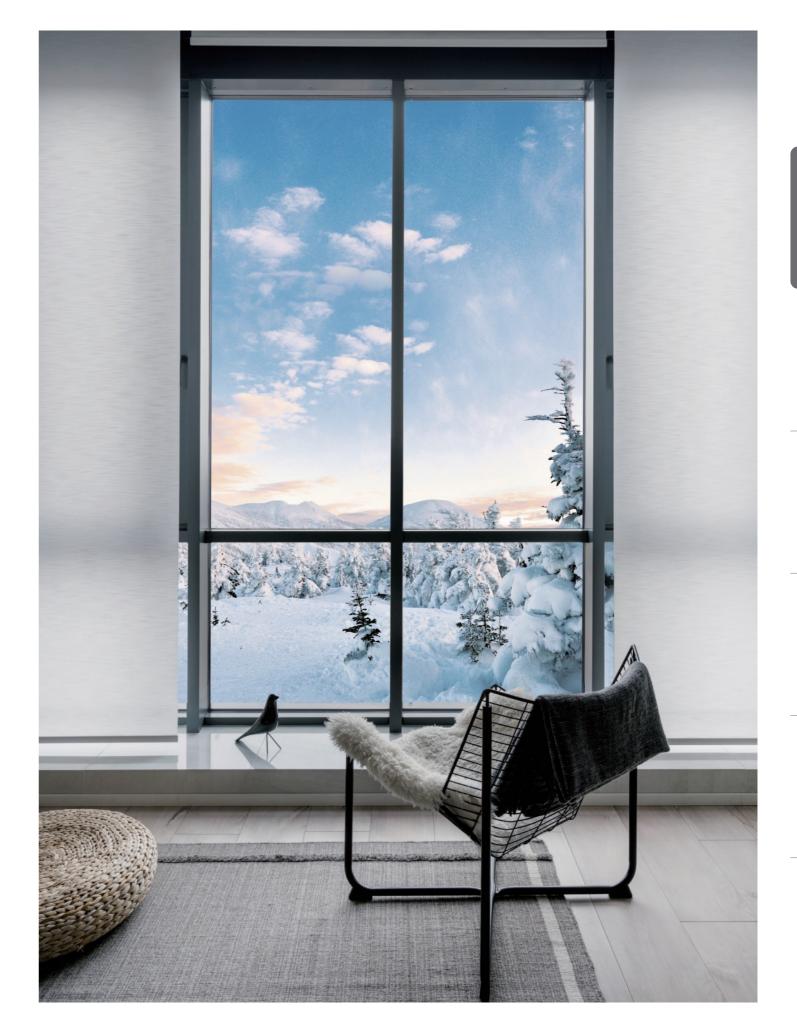
In stall at ion flexibility is enabled by Therma~V~Split's long~pipe~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~the~refrigerant~piping~can~be~connected~in~three~length~(up~to~50~m)~and~the~fact~that~three~length~(up~to~50~m)~and~three~length~(directions: front, side and rear.



Clip Type Connection for Easy Maintenance

As a clip solution provides for easy maintenance and SVC works, maintenance for main hydronic parts can be done by hands without any special tool.

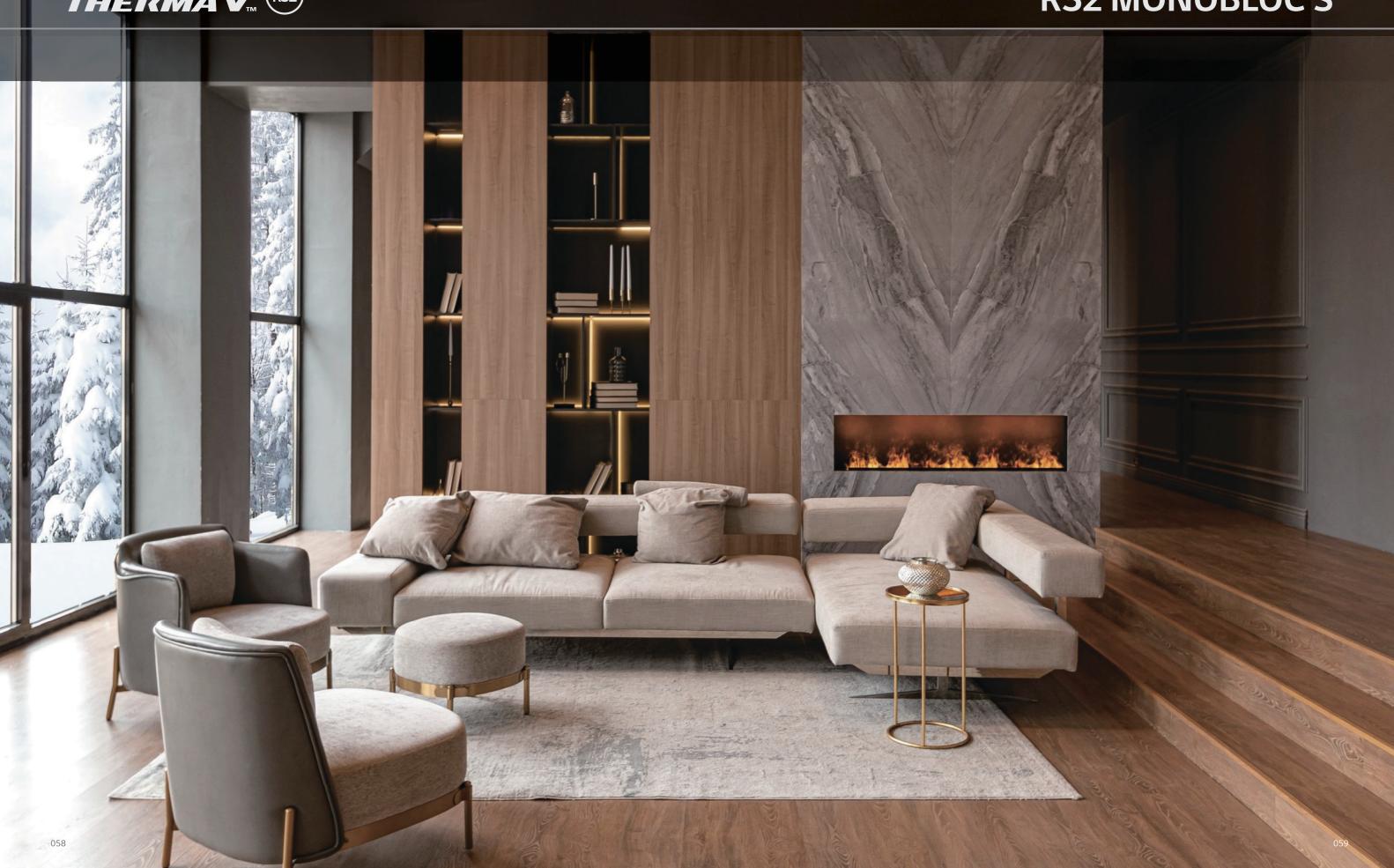








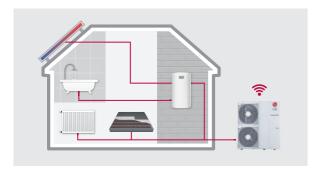
R32 MONOBLOC S



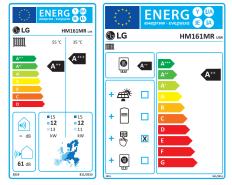
THERMA V... (R32) R32 MONOBLOC S







Energy label



- * 16 kW 1Ø model.

Excellent performance & efficiency









User convenience











Easy installation & maintenance



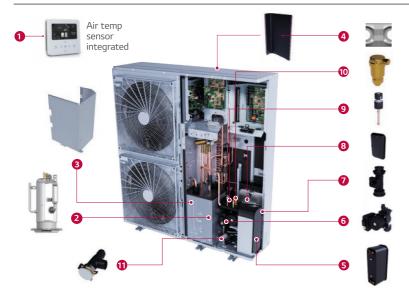


* Detailed description for each function is presented on page 44 ~ 54.

R32 Monobloc S Introduction

The Therma V R32 Monobloc S is the 2nd generation of LG's R32 Monobloc series. As implied by "silence" and "supreme," it boasts reduced noise level and best performance in the Therma V series. Combining the indoor and outdoor as one module, it's also connected by only water piping eliminating the need for refrigerant piping. Furthermore, hydronic components like the plate heat exchanger, expansion tank, water pump, flow sensor, pressure sensor, air vent valves, and safety valve are conveniently situated inside the unit. The R32 Monobloc S provides excellent heating performance, especially at low ambient temperature, while producing lower carbon emissions with R32.

Key Components



- 1 Standard III remote controller 1)
- 2 R1 Compressor
- 3 Compressor noise shield
- 4 Black Fin heat exchanger (ref/air)
- 5 Plate type heat exchanger (ref/water)
- 6 Water pump
- Water flow sensor
- 8 Expansion vessel (8 ℓ)
- Water pressure sensor
- 10 Air vent valve
- Strainer

1) The remote controller is supplied with the product, but it needs to be installed separately.

Quiet Mark Certified - creating healthy soundscapes for living spaces

Quiet Mark is the international award for high-performance technologies and solutions battling everyday unwanted noise. It shows that R32 Monobloc S is one of the quietest, or most technically effective products in noise reduction or acoustic properties available on the current market in its category.

Therma V R32 Monobloc S has received the Quiet Mark certification since it has been designed to reach lower acoustic levels in order to meet homeowner expectations in urban areas.



Certified products*:

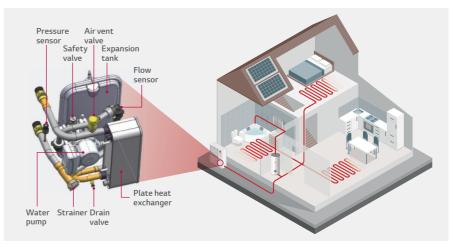
HM051MR U44 / HM071MR U44 / HM091MR U44 HM093MR U44 / HM121MR U34 / HM123MR U34

* This certification is valid for UK & EU territories only.

Monobloc Concept

R32 Monobloc S is an all-in-one concept, with its reduced weight allowing quicker and easier installations.

- Additional hydronic components are included in the package
- · Easier and quicker installation without refrigerant piping work
- The best solution when space heating only is needed

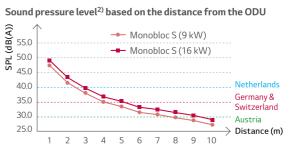


Reduced Noise Level

R32 Monobloc S can be installed at the minimum of 4 m away¹⁾ from neighboring houses while complying with noiserelated requirements in most European countries, including Germany. (based on 9 kW model & low noise mode)

Description		Germany	Austria	Switzerland	Netherlands	
	Day time	50 dB (A) (06:00 ~ 22:00)	40 dB (A) (06:00 ~ 19:00)	40 dB (A) (07:00 ~ 19:00)	45 dB (A) (07:00 ~ 19:00)	
Sound pressure threshold	Evening	-	35 dB (A) (19:00 ~ 22:00)	-	-	
	Night time	35 dB (A) (22:00 ~ 06:00)	30 dB (A) (22:00 ~ 06:00)	35 dB (A) (19:00 ~ 07:00)	40 dB (A) (19:00 ~ 07:00)	





1) Minimum distance to be away from a neighboring property may vary depending on installation conditions and noise regulations in individual countries. 2) Sound pressure level is converted from sound power level of low noise mode based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.

THERMA V_{TM} (R32) MONOBLOC S

R32 Monobloc S



























Features

- All-in-one outdoor unit
- SCOP up to 4.55 (average climate / low temp. application): SCOP up to 3.20 (average climate / mid temp. application):
- COP up to 4.70 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -15°C OAT (@ LWT 35°C)
- Low sound level allowing high installation location flexibility
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Improved heat exchanger design (new Black Fin)
- LG ThinQ
- Keymark / EHPA (for Germany, Austria and Switzerland) / MCS / Eurovent / Quiet Mark certification
- ${\rm *The\ certifications\ for\ HM093MR\ U44\ are\ under\ development\ except\ for\ MCS\ certification.}$

Model line-up

			Model name					
Capacity	Unit	Capacity (kW)						
		5.5	7.0	9.0				
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Monobloc unit	HM051MR U44	HM071MR U44	HM091MR U44				
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz		-	-	HM093MR U44				

Seasonal energy

Description			Unit	HM051MR U44	HM071MR U44	HM091MR U44 HM093MR U44
Average		SCOP	-	4.46	4.48	4.55
	climate water	Seasonal space heating efficiency (ηs)	%	175	176	179
Space heating (according to	outlet 35°C	Seasonal space heating eff. class (A+++ to D Scale)	-	A+++	A+++	A+++
EN14825)	Average	SCOP	-	3.20	3.20	3.20
,	climate water	Seasonal space heating efficiency (ηs)	%	125	125	125
	outlet 55°C	Seasonal space heating eff. class (A+++ to D Scale)	-	A++	A++	A++

Nominal capacity and nominal power input

Description		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Unit	HM051MR U44	HM071MR U44	HM091MR U44 HM093MR U44
		7°C	35°C		5.50	7.00	9.00
	Heating	7°C	55°C		5.50	5.50	5.50
Nominal capacity		2°C	35°C	kW	4.40	5.60	6.80
	Cooling	35°C	18°C		5.50	7.00	9.00
	Cooling	35°C	7°C		5.50	7.00	9.00
	Heating	7°C	35°C	kW	1.17	1.49	1.96
		7°C	55°C		2.04	2.04	2.04
Nominal power input		2°C	35°C		1.22	1.58	1.94
	Cooling	35°C	18°C		1.17	1.56	2.14
		35°C	7°C		1.67	2.19	2.90
		7°C	35°C		4.70	4.70	4.60
COP	Heating	7°C	55°C	W/W	2.70	2.70	2.70
		2°C	35°C		3.60	3.55	3.50
EER	Cooling	35°C	18°C	W/W	4.70	4.50	4.20
CCK	Cooling	35°C	7°C	V V / V V	3.30	3.20	3.10

PRODUCT SPECIFICATION

1) OAT: Outdoor Air Temperature

Product specification

Technical spe	ecification			Unit	HM051MR U44	HM071MR U44	HM091MR U44 HM093MR U44
	Operation range	Heating	leating			15 ~ 65	
	(leaving water	Cooling	Min. ~ Max.	°C DB		5 ~ 27 (16 ~ 27) ¹⁾	
Water side	temperature)	DHW				15 ~ 80 ²⁾	
vvater side	Piping connections	Water Circuit	Inlet	inch	Male PT 1" accor	ding to ISO 7-1 (tape	ered pipe threads)
	Pipilig Colliections	vvater Circuit	Outlet	inch	Male PT 1" accor	ding to ISO 7-1 (tape	ered pipe threads)
	Rated water flow rate a	t LWT 35°C		LPM	15.8	20.1	25.9
	Operation range	Heating	Min ~ Max	°C DB		-25 ~ 35	
	(outdoor temperature)	Cooling IVIII ~ IVIAX		CDB		5 ~ 48	
	C	Quantity		EA	1		
Refrigerant side Compressor	Туре		-	Hermetic sealed scroll			
		Туре		-	R32		
	Defriesses	GWP (Global Warming Potential)		-	675		
	Refrigerant	Precharged amount		g		1,400	
		t-CO2 eq		-	0.945		
·	laal	Rated		57			
Sound power l	level	Heating	Low noise mode	dB(A)	54 55		55
- 1	1 1/ . 5)		Rated	ID(A)	35		
Sound pressur	re level (at 5 m)	Heating	Low noise mode	dB(A)	32 33		
Dimensions		Unit	W×H×D	mm		1,239 × 834 × 330	
Neight		Unit		kg	89	9.5	1 Ø:89.5 / 3 Ø:90.0
Exterior		Color / RAL cod	e	-	V	Varm gray / RAL 704	14
		Voltago pha	fraguanas	V Ø H=			220-240, 1, 50
		Voltage, phase,	rrequericy	V, Ø, Hz	220-24	10, 1, 50	380-415, 3, 50
Power supply		Rated running	Heating	А	5.2	6.6	1 Ø:8.7 / 3 Ø:2.9
		current	Cooling	А	5.2	6.9	1 Ø: 9.5 / 3 Ø: 3.2
			circuit breaker	А	16	20	1 Ø: 25 / 3 Ø: 16
		Power supply cable (included earth, H07RN-F)		mm² x cores	// // / / / /		1 Ø : 4.0 x 3 C / 3 Ø : 2.5 x 5 C

1) When a fan coil unit is not used.

2) DHW 55 ~ 80°C Operating is available only when the booster heater is operating.

1. Due to our policy of innovation, some specifications may be changed without notification.

 Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that. 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.

Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.

Rated sound power level is in accordance with EN12102-1 under condition of EN14825. 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation

• Rated running current: outdoor temp. 7°C DB / 6°C WB, LWT 35°C

5. This product contains fluorinated greenhouse gases.

6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

²⁾ LWT: Leaving Water Temperature

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HM051MR U44

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C			
temperature		Capacity (kW)									
-25°C DB	5.50	5.50	5.50	5.50	-	-	-	-			
-20°C DB	5.50	5.50	5.50	5.50	5.23	-	-	-			
-15°C DB	5.50	5.50	5.50	5.50	5.23	5.23	-	-			
-7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-			
-4°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50			
-2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50			
2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50			
7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50			
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50			
15°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50			
18°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50			
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50			
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50			

HM071MR U44

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
-25°C DB	5.85	5.85	5.85	5.85	-	-	-	-
-20°C DB	6.43	6.43	6.43	6.43	6.10	-	-	-
-15°C DB	7.00	7.00	7.00	7.00	6.65	6.65	-	-
-7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-
-4°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
-2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
15°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
18°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00

HM091MR U44 / HM093MR U44

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
-25°C DB	6.20	6.20	6.20	6.20	-	-	-	-
-20°C DB	7.60	7.60	7.60	7.60	7.22	-	-	-
-15°C DB	9.00	9.00	9.00	9.00	8.55	8.55	-	-
-7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-4°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
-2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
15°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
18°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HM051MR U44

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C				
temperature		Capacity (kW)									
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50				
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50				
30°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50				
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50				
40°C DB	5.29	5.32	5.36	5.38	5.41	5.43	5.45				
45°C DB	5.09	5.15	5.21	5.25	5.31	5.36	5.40				

HM071MR U44

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature	200172	2001 10 C	2001 13 C	Capacity (kW)	2001 10 C	EW1 20 C	200122 C
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
30°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	6.36	6.45	6.55	6.61	6.71	6.77	6.84
45°C DB	5.71	5.82	5.92	5.99	6.10	6.17	6.24

HM091MR U44 / HM093MR U44

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
30°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
40°C DB	7.66	7.66	7.65	7.65	7.65	7.65	7.65
45°C DB	6.31	6.35	6.39	6.42	6.45	6.48	6.51

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
 2. Direct interpolation is permissible. Do not extrapolate.
 3. Measuring procedure follows EN-14511.

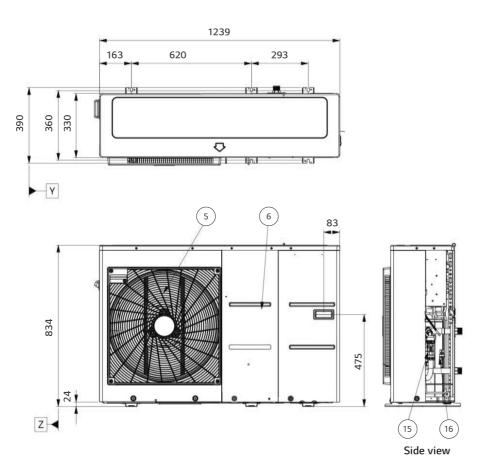
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- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

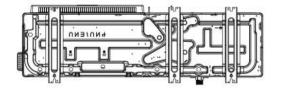
Drawings

	Unit	Model name							
Category		Capacity (kW)							
		5.5	7.0	9.0					
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	· Monobloc unit ·	HM051MR U44	HM071MR U44	HM091MR U44					
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz		-	-	HM093MR U44					

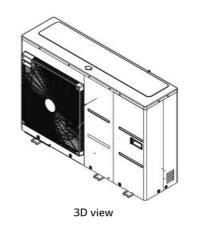
HM051MR U44 / HM071MR U44 / HM091MR U44 / HM093MR U44

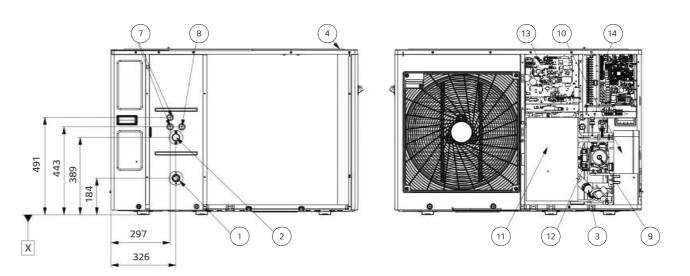
[Unit: mm]





PRODUCT SPECIFICATION





No.	Part name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Strainer	Filtering and stacking particles inside circulating water
4	Top cover	-
5	Front panel	-
6	Side panel	-
7	Low voltage	Communication cable hole
8	Unit power	Power cable hole
9	Water pump	To circulate water inside the system
10	Plate heat exchanger	Heat exchange between refrigerant and water
11	Compressor shield panel	-
12	Safety valve	Open at water pressure 3 bar
13	Indoor control box	Indoor PCB and terminal blocks
14	Outdoor control box	Outdoor PCB and terminal blocks
15	Flow sensor	To measure the water flow rate (5-80 LPM)
16	Pressure sensor	To measure the water pressure (0-2 MPa)

THERMA V_{TM} (R32) MONOBLOC S

R32 Monobloc S



















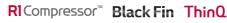












Features

- All-in-one outdoor unit
- SCOP up to 4.67 (average climate / low temp. application): SCOP up to 3.47 (average climate / mid temp. application):
- COP up to 4.90 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -15°C OAT (@ LWT 35°C, except for 16 kW model)
- Low sound level allowing high installation location flexibility
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Improved heat exchanger design (new Black Fin)
- Keymark / EHPA (for Germany, Austria and Switzerland) / MCS / Eurovent / Quiet Mark (12 kW only) certification

Model line-up

	Unit	Model name						
Capacity		Capacity (kW)						
		12.0	14.0	16.0				
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Monobloc unit -	HM121MR U34	HM141MR U34	HM161MR U34				
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz		HM123MR U34	HM143MR U34	HM163MR U34				

Seasonal energy

Description			Unit		HM141MR U34 (1 Ø) HM143MR U34 (3 Ø)	
climat	Average	SCOP	-	4.67	4.62	4.53
	climate water	Seasonal space heating efficiency (ηs)	%	184	182	178
Space heating (according to	outlet 35°C	Seasonal space heating eff. class (A+++ to D Scale)	-	A+++	A+++	A+++
EN14825)	Average	SCOP	-	3.47	3.46	3.45
	climate water	Seasonal space heating efficiency (ηs)	%	136	135	135
	outlet 55°C	Seasonal space heating eff. class (A+++ to D Scale)	-	A++	A++	A++

Nominal capacity and nominal power input

December		OATI) (DD)	LVA/T ²) / D.D.\	Unit	HM121MR U34 (1 Ø)	HM141MR U34 (1 Ø)	HM161MR U34 (1 Ø)
Description		UAI" (DB)	LWT ²⁾ (DB)	Unit	HM123MR U34 (3 Ø)	HM143MR U34 (3 Ø)	HM163MR U34 (3 Ø)
		7°C	35°C		12.00	14.00	16.00
	Heating	7°C	55°C		11.00	11.50	12.00
Nominal capacity		2°C	35°C	kW	11.00	12.00	13.80
	Cooling	35°C	18°C		12.00	14.00	16.00
	Cooling	35°C	7°C		12.00	14.00	16.00
	Heating	7°C	35°C		2.45	2.92	3.40
		7°C	55°C	kW	3.79	4.04	4.29
Nominal power input		2°C	35°C		3.01	3.31	3.83
	Cooling	35°C	18°C		2.53	3.26	4.00
	Cooling	35°C	7°C		3.64	4.24	5.16
		7°C	35°C		4.90	4.80	4.70
COP	Heating	7°C	55°C	W/W	2.90	2.85	2.80
		2°C	35°C		3.65	3.63	3.60
EER	Cooling	35°C	18°C	W/W	4.75	4.30	4.00
EER	Cooling	35°C	7°C	V V / V V	3.30	3.30	3.10

PRODUCT SPECIFICATION

Product specification

Technical s	pecification			Unit	HM121MR U34	HM141MR U34	HM161MR U34	HM123MR U34	HM143MR U34	HM163MR L		
	Operation range	Heating					15 -	- 65				
	(leaving water	Cooling	Min. ~ Max.	°C DB	()							
Water	temperature)	DHW					15 ~	80 ²⁾				
side	Piping	Water	Inlet	inch		Male PT 1" ad	ccording to ISC	7-1 (tapered	pipe threads)			
	connections	circuit	Outlet	inch		Male PT 1" ac	ccording to ISC	7-1 (tapered	pipe threads)			
	Rated water flow	rate at LWT 35°	C	LPM	34.5	40.3	46.0	34.5	40.3	46.0		
	Operation range	Heating	Min. ~ Max.	°C DB			-25	~ 35				
	(outdoor temp.)	Cooling	IVIIII. ~ IVIAX.	CDB			5 ~	48				
	Compressor	Quantity		EA			•	1				
Refrigerant	Compressor	Туре	-			Hermetic s	ealed scroll					
side		Туре	-	R32								
Refrigera	Dofrigorant	GWP (Global Warming Potential)		-	675							
	Refrigerant	Precharged amount		g			2,0	000				
		t-CO ₂ eq		-			1.3	50				
Sound power	ur loval	Heating	Rated	dB(A)	60	6	51	60	6	51		
Journa powe	i level	rieating	Low noise mode	ub(A)	56	5	57	56	5	7		
Sound proce	ure level (at 5m)	Heating	Rated	dB(A)	38	3	39	38	3	9		
Journa press	ure level (at 5111)	rieating	Low noise mode	UD(A)	34	3	35	34	3	5		
Dimensions		Unit	WxHxD	mm			1,239 x 1,	380 x 330				
Weight		Unit		kg			11	9.1				
Exterior		Color / RAL cod	le	-			Warm gray	/ RAL 7044				
		Voltage, phase,	frequency	V, Ø, Hz		220-240, 1, 50		3	380-415, 3, 50			
Power supp	lv	Rated running	Heating	А	10.9	12.9	15.1	3.6	4.3	5.0		
i ower supp	9	current	Cooling	А	11.2	14.4	17.7	3.7	4.8	5.9		
Recommended circuit breaker			А		40		16					
Wiring connections Power supply cable (included earth, H07RN-F)		mm ² x cores		6.0 x 3 C			4.0 x 5 C					

¹⁾ When a fan coil unit is not used.

- 1. Due to our policy of innovation, some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.
- 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
- Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.
- Rated sound power level is in accordance with EN12102-1 under condition of EN14825. 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc, ErP regulation \bullet Rated running current: Outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
- 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

¹⁾ OAT : Outdoor Air Temperature

²⁾ LWT : Leaving Water Temperature

²⁾ DHW 55 \sim 80°C Operating is available only when the booster heater is operating.

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HM121MR U34 / HM123MR U34

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
-25°C DB	9.50	9.50	9.50	9.50	-	-	-	-
-20°C DB	10.75	10.75	10.75	10.75	10.21	-	-	-
-15°C DB	12.00	12.00	12.00	12.00	11.50	11.50	-	-
-7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	-
-4°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
-2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
15°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
18°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00

HM141MR U34 / HM143MR U34

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
	10.00	10.00	10.00	10.00	-	-	-	-
-20°C DB	12.00	12.00	12.00	12.00	11.40	-	-	-
-15°C DB	14.00	14.00	14.00	14.00	13.30	13.30	-	-
-7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	-
-4°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
-2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
15°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
18°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00

HM161MR U34 / HM163MR U34

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C			
temperature		Capacity (kW)									
-25°C DB	10.50	10.50	10.50	10.50	-	-	-	-			
-20°C DB	13.25	13.25	13.25	13.25	12.59	-	-	-			
-15°C DB	16.00	14.40	14.40	14.40	13.68	13.68	-	-			
-7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	-			
-4°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
-2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00			

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HM121MR U34 / HM123MR U34

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C		
temperature	Capacity (kW)								
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
30°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
40°C DB	11.05	11.19	11.33	11.43	11.57	11.67	11.76		
45°C DB	10.10	10.37	10.64	10.83	11.10	11.28	11.46		

HM141MR U34 / HM143MR U34

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C		
temperature	Capacity (kW)								
10°C DB	12.50	12.80	13.10	13.30	13.60	13.80	14.00		
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00		
30°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00		
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00		
40°C DB	12.35	12.60	12.84	13.01	13.26	13.42	13.59		
45°C DB	10.69	11.19	11.69	12.02	12.51	12.84	13.17		

HM161MR U34 / HM163MR U34

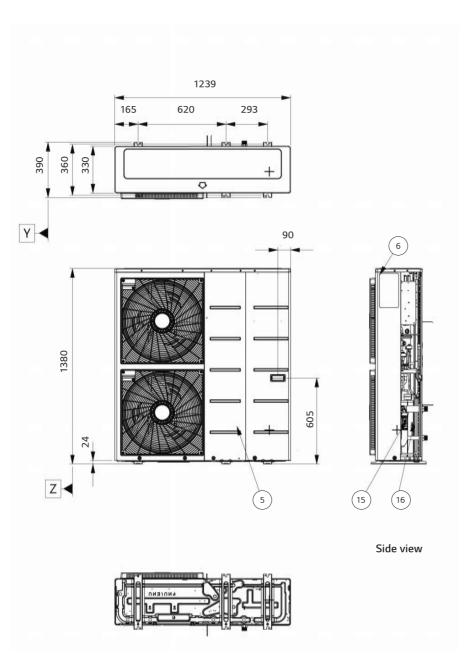
Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C			
temperature	Capacity (kW)									
10°C DB	13.00	13.60	14.20	14.60	15.20	15.60	16.00			
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
30°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00			
40°C DB	13.60	13.96	14.32	14.56	14.92	15.16	15.40			
45°C DB	11.20	11.76	12.32	12.69	13.25	13.62	14.00			

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

Drawings

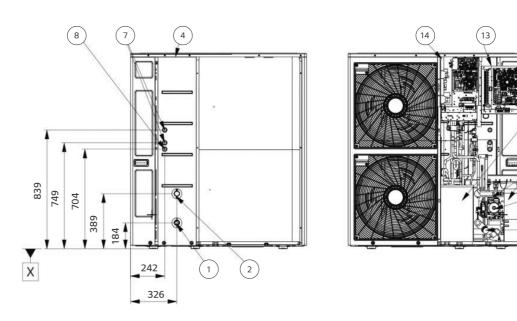
		Model name						
Category	Unit	Capacity (kW)						
		12.0	14.0	16.0				
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Monobloc unit	HM121MR U34	HM141MR U34	HM161MR U34				
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Monobloc unit -	HM123MR U34	HM143MR U34	HM163MR U34				

HM121MR U34 / HM141MR U34 / HM161MR U34 HM123MR U34 / HM143MR U34 / HM163MR U34 [Unit: mm]



PRODUCT SPECIFICATION





No.	Part name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Strainer	Filtering and stacking particles inside circulating water
4	Top cover	-
5	Front panel	-
6	Side panel	-
7	Low voltage	Communication cable hole
8	Unit power	Power cable hole
9	Water pump	To circulate water inside the system
10	Plate heat exchanger	Heat exchange between refrigerant and water
11	Compressor shield panel	-
12	Safety valve	Open at water pressure 3 bar
13	Indoor control box	Indoor PCB and terminal blocks
14	Outdoor control box	Outdoor PCB and terminal blocks
15	Flow sensor	To measure the water flow rate (5-80 LPM)
16	Pressure sensor	To measure the water pressure (0-2 MPa)

075

PRODUCT SPECIFICATION

Electric Backup Heater

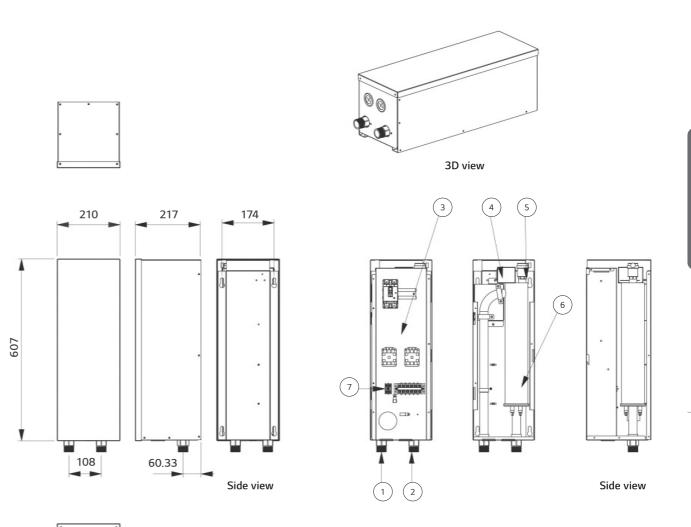
HA031M E1 HA061M E1 HA063M E1



Backup heater specification

Electrical spe	cification	Unit	HA031M E1	HA061M E1	HA063M E1			
	Туре	-	- Sheath					
	Number of heating coil	EA	1	2	3			
	Capacity combination	kW	3.0	3.0 + 3.0	2.0 + 2.0 + 2.0			
Backup	Heating steps	Step	1	1 2				
heater	Power supply	V, Ø, Hz	220 ~ 240, 1, 50		380 ~ 415, 3, 50			
	Rated running current	А	12.5	25.0	8.7			
	Dimensions (W x H x D)	mm	210 x 607 x 217					
	Net weight (unit)	kg	12.8	13.4	13.1			
Wiring	Power supply cable (included earth, H07RN-F)	mm ² x cores	1.5 x 3 C	4.0 x 3 C	2.5 x 4 C			
connections	Communication cable (H07RN-F)	mm ² x cores	0.75 x 4 C		0.75 x 2 C			

- Note
 1. Due to our policy of innovation some specifications may be changed without notification.
 2. Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.





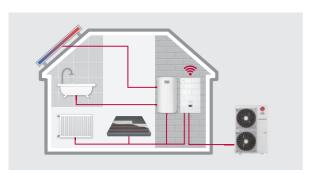
No.	Part name	Description
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Control box	Circuit breaker, Magnetic switch, Terminal blocks
4	Thermal switch	Cut-off power input to E/heater at 90°C
5	Air vent	Air purging when charging water
6	Electric heater	Refer the related information
7	Backup heater outlet sensor	Connect to unit (heat pump)



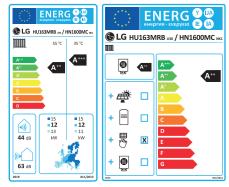
THERMA V... (R32) R32 HYDROSPLIT HYDRO BOX







Energy Label



- * 16 kW 3 Ø model.

Excellent performance & efficiency









User convenience













Easy installation & maintenance



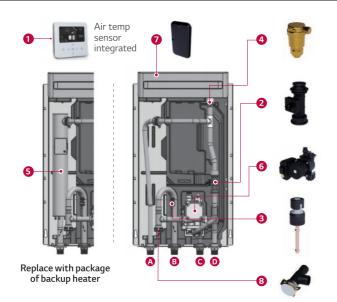


^{*} Detailed description for each function is presented on page 44 ~ 54.

R32 Hydrosplit Hydro Box Introduction

The Therma V R32 Hydrosplit Hydro Box is a heating and cooling solution, where indoor and outdoor units are connected by water pipes, while the unit's heat exchanger is located with the outdoor unit, thus eliminating the risk of indoor refrigerant leakage, which makes it perfect for renovation projects.

Key Components



- 1 Standard III remote controller (attached on the front panel)
- 2 Flow sensor
- 3 Water pressure sensor
- 4 Air vent valve
- **S** Backup electric heater (6 kW, accessory)
- 6 Water pump
- **7** Expansion vessel (8 ℓ)
- 8 Strainer
- A Heating circuit outlet pipe (male PT 1")
- B Heating circuit inlet pipe (male PT 1")
- Outlet pipe to outdoor unit (male PT 1")
- Inlet pipe from outdoor unit (male PT 1")

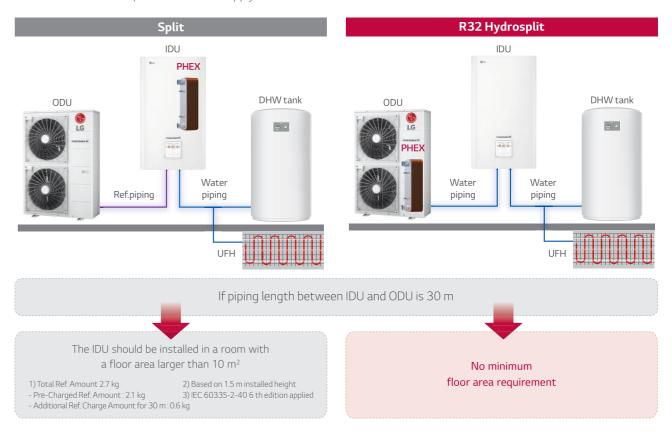
Hydrosplit Concept

The Therma V R32 Hydrosplit Hydro Box connects an IDU and ODU by water pipes due to the heat exchanger's location in the outdoor unit, thus reducing the risk of indoor refrigerant leakage.



No Risk of Indoor Refrigerant Leakage

The Hydrosplit architecture, with no refrigerant circulating indoors, makes it possible to expand the living space, as the minimum floor area requirements do not apply.



THERMA V_{TM} (R32) HYDROSPLIT HYDRO BOX

R32 Hydrosplit Hydro Box







Indoor unit

HN1600MC NK1

Outdoor unit

HU121MRB U30 / HU123MRB U30 HU141MRB U30 / HU143MRB U30 HU161MRB U30 / HU163MRB U30

























Features

- Water pipes connect IDU & ODU
- SCOP up to 4.60 (average climate / low temp. application): SCOP up to 3.50 (average climate / mid temp. application):
- COP up to 5.04 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Black Fin heat exchanger
- LG ThinQ
- Keymark / EHPA (for Germany, Austria and Switzerland) / MCS / Eurovent certification

Model line-up

		Model name						
Category	Unit	Capacity (kW)						
		12.0	14.0	16.0				
1 Phase model	Outdoor unit	HU121MRB U30	HU141MRB U30	HU161MRB U30				
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN1600MC NK1						
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Outdoor unit	HU123MRB U30	HU143MRB U30	HU163MRB U30				
	Indoor unit		HN1600MC NK1					

PRODUCT SPECIFICATION

Seasonal energy

				HU121MRB U30 (1 Ø)	HU141MRB U30 (1 Ø)	HU161MRB U30 (1 Ø)		
Description			Outdoor unit	HU123MRB U30 (3 Ø)	HU143MRB U30 (3 Ø)	HU163MRB U30 (3 Ø)		
			Indoor unit	HN1600MC NK1				
	Average	SCOP	-	4.60	4.57	4.55		
Space	climate water	Seasonal space heating efficiency (ηs)	%	181	180	179		
heating	outlet 35°C	Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++	A+++		
(according	Average	SCOP	-	3.50	3.47	3.45		
to EN14825)	climate water	Seasonal space heating efficiency (ηs)	%	137	136	135		
	outlet 55°C	Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++	A++		

Nominal capacity and nominal power input

Description		OAT ¹⁾ (DB)	OAT ¹⁾ (DB) LWT ²⁾ (DB) Outd		HU121MRB U30 (1 Ø) HU123MRB U30 (3 Ø)	HU141MRB U30 (1 Ø) HU143MRB U30 (3 Ø)	HU161MRB U30 (1 Ø) HU163MRB U30 (3 Ø)			
				Indoor unit		HN1600MC NK1				
		7°C	35°C		12.00	14.00	16.00			
	Heating	7°C	55°C		11.00	11.50	12.00			
Nominal capacity		2°C	35°C	kW	11.00	12.00	13.80			
	Cooling	35°C	18°C		12.00	14.00	16.00			
	Cooling	35°C	7°C		12.00	14.00	16.00			
	Heating	7°C	35°C	kW	2.38	2.86	3.33			
		7°C	55°C		3.79	4.04	4.29			
Nominal power input		2°C	35°C		3.01	3.31	3.83			
power input	Caaliaa	35°C	18°C		2.53	3.26	4.00			
	Cooling	35°C	7°C		4.44	5.38	6.40			
		7°C	35°C		5.04	4.89	4.80			
COP	Heating	7°C	55°C	W/W	2.90	2.85	2.80			
		2°C	35°C		3.65	3.63	3.60			
EED	Cooling	35°C	18°C	10//10/	4.75	4.30	4.00			
EER	Cooling	35°C	7°C	W/W	2.70	2.60	2.50			

¹⁾ OAT: Outdoor Air Temperature

²⁾ LWT: Leaving Water Temperature

THERMA V. (R32) HYDROSPLIT HYDRO BOX

R32 Hydrosplit Hydro Box

Product specification (outdoor unit)

Technical Specification			Unit	HU121MRB U30	HU141MRB U30	HU161MRB U30	HU123MRB U30	HU143MRB U30	HU163MRB U30	
Operation range	Heating	Min. ~ Max.	°C DB	-25 ~ 35						
(outdoor temp.)	door temp.) Cooling		CDB			5 ~	48			
Compressor	Quantity		EA			1				
Compressor	Туре		-			Hermetic s	ealed scroll			
	Туре		-			R3	32			
Defrigerant	GWP (Global Warmir	ng Potential)	-			67	75			
Refrigerant	Precharged amount		g			2,1	00			
	t-CO ₂ eq		-			1.4	18			
Dining connections	Water Circuit	Inlet	mm (inch)	ı	Male PT 1" according to ISO 7-1 (tapered pipe threads)					
Piping connections	vvater Circuit	Outlet	mm (inch)	ı	Male PT 1" according to ISO 7-1 (tapered pipe threads)					
Rated water flow rate (a	at LWT 35°C)		LPM	34.5	40.3	46.0	34.5	40.3	46.0	
Sound power level	Heating	Rated	dB(A)	61	62	63	61	62	63	
Sound pressure level (at 1m)	Heating	Rated	dB(A)	53	54	55	53	54	55	
Dimensions	Unit	WxHxD	mm			950 × 1,3	80 × 330			
Weight	Unit		kg			91	.7			
Exterior	Color / RAL code		-			Warm gray	/ RAL 7044			
	Voltage, phase, frequ	ency	V, Ø, Hz	1	220-240, 1, 5	0	3	380-415, 3, 50	0	
Power supply	Rated	Heating	А	10.6	12.7	14.8	3.5	4.2	4.9	
rower supply	running current	Cooling	А	11.2	14.4	17.7	3.7	4.8	5.9	
	Recommended circuit	Recommended circuit breaker		40 16						
Wiring connections	Power supply cable (include	ed earth, H07RN-F)	mm ² x cores		6.0 x 3 C			2.5 x 5 C		

Product specification (indoor unit)

Technical specification			Unit	HN1600MC NK1
0	Heating			15 ~ 65
Operation range (leaving water)	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾
(leaving water)	DHW			15 ~ 80 ²⁾
Flow sensor	Measuring range	Min. ~ Max.	ℓ/min	5 ~ 80
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20
Expansion vessel	n vessel Volume		l	8
Safety valve	Pressure limit	Upper limit	bar	3
		Outlet to heat load		Male PT 1" according to ISO 7-1 (tapered pipe threads)
Dining connections	Water circuit	Inlet from heat load	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
Piping connections		Outlet to outdoor unit		Male PT 1" according to ISO 7-1 (tapered pipe threads)
		Inlet from outdoor unit		Male PT 1" according to ISO 7-1 (tapered pipe threads)
Wiring connections	Power and communication cal	ole (included earth, H07RN-F)	mm ² x cores	0.75 x 4 C
Sound power level	Heating	Rated	dB(A)	44
Dimensions	Unit	WxHxD	mm	490 × 850 × 315
Weight	Unit		kg	30.5
Exterior	Color / RAL code		-	Noble white / RAL 9016

1) When a fan coil unit is not used.

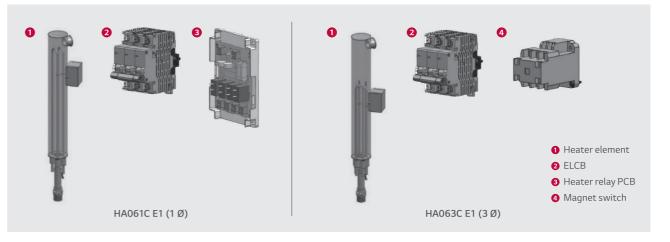
2) DHW 55 ~ 80°C operating is available only when the booster heater is operating.

- 1. Due to our policy of innovation, some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.
- 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
- Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
- 4. Performance are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 Rated running current: Outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
- 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

PRODUCT SPECIFICATION

Accessory Parts (Optional Accessory)

Backup heater



Electrical specificat	ion		HA061C E1 (1 Ø)	HA063C E1 (3 Ø)
	Туре	-	Sh	eath
	No. of heating coil	EA	2	3
	Max. power consumption	kW	3.0 + 3.0	2.0 + 2.0 + 2.0
Backup heater	Heating step	Step	1	1
	Power supply	V, Ø, Hz	220 ~ 240, 1, 50	380 ~ 415, 3, 50
	Current (rated)	А	24.0	8.7
	Circuit breaker (ELCB)	А	40	20
Wiring connection	Power cable (included earth, H07RN-F)	mm ² x cores	6.0 x 3 C	2.5 x 5 C

^{*} The backup heater should be purchased and installed separately.

Accessory Parts

Strainer



Technical speci	ification	Details
Material	Body	Brass
iviaterial	Mesh	Stainless steel (STS304)
Mesh	Mesh no.	30
Iviesii	Max. particle size	0.6 mm
Piping connection	on	Female G 1" according to ISO 228-1

- * The strainer is supplied with the product, but it needs to be installed separately.
- * This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU121MRB U30 / HU123MRB U30 + HN1600MC NK1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature								
-25°C DB	9.66	8.85	8.42	8.29	-	-	-	-
-20°C DB	10.13	10.00	9.88	9.75	9.63	-	-	-
-15°C DB	11.50	11.50	11.50	11.50	11.50	11.50	-	-
-7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	-
-4°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
-2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
15°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
18°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00

HU141MRB U30 / HU143MRB U30 + HN1600MC NK1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
-25°C DB	10.04	9.21	8.76	8.62	-	-	-	-
-20°C DB	11.82	11.25	10.95	10.67	10.59	-	-	-
-15°C DB	12.52	12.90	13.26	12.88	12.81	12.63	-	-
-7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	-
-4°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
-2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
15°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
18°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00

HU161MRB U30 / HU163MRB U30 + HN1600MC NK1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
-25°C DB	10.98	10.00	9.50	9.33	-	-	-	-
-20°C DB	13.43	12.54	12.03	11.78	11.47	-	-	-
-15°C DB	14.23	14.39	14.50	13.95	13.86	13.12	-	-
-7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	-
-4°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
-2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU121MRB U30 / HU123MRB U30 + HN1600MC NK1

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
30°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00
40°C DB	11.75	12.00	12.00	12.00	12.00	12.00	12.00
45°C DB	11.50	12.00	12.00	12.00	12.00	12.00	12.00

HU141MRB U30 / HU143MRB U30 + HN1600MC NK1

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature			Capacity (kW)				
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
30°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00
40°C DB	13.75	14.00	14.00	14.00	14.00	14.00	14.00
45°C DB	13.50	14.00	14.00	14.00	14.00	14.00	14.00

HU161MRB U30 / HU163MRB U30 + HN1600MC NK1

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
30°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00
40°C DB	15.75	16.00	16.00	16.00	16.00	16.00	16.00
45°C DB	15.50	16.00	16.00	16.00	16.00	16.00	16.00

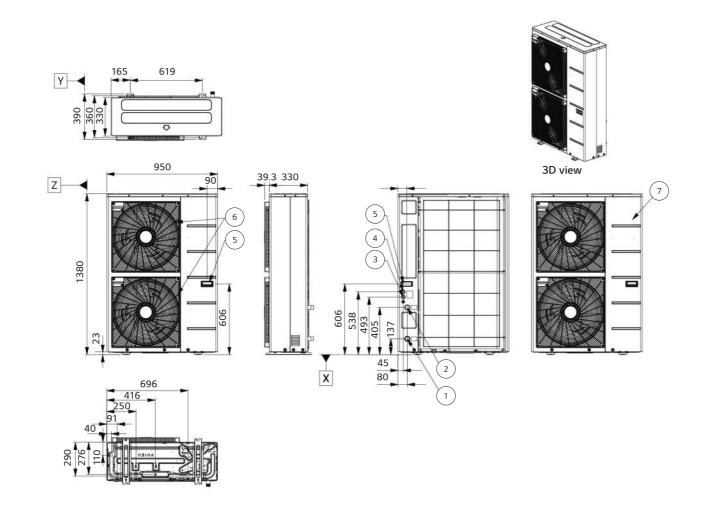
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- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Drawings

			Model name						
Category	Unit	Capacity (kW)							
		12.0	14.0	16.0					
1 Phase model	Outdoor unit	HU121MRB U30	HU141MRB U30	HU161MRB U30					
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit								
3 Phase model	Outdoor unit	HU123MRB U30	HU143MRB U30	HU163MRB U30					
380 ~ 415 V, 3 Ø, 50 Hz	Indoor unit	HN1600MC NK1							

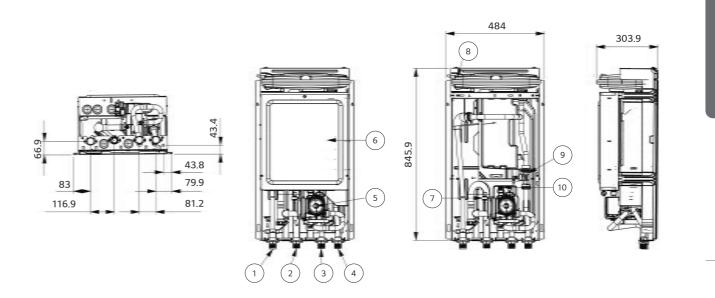
HU121MRB U30 / HU141MRB U30 / HU161MRB U30 HU123MRB U30 / HU143MRB U30 / HU163MRB U30 [Unit: mm]



No.	Part name	Description			
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)			
2	Leaving water pipe Male PT 1" according to ISO 7-1 (tapered pipe threads)				
3	Unit power	Power cable hole			
4	Low voltage	Communication cable hole			
5	Handle	-			
6	Air outlet	-			
7	Side panel	-			

HN1600MC NK1 External To Description Control panel Built-in remote controller

Internal



No.	Part name	Description				
1	Heating circuit outlet pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)				
2	Heating circuit inlet pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)				
3	Outlet pipe to outdoor unit	Male PT 1" according to ISO 7-1 (tapered pipe threads)				
4	Inlet pipe to outdoor unit Male PT 1" according to ISO 7-1 (tapered pipe threads)					
5	5 Water pump To circulate water inside the system					
6	Control box	PCB and Terminal blocks				
7	Pressure sensor	To measure the water pressure (0-2MPa)				
8	Expansion tank	8 Liter, 3/4" connection				
9	Flow sensor	To measure the water flow rate (5-80 LPM)				
10	Safety valve	Open at water pressure 3 bar				



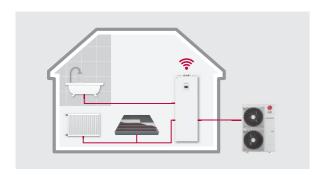
R32 HYDROSPLIT IWT



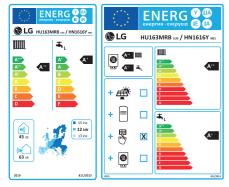
THERMA V_{TM} (R32) R32 HYDROSPLIT IWT







Energy Label



- * 16 kW 3 Ø model.

Excellent performance & efficiency











User convenience













Easy installation & maintenance







R32 Hydrosplit IWT Introduction

Therma V R32 Hydrosplit IWT is the perfect space-saving solution for heating, cooling and hot water supply due to its fully integrated hot water tank. This all-in-one solution's hydronic and domestic hot water components are pre-wired, reducing installation time and space occupancy, making it perfect for new builds.

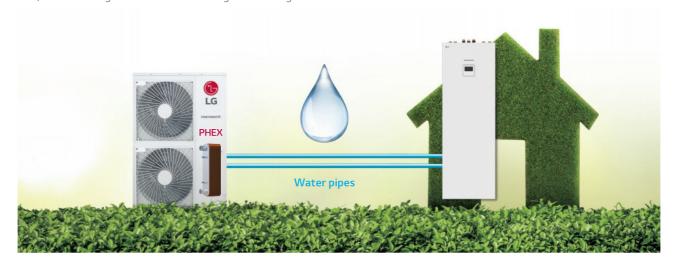
Key Components



- ① DHW storage tank (200 ℓ)
- 2 Main water pump
- 3 Water pump for DHW charging
- 4 Plate heat exchanger for DHW (water / DHW)
- 5 Electric heater (max. 6 kW)
- **6** 3-way diverting valve
- **7** Expansion vessel for heating (12 ℓ)
- 8 Flow sensor
- Water pressure sensor
- Expansion vessel for DHW (8 ℓ, option)
- ① Buffer tank (40 ℓ, option)
- ② Standard III remote controller (attached on the front panel)
- A Inlet pipe from outdoor unit (female G1")
- **B** Outlet pipe to outdoor unit (female G1")
- Domestic hot water outlet pipe (female G3/4")
- Domestic cold water outlet pipe (female G3/4")
- **(E)** DHW recirculation pipe (female G3/4")
- Heating circuit inlet pipe (female G1")
- **G** Heating circuit outlet pipe (female G1")

Hydrosplit Concept

The Therma V R32 Hydrosplit IWT connects an IDU and ODU by water pipes due to the heat exchanger's location in the outdoor unit, thus reducing the risk of indoor refrigerant leakage.



Sophisticated and Harmonious Exterior

Varied installation options due to a small, wall-mounted indoor unit, which can be easily connected to an existing third-party water tank. The indoor unit's sleek design fits into diverse indoor spaces, such as a utility or laundry room, a garage or a kitchen.

Save Space and Time

Unlike in the case of a conventional system, this all-in-one solution requires reduced installation time and saves valuable living space.





All in one

- Small footprint for product installation
- Quick & easy installation
- DHW tank (200 ℓ) & hydronic component integration
- Integrated max. 6 kW back up heater
- Integrated expansion tank for heating (12 l)
- Integrated buffer tank (40 ℓ) & expansion tank for DHW circuit (8 ℓ) (optional)

^{*} Detailed description for each function is presented on page 44 ~ 54.

R32 Hydrosplit IWT (Integrated Water Tank)





Indoor unit

HN1616Y NB1

Outdoor unit

HN121MRB U30 / HU123MRB U30 HN141MRB U30 / HU143MRB U30 HN161MRB U30 / HU163MRB U30





















Features

- Water pipes connect IDU & ODU
- SCOP up to 4.60 (average climate / low temp. application): A***
 SCOP up to 3.50 (average climate / mid temp. application): A***
 COP_{DHW} 2.74 (water heating efficiency 120 %, profile L): A***
- COP up to 5.04 (outdoor air 7°C / leaving water 35°C)
- DHW tank (200 ℓ) & hydronic component integration
- Integrable buffer tank (40 ℓ) & expansion tank for DHW circuit (8 ℓ) (optional)
- 100 % heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Black Fin heat exchanger
- LG ThinQ
- Keymark / EHPA (for Germany, Austria and Switzerland) / Eurovent certification
- * Only the outdoor units are registered in EHPA certification.

Model line-up

			Model name						
Category	Unit	Capacity (kW)							
		12.0	14.0	16.0					
1 Phase model	Outdoor unit	HU121MRB U30	HU141MRB U30	HU161MRB U30					
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN1616Y NB1						
3 Phase model	Outdoor unit	HU123MRB U30	HU143MRB U30	HU163MRB U30					
380 ~ 415 V, 3 Ø, 50 Hz	Indoor unit	HN1616Y NB1							

PRODUCT SPECIFICATION

Seasonal energy

			Outdoor unit	HU121MRB U30 (1 Ø)	HU141MRB U30 (1 Ø)	HU161MRB U30 (1 Ø)	
Description	1		Outdoor unit	HU123MRB U30 (3 Ø) HU143MRB U30 (3 Ø) HU163MRB U30 (3 Ø)			
			Indoor unit		HN1616Y NB1		
	Average	SCOP	-	4.60	4.57	4.55	
Space	climate water	Seasonal space heating efficiency (η _s)	%	181	180	179	
heating	outlet 35°C	Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++	A+++	
(according to EN14825) Average climate water outlet 55°C	Average	SCOP	-	3.50	3.47	3.45	
		Seasonal space heating efficiency (ηs)	%	137	136	135	
	Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++	A++		
		Declared load profile	-	L	L	L	
	Average	Water heating efficiency (η _{WH})	%	120	120	120	
	climate	СОР _{они}	-	2.74	2.74	2.74	
		Water heating eff. class	-	A+	A+	A+	
Domestic		Declared load Profile	-	L	L	L	
hot water efficiency	Warmer	Water heating efficiency (η _{WH})	%	151	151	151	
(according	climate	СОР _{рни}	-	3.43	3.43	3.43	
to EN16147)		Water heating eff. class	-	A++	A++	A++	
		Declared load profile	-	L	L	L	
	Colder	Water heating efficiency (η _{WH})	%	101	101	101	
	climate	COP _{DHW}	-	2.34	2.34	2.34	
		Water heating eff. class	-	А	А	А	

Nominal capacity and nominal power input

				Outdoor unit	HU121MRB U30 (1 Ø)	HU141MRB U30 (1 Ø)	HU161MRB U30 (1 Ø)			
Description		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Outdoor unit	HU123MRB U30 (3 Ø)	HU143MRB U30 (3 Ø)	HU163MRB U30 (3 Ø)			
				Indoor unit		HN1616Y NB1				
		7°C	35°C		12.00	14.00	16.00			
	Heating	7°C	55°C		11.00	11.50	12.00			
Nominal capacity		2°C	35°C	kW	11.00	12.00	13.80			
	Cooling	35°C	18°C		12.00	14.00	16.00			
	Cooling	35°C	7°C		12.00	14.00	16.00			
		7°C	35°C		2.38	2.86	3.33			
Manatant	Heating	7°C	55°C		3.79	4.04	4.29			
Nominal power input		2°C	35°C	kW	3.01	3.31	3.83			
power input	Cooling	35°C	18°C		2.53	3.26	4.00			
	Cooling	35°C	7°C		4.44	5.38	6.40			
		7°C	35°C		5.04	4.89	4.80			
COP	Heating	7°C	55°C	W/W	2.90	2.85	2.80			
		2°C	35°C		3.65	3.63	3.60			
EER	Cooling	35°C	18°C	10//10/	4.75	4.30	4.00			
EER	Cooling	35°C	7°C W/W		2.70	2.60	2.50			

¹⁾ OAT: Outdoor Air Temperature

²⁾ LWT: Leaving Water Temperature

R32 Hydrosplit IWT (Integrated Water Tank)

Product specification (outdoor unit)

Technical Specification	on		Unit	HU121MRB U30	HU141MRB U30	HU161MRB U30	HU123MRB U30	HU143MRB U30	HU163MRB U30	
Operation range	Heating	Min. ~ Max.	°C DB			-25	~ 35			
(outdoor temp.)	Cooling	IVIIII. ~ IVIAX.	CDB	5 ~ 48						
Compressor	Quantity		EA			•	1			
Compressor	Туре		-			Hermetic s	ealed scroll			
	Туре		-			R:	32			
Defricerent	GWP (Global Warmin	g Potential)	-			6	75			
Refrigerant	Precharged amount	g			2,1	00				
	t-CO ₂ eq	-			1.4	118				
Dining connections	Water circuit	Inlet	mm (inch)	Male PT 1" according to ISO 7-1 (tapered pipe threads)						
Piping connections	vvater circuit	Outlet	mm (inch)	Male PT 1" according to ISO 7-1 (tapered pipe threads)						
Rated water flow rate (a	t LWT 35°C)		LPM	34.5	40.3	46.0	34.5	40.3	46.0	
Sound power level	Heating	Rated	dB(A)	61	62	63	61	62	63	
Sound pressure level (at 1m)	Heating	Rated	dB(A)	53	54	55	53	54	55	
Dimensions	Unit	WxHxD	mm			950 × 1,3	80 × 330			
Weight	Unit		kg			91	1.7			
Exterior	Color / RAL code		-			Warm gray	/ RAL 7044			
	Voltage, phase, frequ	ency	V, Ø, Hz	1	220-240, 1, 5	0	3	380-415, 3, 50)	
Dawer supply	Rated	Heating	А	10.6	12.7	14.8	3.5	4.2	4.9	
Power supply	running current	Cooling	А	11.2	14.4	17.7	3.7	4.8	5.9	
	Recommended circuit	t breaker	А		40			16		
Wiring connections	Power supply cable (include	d earth, H07RN-F)	mm ² x cores		6.0 x 3 C			2.5 x 5 C		

Product specification (indoor unit)

Technical Specificat	ion		Unit	HN1616Y NB1	
Operation range	Heating			15 ~ 65	
(leaving water	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) 1)	
temperature)	DHW			15 ~ 80 ²⁾	
Domestic hot water	Volume		l	200	
tank	Internal thermal prote	ect limit	°C	85	
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80	
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20	
Expansion vessel (heating circuit)	Volume		l	12	
Safety valve	Heating circuit	Upper limit	bar	3	
Safety valve	DHW circuit	Upper limit	bar	10	
	Type		-	Sheath	
	Number of heating co	oil	EA	1/2/3	
Electric heater	Capacity combination		kW	2.0 / 2.0 + 2.0 / 2.0 + 2.0 + 2.0	
(Case 1 / Case 2 /	Heating step		Step	1	
Case 3) 3)	Power supply		V, Ø, Hz	220-240, 1, 50 / 220-240, 1, 50 / 380-415, 3, 50	
	Power supply cable (i	ncluded earth, H07RN-F)	mm² x cores		
	Rated running curren	t	А	8.7 / 17.4 / 8.7	
		Inlet	inch		
	Water circuit	Outlet	inch	Female G 1" according to ISO 228-1 (parallel pipe threads)	
	vvater circuit	Inlet from outdoor unit	inch	remate of raccording to 130 220-1 (paratiet pipe tilleads)	
Piping connections		Outlet to outdoor unit	inch		
	DHW tank water	Cold inlet	inch		
	circuit	Hot outlet	inch	Female G 3/4" according to ISO 228-1 (parallel pipe threads	
		Recirculation	inch		
Wiring connections	Power and communication cable (included earth, H07RN-F)		mm ² x cores	0.75 x 4 C	
Sound power level	Heating	Rated	dB(A)	43	
Dimensions	Unit	W×H×D	mm	601 × 1,812 × 685	
Weight	Unit		kg	130.0	
Exterior	Color / RAL code		-	White / RAL 9002	

- 1) When a fan coil unit is not used.
- 2) DHW 55 ~ 80°C Operating is available only when the electric heater is operating.
 3) The capacity of electric heater can be adjusted by wiring.

- Note
 1. Due to our policy of innovation, some specifications may be changed without notification.
 2. Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.
 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
 Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.
 Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 Rated running current: Outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

PRODUCT SPECIFICATION

Accessory Parts (Optional Accessory)

Buffer tank for space heating



A standard 40 ℓ buffer tank for can be installed as an optional accessory for space heating. Fitting seamlessly into the main casing, it can be attached to the backside of the indoor unit.

Buffer tank for space heating		Unit	OSHB-40KT.AEU
Water volume		l	40
Dimensions (W x H x D)		mm	518 x 560 x 175
Weight (w/o water)	Product	kg	24

^{*} The buffer tank for space heating should be purchased and installed separately.

Expansion vessel for DHW



A standard 8 ℓ DHW expansion vessel, that conveniently fits inside the indoor unit, can be installed as an optional accessory. It is provided with an accessory kit that includes a flexible connection tube.

Expansion vessel for DHW	Unit	OSHE-12KT.AEU
Expansion volume	l	8
Connection	inch	3/4
Max. pressure	bar	10
Pre-charge	bar	3
Dimensions (W x H x D)	mm	416 x 238 x 502
Weight (w/o water) Product	kg	2.5

^{*} The expansion vessel for DHW should be purchased and installed separately.

Accessory Parts

Shut-off valve



Shut-off valve with strainer



Strainer



Technical specifica	tion	Details		
Material	Body	Brass		
Material	Mesh	Stainless steel (STS304)		
Mesh	Mesh no.	30		
Mesii	Max. particle size	0.6 mm		
Piping connection		Female G 1" according to ISO 228-1		

^{*} The strainer and valves are supplied with the product, but it need to be installed separately.

^{*} This strainer should be installed at the inlet connection of the outdoor unit to protect the clogging of a plate heat exchanger.

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU121MRB U30 / HU123MRB U30 + HN1616Y NB1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C		
temperature		Capacity (kW)								
-25°C DB	9.66	8.85	8.42	8.29	-	-	-	-		
-20°C DB	10.13	10.00	9.88	9.75	9.63	-	-	-		
-15°C DB	11.50	11.50	11.50	11.50	11.50	11.50	-	-		
-7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	-		
-4°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
-2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
2°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
7°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
15°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
18°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00		
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00		

HU141MRB U30 / HU143MRB U30 + HN1616Y NB1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	
temperature		Capacity (kW)							
-25°C DB	10.04	9.21	8.76	8.62	-	-	-	-	
-20°C DB	11.82	11.25	10.95	10.67	10.59	-	-	-	
-15°C DB	12.52	12.90	13.26	12.88	12.81	12.63	-	-	
-7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	-	
-4°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	
-2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	
2°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	
7°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	
15°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	
18°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	

HU161MRB U30 / HU163MRB U30 + HN1616Y NB1

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	
temperature		Capacity (kW)							
-25°C DB	10.98	10.00	9.50	9.33	-	-	-	-	
-20°C DB	13.43	12.54	12.03	11.78	11.47	-	-	-	
-15°C DB	14.23	14.39	14.50	13.95	13.86	13.12	-	-	
-7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	-	
-4°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
-2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU121MRB U30 / HU123MRB U30 + HN1616Y NB1

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C			
temperature		Capacity (kW)								
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00			
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00			
30°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00			
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00	12.00			
40°C DB	11.75	12.00	12.00	12.00	12.00	12.00	12.00			
45°C DB	11.50	12.00	12.00	12.00	12.00	12.00	12.00			

HU141MRB U30 / HU143MRB U30 + HN1616Y NB1

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C			
temperature		Capacity (kW)								
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
30°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00	14.00			
40°C DB	13.75	14.00	14.00	14.00	14.00	14.00	14.00			
45°C DB	13.50	14.00	14.00	14.00	14.00	14.00	14.00			

HU161MRB U30 / HU163MRB U30 + HN1616Y NB1

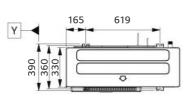
Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C		
temperature		Capacity (kW)							
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
30°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00		
40°C DB	15.75	16.00	16.00	16.00	16.00	16.00	16.00		
45°C DB	15.50	16.00	16.00	16.00	16.00	16.00	16.00		

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

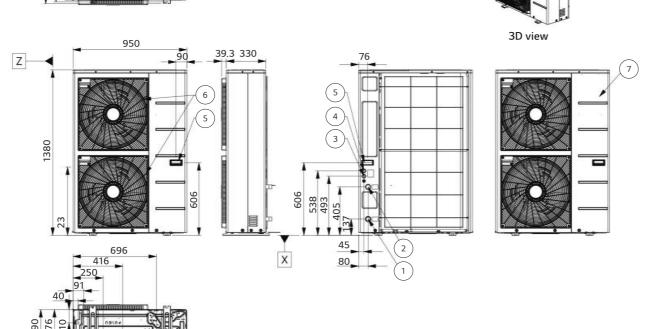
Drawings

		Model name						
Category	Unit	Capacity (kW)						
		12.0	14.0	16.0				
1 Phase model	Outdoor unit	HU121MRB U30	HU141MRB U30	HU161MRB U30				
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN1616Y NB1					
3 Phase model	Outdoor unit	HU123MRB U30	HU143MRB U30	HU163MRB U30				
380 ~ 415 V, 3 Ø, 50 Hz	Indoor unit		HN1616Y NB1					

HU121MRB U30 / HU141MRB U30 / HU161MRB U30 HU123MRB U30 / HU143MRB U30 / HU163MRB U30 [Unit: mm]

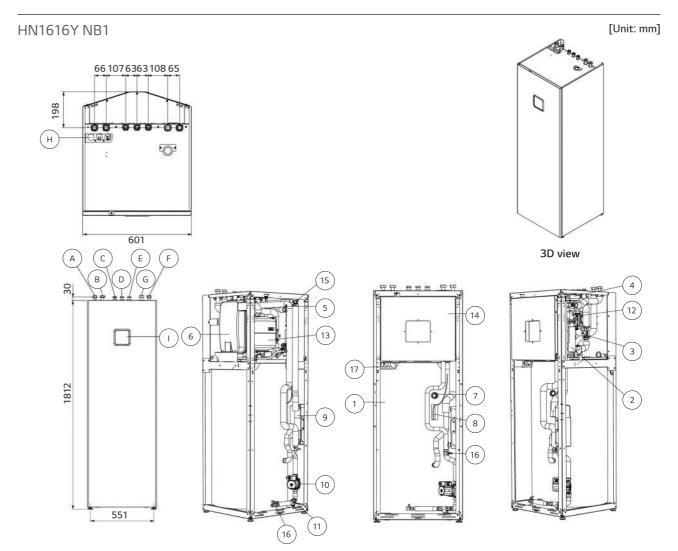






No.	Part name	Description
1	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Unit power	Power cable hole
4	Low voltage	Communication cable hole
5	Handle	-
6	Air outlet	-
7	Side panel	-

PRODUCT SPECIFICATION



No. Part name		Description			
1	Domestic hot water tank	200 ℓ			
2	Electric heater	Max 6 kW			
3	Flow sensor	To measure the water flow rate (5-80 LPM)			
4	3 way valve	To measure the water flow rate (5-80 LPM) Heating / DHW circuit To measure the water pressure (0-2 MPa) 12 l for heating circuit To prevent corrosion Temperature sensor Heat exchange (water / DHW tan			
5	Water pressure sensor	To measure the water pressure			
6	Expansion vessel	12 ℓ for heating circuit			
7	Magnesium anode	To prevent corrosion			
8	DHW tank sensor	Temperature sensor			
9	Plate heat exchanger	Heat exchange (water / DHW tank)			
10	DHW water pump	To circulate water for DHW heating			
11	Strainer for DHW tank	Filtering and stacking particles			
12	Main water pump	To circulate water inside the system			
13	Expansion vessel	8 ℓ For DHW circuit (accessory)			
14	Control box	PCB and terminal blocks			
15	Air vent	Air purging when charging water			
16	Drain cock	Valve for water draining			
17	Electrical conduits	For electric wiring			

No.	Part name	Part name
Α	Inlet pipe from outdoor unit	Female G1"
В	Outlet pipe to outdoor unit	Female G1"
С	Domestic hot water outlet pipe	Female G3/4"
D	Domestic cold water inlet pipe	Female G3/4"
Е	Domestic re-circulation pipe	Female G3/4"
F	Heating circuit inlet pipe	Female G1"
G	Heating circuit outlet pipe	Female G1"
Н	Electrical conduits	For electric wiring
I	Control panel	Built-in remote controller



R32 SPLIT HYDRO BOX

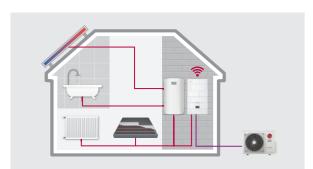


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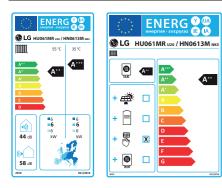
THERMA V_{TM} (R32) R32 SPLIT 4/6 kW HYDRO BOX







Energy Label



- * 6 kW 1 Ø model.

Excellent performance & efficiency









User convenience

















Easy installation & maintenance







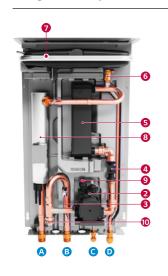


R32 Split Hydro Box Introduction

The LG Therma V R32 Split Hydro Box is a hydro box type system consisting of an indoor hydro box unit and an outdoor unit. The two units are connected by refrigerant piping only, thus hydronic components such as plate heat exchanger, expansion tank and water pump are located within the indoor unit. Due to the split nature, freezing will not compromise this unit regardless of outdoor ambient temperatures.

The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 4/6 kW model is suitable for new build houses that are well insulated and require a small heating load

Key Components





Components

- 1 Standard III remote controller (attached on the front panel)
- 2 Water pump
- 3 Water pressure sensor
- 5 Plate type heat exchanger (ref/water)
- 6 Air vent valve
- **7** Expansion vessel (8 ℓ)
- 8 Back up electric heater (3 kW)
- Safety valve
- 10 Strainer

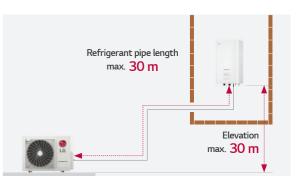
Connections

- A Heating circuit outlet pipe (male PT 1" *)
- B Heating circuit inlet pipe (male PT 1" *)
- © Refrigerant liquid pipe (SAE 1/4" with connector **) D Refrigerant gas pipe (SAE 1/2" with connector **)
- * According to ISO 7-1 (tapered pipe threads)
- ** In case of Split 4/6 kW model, the adaptors provided with the outdoor unit must be separately installed on the gas/liquid connection of the indoor unit when connecting the refrigerant pipe. After installing the adaptors, the liquid and gas connection size becomes Ø 6.35 (1/4 inch) and Ø 12.7 (1/2 inch) respectively.

Small Refrigerant Amount - free from minimum floor area requirements due to R32 refrigerant

Minimum floor space requirements do not apply to R32 Split 4/6 kW, as the maximum refrigerant amount (including 30 m pipes) used in the product is smaller than the minimum set by regulation. As a result, there are more opportunities for flexible design and installation.



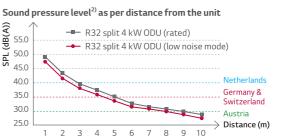


Reduced Noise Level

The R32 Split outdoor unit can be installed at the minimum of 4.5 m away¹⁾ from neighboring houses while complying with noise-related requirements in most European countries, including Germany. (based on 4 kW ODU & low noise mode)

п	Description		Germany	Austria	Switzerland	Netherlands
	C	Day time	50 dB (A) (06:00 ~ 22:00)	40 dB (A) (06:00 ~ 19:00)	40 dB (A) (07:00 ~ 19:00)	45 dB (A) (07:00 ~ 19:00)
	Sound pressure threshold	Evening	-	35 dB (A) (19:00 ~ 22:00)	-	-
		Night time	35 dB (A) (22:00 ~ 06:00)	30 dB (A) (22:00 ~ 06:00)	35 dB (A) (19:00 ~ 07:00)	40 dB (A) (19:00 ~ 07:00)





- 1) Minimum distance to be away from a neighboring property may vary depending on installation conditions and noise regulations in individual countries



THERMA V_{IM} (R32) SPLIT 4/6 kW HYDRO BOX

R32 Split 4/6 kW Hydro Box







Indoor unit

HN0613M NK5

Outdoor unit

HU041MR U20 HU061MR U20















Features

- Answers the needs of new build houses with good insulation and a small heating demand
- Demonstrates a lower noise level

(sound pressure level at 3 m: 39 dB (A) for 4 kW / 40 dB (A) for 6 kW)

Enhanced installation flexibility

- Free from minimum floor area requirements due to R32 refrigerant (Max. refrigerant amount (including 30 m pipes) < 1.842 kg)
- Light weight and compact size
- Max. 30 m refrigerant piping
- Integrated 3 kW backup heater and expansion tank for heating (8 $\ell)$

High efficiency & operational range

- SCOP up to 4.65 / 3.23 (low temp. / mid temp. application): A*** / A***
- COP up to 5.10 (outdoor air 7°C / leaving water 35°C)
- Operation range (ambient: -20 ~ 35°C / water side: 15 ~ 55°C)

Innovative design & technology

• Energy monitoring of estimated power consumption

Control & connectivity

- LG ThinQ Wi-Fi control and monitoring solution
- PV / ESS or smart grid connectivity

Model line-up

		Model name				
Category	Unit	Capacity (kW)				
		4.0	6.0			
1 Phase model 220 ~ 240 V, 1 Ø, 50 Hz	Outdoor unit	HU041MR U20	HU061MR U20			
	Indoor unit	HN0613M NK5				

Seasonal energy

Description			Outdoor unit	HU041MR U20	HU061MR U20	
Description	Description			HN0613M NK5		
	Average	SCOP	-	4.65	4.65	
Space	climate water	Seasonal space heating efficiency (ηs)	%	183	183	
heating	outlet 35°C	Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++	
(according	(according Average	SCOP	-	3.23	3.23	
to EN14825)	climate water	Seasonal space heating efficiency (ηs)	%	126	126	
	outlet 55°C	Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++	

Nominal capacity and nominal power input

Description		OAT ¹⁾ (DB)	LWT ²⁾ (DB)	Outdoor unit	HU041MR U20	HU061MR U20
		UAI (DB)	LVVI (DD)	Indoor unit	HN0613M NK5	
		7°C	35°C		4.00	6.00
	Heating	7°C	55°C		3.70	4.60
Nominal capacity	Heating	2°C	35°C	kW	3.60	4.80
Nominal capacity		-7°C	35°C	KVV	4.00	6.00
	Cooling	35°C	18°C		4.00	6.00
	Cooling	35°C	7°C		4.00	6.00
	Heating	7°C	35°C		0.78	1.21
		7°C	55°C	kW	1.30	1.59
Nominal		2°C	35°C		0.96	1.32
power input		-7°C	35°C		1.30	2.01
	Cooling	35°C	18°C		0.83	1.25
	Cooling	35°C	7°C		1.18	1.88
		7°C	35°C		5.10	4.95
СОР	Heating	7°C	55°C	W/W	2.85	2.90
COF	lieatilly	2°C	35°C	VV/ VV	3.75	3.65
		-7°C	35°C		3.08	2.98
EER	Cooling	35°C	18°C	W/W	4.80	4.80
LLIN	Cooling	35°C	7°C	VV/VV	3.40	3.20

¹⁾ OAT : Outdoor Air Temperature

Product specification (outdoor unit)

Technical specification			Unit	HU041MR U20	HU061MR U20		
Operation range	Heating	Min. ~ Max	°C DB	-20 ~ 35			
(outdoor temp.)	Cooling IVIIII. ~ IVIAX.		CDB	5 ~	48		
Compressor	Туре		-	Hermetic seal	ed twin rotary		
	Туре		-	R3	32		
Defricerent	GWP (Global War	ming Potential)	-	67	75		
Refrigerant	Precharged amou	nt	g	1,1	00		
	t-CO ₂ eq		-	0.7	43		
	Outer diameter	Liquid	mm (inch)	Ø 6.35	(1/4)		
Piping connections	Outer diameter	Gas	mm (inch)	Ø 12.7	(1/2)		
	Length	Standard	m	ŗ			
	Length	Max.	m	30			
	Level difference	Max.	m	30			
	Chargeless-pipe length		m	1	0		
	Additional charging volume		g/m	20			
Rated water flow rate (at L'	WT 35°C)		ℓ/min	11.5	17.3		
Sound power level	Heating	Rated	dB(A)	57	58		
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	49	50		
Dimensions	Unit	WxHxD	mm	870 × 65	50 × 330		
Weight	Unit		kg	44	1.7		
Exterior	Color / RAL code		-	Warm gray	/ RAL 7044		
	Voltage, phase, fr	equency	V, Ø, Hz	220-24			
Power cupply	Rated	Heating	А	3.5	5.6		
Power supply	running current	Cooling	А	3.7	5.4		
	Recommended c		А	16	20		
Wiring connections	Viring connections Power supply cable (included earth, H07RN-F)			2.5 x 3 C			

Product specification (indoor unit)

Technical specification			Unit	HN0613M NK5
Oneration range	Heating			15 ~ 55
Operation range	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾
(leaving water)	DHW			15 ~ 80 ²⁾
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20
Expansion vessel	Volume		l	8
Safety valve	Pressure limit	Upper limit	bar	3
	Туре		-	Sheath
	Number of heating coil		EA	2
	Capacity combination		kW	1.5 + 1.5
Backup heater	Heating steps		Step	2
	Power supply		V, Ø, Hz	220-240, 1, 50
	Rated running current		А	13
	Power supply cable (included earth,	H07RN-F)	mm² x cores	2.5 x 3 C
		Inlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)
	Water circuit	Outlet	t.	Male PT 1" according to ISO 7-1
Piping connections		Outlet	inch	(tapered pipe threads)
	Defrigarant circuit	Gas (outside diameter)	mm (inch)	Ø 6.35 (1/4) ³⁾
	Refrigerant circuit	Liquid (outside diameter)	mm (inch)	Ø 12.7 (1/2) ³⁾
Wiring connections	Power and communication cable (i	ncluded earth, H07RN-F)	mm ² x cores	0.75 x 4 C
Sound power level	Heating	Rated	dB(A)	44
Dimensions	Unit	$W \times H \times D$	mm	490 × 850 × 315
Weight	Unit		kg	37.8
Exterior	Color / RAL code		-	Noble white / RAL 9016

- 1) When a fan coil unit is not used.
- 2) DHW 50 ~ 80 $^{\circ}\text{C}$ operating is available only when the booster heater is operating.
- 3) When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor unit.

- 1. Due to our policy of innovation, some specifications may be changed without
- $2. \ Wiring \ cable \ size \ must \ comply \ with \ the \ applicable \ local \ and \ national \ codes.$ Especially the power cable and circuit breaker should be selected in accordance
- 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard. Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
- 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
- Rated running current: outdoor Temp. 7°C (DB) / 6 °C (WB), Leaving Water Temp. 35°C • Interconnected pipe length is standard length and difference of elevation

PRODUCT SPECIFICATION

- (outdoor ~ indoor unit) is 0 m. 5. This product contains fluorinated greenhouse gases.
- 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

^{*} MCS and EHPA label under development

²⁾ LWT: Leaving Water Temperature

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU041MR U20 + HN0613M NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C			
temperature	Capacity (kW)								
-20°C DB	4.00	4.00	4.00	4.00	-	-			
-15°C DB	4.00	4.00	4.00	4.00	4.00	-			
-7°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
-4°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
-2°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
2°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
7°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
10°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
15°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
18°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
20°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
35°C DB	4.00	4.00	4.00	4.00	4.00	4.00			

HU061MR U20 + HN0613M NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C
temperature			Capaci	ty (kW)		
-20°C DB	4.92	4.78	4.64	4.50	-	-
-15°C DB	5.56	5.52	5.48	5.44	5.40	-
-7°C DB	6.00	6.00	6.00	6.00	6.00	6.00
-4°C DB	6.00	6.00	6.00	6.00	6.00	6.00
-2°C DB	6.00	6.00	6.00	6.00	6.00	6.00
2°C DB	6.00	6.00	6.00	6.00	6.00	6.00
7°C DB	6.00	6.00	6.00	6.00	6.00	6.00
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00
15°C DB	6.00	6.00	6.00	6.00	6.00	6.00
18°C DB	6.00	6.00	6.00	6.00	6.00	6.00
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00

- 1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C)

- 2. Direct interpolation is permissible. Do not extrapolate.

 3. Measuring procedure follows EN-14511.

 Rated values are based on standard conditions and and can be found on specifications.
- Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU041MR U20 + HN0613M NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C			
temperature		Capacity (kW)								
10°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
20°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
30°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
35°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
40°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			
45°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00			

HU061MR U20 + HN0613M NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C	
temperature Capacity (kW)								
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
30°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00	
40°C DB	5.74	5.81	5.87	5.91	6.00	6.00	6.00	
45°C DB	5.48	5.61	5.73	5.81	5.94	6.00	6.00	

- Note 1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C)

- 2. Direct interpolation is permissible. Do not extrapolate.

 3. Measuring procedure follows EN-14511.

 Rated values are based on standard conditions and and can be found on specifications.
- Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

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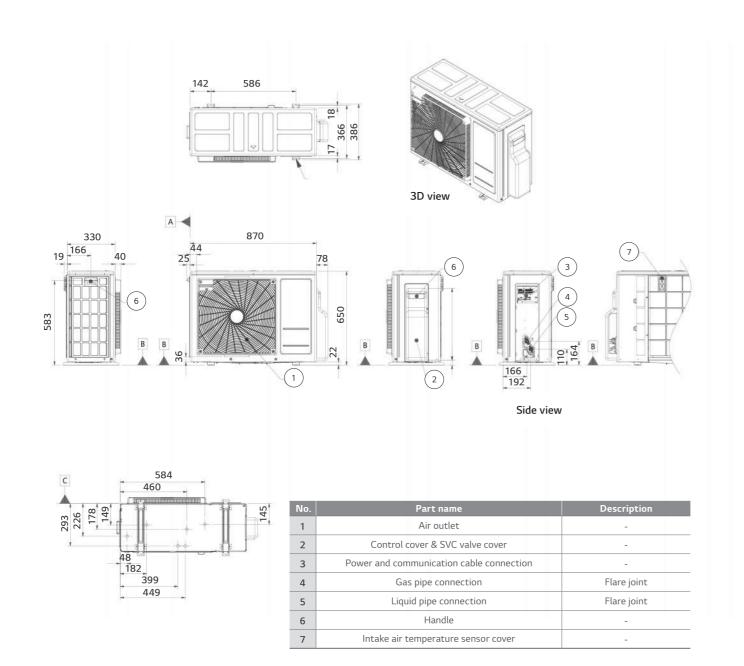
THERMA V... SPLIT 4/6 kW HYDRO BOX

Drawings

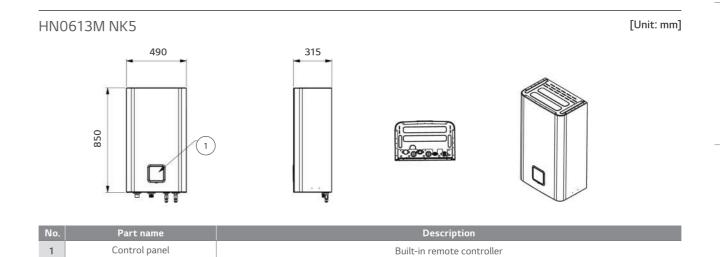
		Model name				
Category	Unit	Capacity (kW)				
		4.0	6.0			
1 Phase model	Outdoor unit	HU041MR U20	HU061MR U20			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN0613M NK5				

HU041MR U20 / HU061MR U20

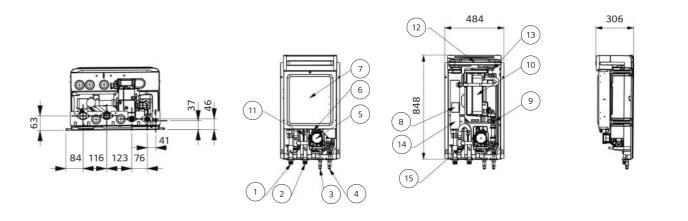
[Unit: mm]



PRODUCT SPECIFICATION



Internal



No.	Part name	Description			
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)			
2	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)			
3	Refrigerant piping connection	Ø 6.35 ¹⁾ (mm)			
4	Refrigerant piping connection	Ø 12.7 ¹⁾ (mm)			
5	Water pump	To circulate water inside the system			
6	Safety valve	Open at water pressure 3 bar			
7	Control box	PCB and terminal blocks			
8	Thermostat	Cut-off power input to electric heater at 90°C			
9	Flow sensor	To measure the water flow rate (5-80 LPM)			
10	Plate heat exchanger	Heat exchange between refrigerant and water			
11	Pressure sensor	To measure the water pressure (0-2 MPa)			
12	Expansion tank	Absorbing volume change of heated water			
13	Air vent	Air purging when charging water			
14	Backup heater	3 kW			
15	Strainer	Filtering and stacking particles inside circulating water			

1) When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor unit.

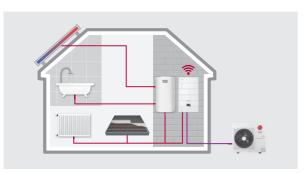
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THERMA V... (R32)

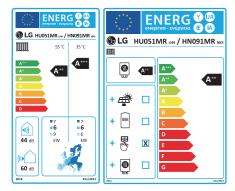
R32 SPLIT 5/7/9 kW HYDRO BOX







Energy Label



- * 5 kW 1 Ø model.

Excellent performance & efficiency









User convenience

















Easy installation & maintenance



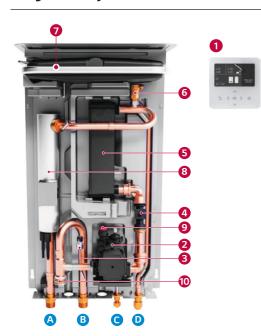


R32 Split Hydro Box Introduction

The LG Therma V R32 Split Hydro Box is a hydro box type comprising a separate indoor and outdoor unit, which are connected by refrigerant piping. Hydronic components such as a plate heat exchanger, an expansion tank and a water pump are located within the indoor unit, making the unit capable of withstanding freezing outside ambient temperatures.

The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 5/7/9 kW model is suitable for both new build and renovation projects.

Key Components



Components

- 1 Standard III remote controller (attached on the front panel)
- Water pump
- 3 Water pressure sensor
- 4 Flow sensor
- 5 Plate type heat exchanger (ref/water)
- 6 Air vent valve
- **7** Expansion vessel (8 ℓ)
- 8 Back up electric heater (6 kW)
- Safety valve
- Strainer

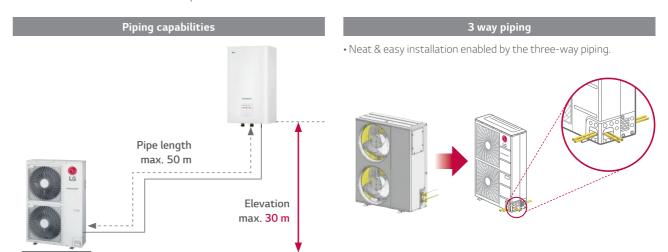
Connections

- A Heating circuit outlet pipe (male PT 1" *)
- B Heating circuit inlet pipe (male PT 1" *)
- © Refrigerant liquid pipe (SAE 3/8")
- D Refrigerant gas pipe (SAE 5/8")



Flexible Refrigerant Piping Design

Installation flexibility is enabled by Therma V Split's long pipe length (up to 50 m) and the fact that the refrigerant piping can be connected in three directions: front, side and rear.



^{*} Detailed description for each function is presented on page 44 ~ 54.

THERMA V_{TM} (R32) SPLIT 5/7/9 kW HYDRO BOX

R32 Split 5/7/9 kW Hydro Box







Indoor unit HN091MR NK5 **Outdoor unit** HU051MR U44 HU071MR U44







Austria and













R1Compressor™ Black Fin ThinQ

Features

011-1W0315

- Refrigerant pipes connect IDU & ODU
- SCOP up to 4.65 (average climate / low temp. application): SCOP up to 3.23 (average climate / mid temp. application) A**
- COP up to 4.90 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 65°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit Switzerland) / MCS / Eurovent certification
- R32 refrigerant with reduced Global Warming Potential (GWP)
- R1 Compressor
- Black Fin heat exchanger
- LG ThinQ
- · Keymark / EHPA (for Germany, Austria and

Model line-up

			Model name				
Category	Unit	Capacity (kW)					
		5.5	7.0	9.0			
1 Phase model	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN091MR NK5					

Seasonal energy

Description			Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44	
Description			Indoor unit	HN091MR NK5			
Average	SCOP	-	4.65	4.65	4.65		
Space	1 . 1	Seasonal space heating efficiency (ηs)	%	183	183	183	
heating	outlet 35°C	Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++	A+++	
(according	Average	SCOP	-	3.23	3.23	3.23	
to EN14825) climate wa	climate water	Seasonal space heating efficiency (ηs)	%	126	126	126	
outlet 55°C		Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++	A++	

Nominal capacity and nominal power input

Description		OAT ¹⁾ (DP)	LWT ²⁾ (DB)	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44			
Description		OAI (DB)	LVV I (DB)	Indoor unit		HN091MR NK5				
		7°C	35°C		5.50	7.00	9.00			
Nominal capacity	Heating	7°C	55°C		5.50	5.50	5.50			
		2°C	35°C	kW	3.30	4.20	5.40			
	Caaliaa	35°C	18°C		5.50	7.00	9.00			
	Cooling	35°C	7°C		5.50	7.00	9.00			
		7°C	35°C	kW	1.12	1.43	1.94			
n	Heating	7°C	55°C		2.04	2.04	2.04			
Nominal		2°C	35°C		0.94	1.20	1.54			
power input	6 - 1:	35°C	18°C		1.20	1.56	2.14			
	Cooling	35°C	7°C		1.96	2.59	3.46			
		7°C	35°C		4.90	4.90	4.65			
COP	Heating	7°C	55°C	W/W	2.70	2.70	2.70			
		2°C	35°C		3.52	3.51	3.50			
FFD	Caaliaa	35°C	18°C	W/W	4.60	4.50	4.20			
EER	Cooling	35°C	7°C		2.80	2.70	2.60			

1) OAT: Outdoor Air Temperature 2) LWT : Leaving Water Temperature

Product specification (outdoor unit)

Technical specification			Unit	HU051MR U44	HU071MR U44	HU091MR U44	
Operation range	Heating	Min. ~ Max.	°C DB		-25 ~ 35		
(outdoor temp.)	Cooling	IVIIII. ~ IVIAX.	CDB		5 ~ 48		
Compressor	Quantity		EA	1			
Compressor	Type		-	ŀ	ll		
	Туре		-		R32		
Refrigerant	GWP (Global Warming Pot	ential)	-		675		
Remigerant	Precharged amount		g		1,500		
	t-CO ₂ eq		-		1.013		
	Outside diameter	Gas	mm (inch)		Ø 15.88 (5/8)		
	Outside diameter	Liquid	mm (inch)	Ø 9.52 (3/8)			
Dining	Length	Standard	m	5			
Piping connections	Length	Max.	m	50			
Connections	Level difference	m		30			
	Chargeless-pipe length	m		10			
	Additional charging volume	2	g/m	40			
Rated water flow rate (at	t LWT 35°C)		LPM	15.8	20.1	25.9	
Sound power level	Heating	Rated	dB(A)		60		
Sound pressure level (at 1 m)	Heating	Rated	dB(A)		52		
Dimensions	Unit	WxHxD	mm		950 × 834 × 330		
Weight	Unit		kg		60.0		
Exterior	Color / RAL code		-	V	Varm gray / RAL 704	4	
	Voltage, phase, frequency		V, Ø, Hz		220-240, 1, 50		
Power supply	Rated running current	Heating	А	5.0	6.3	8.6	
rower supply	Nateu running current	Cooling	А	5.3	6.9	9.5	
	Recommended circuit brea	aker	А	20	25	30	
Wiring connections	Power supply cable (include	ed earth, H07RN-F)	mm ² x cores		4.0 x 3 C		

PRODUCT SPECIFICATION

Product specification (indoor unit)

Technical specification			Unit	HN091MR NK5
Operation range	Heating			15 ~ 65
	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾
(leaving water)	DHW			15 ~ 80 ²⁾
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80
Water pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20
Expansion vessel	Volume		l	8
Safety valve	Pressure limit	Upper limit	bar	3
	Туре		-	Sheath
Backup heater	Number of heating coil		EA	2
	Capacity combination		kW	3.0 + 3.0
	Heating steps		Step	2
	Power supply		V, Ø, Hz	220-240, 1, 50
	Rated running current		А	25.0
	Power supply cable (included earth,	H07RN-F)	mm² x cores	4.0 x 3 C
		Inlet	inch	Male PT 1" according to ISO 7-1
	Water circuit	inter	IIICII	(tapered pipe threads)
Piping connections	vvater circuit	Outlet	inch	Male PT 1" according to ISO 7-1
Piping connections		Outlet	IIICII	(tapered pipe threads)
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 15.88 (5/8)
		Liquid (outside diameter)	mm (inch)	Ø 9.52 (3/8)
Wiring connections	Power and communication cable (i	ncluded earth, H07RN-F)	mm ² x cores	0.75 x 4 C
Sound power level	Heating	Rated	dB(A)	44
Dimensions	Unit	W×H×D	mm	490 × 850 × 315
Weight	Unit		kg	38.1
Exterior	Color / RAL code		-	Noble white / RAL 9016

1) When a fan coil unit is not used.

2) DHW 55 ~ 80°C operating is available only when the booster heater is operating.

Due to our policy of innovation, some specifications may be changed without notification.

Due to our policy of innovation, some specifications may be changed without notification.
 Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.
 Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
 Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.
 Therefore, these values can be increased owing to ambient conditions during operation.
 Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
 Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
 Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
 This product contains fluorinated greenhouse gases.
 All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU051MR U44 + HN091MR NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				ty (kW)				
-25°C DB	4.02	3.90	3.78	3.66	-	-	-	-
-20°C DB	4.64	4.51	4.38	4.26	4.13	-	-	-
-15°C DB	5.26	5.12	4.99	4.85	4.72	4.58	-	-
-7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
-4°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
-2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
15°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
18°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50

HU071MR U44 + HN091MR NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C			
temperature	Capacity (kW)										
-25°C DB	5.00	4.85	4.71	4.56	-	-	-	-			
-20°C DB	5.58	5.43	5.27	5.11	4.95	-	-	-			
-15°C DB	6.17	6.00	5.83	5.66	5.49	5.32	-	-			
-7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-			
-4°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-			
-2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	-			
2°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
7°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
15°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
18°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00			

HU091MR U44 + HN091MR NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				y (kW)				
-25°C DB	6.40	6.20	6.00	5.80	-	-	-	-
-20°C DB	7.23	7.00	6.77	6.54	6.31	-	-	-
-15°C DB	8.06	7.80	7.54	7.28	7.02	6.76	-	-
-7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-4°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
15°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
18°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU051MR U44 + HN091MR NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	6.42	6.95	7.49	7.85	8.39	8.75	9.11
20°C DB	6.05	6.37	6.70	6.91	7.23	7.45	7.66
30°C DB	5.68	5.79	5.90	5.97	6.08	6.15	6.22
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40°C DB	5.32	5.34	5.35	5.37	5.38	5.40	5.41
45°C DB	5.13	5.17	5.21	5.23	5.27	5.29	5.32

HU071MR U44 + HN091MR NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	8.17	8.85	9.54	9.99	10.68	11.13	11.59
20°C DB	7.70	8.11	8.52	8.80	9.21	9.48	9.75
30°C DB	7.23	7.37	7.51	7.60	7.74	7.83	7.92
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	6.77	6.79	6.81	6.83	6.85	6.87	6.88
45°C DB	6.53	6.58	6.63	6.66	6.70	6.74	6.77

HU091MR U44 + HN091MR NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	10.50	11.38	12.26	12.85	13.73	14.31	14.90
20°C DB	9.90	10.43	10.96	11.31	11.84	12.19	12.54
30°C DB	9.30	9.48	9.65	9.77	9.95	10.06	10.18
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
40°C DB	8.70	8.73	8.76	8.78	8.81	8.83	8.85
45°C DB	8.40	8.46	8.52	8.56	8.62	8.66	8.70

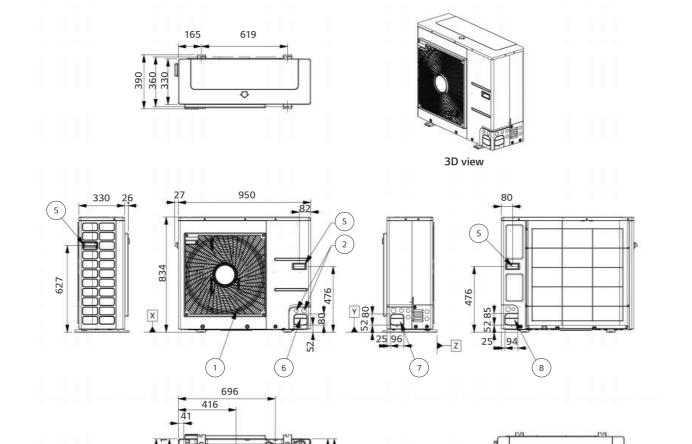
- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

Drawings

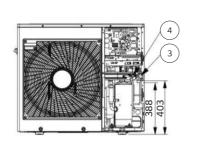
		Model name					
Category	Unit	Capacity (kW)					
		5.5	7.0	9.0			
1 Phase model	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN091MR NK5					

HU051MR U44 / HU071MR U44 / HU091MR U44

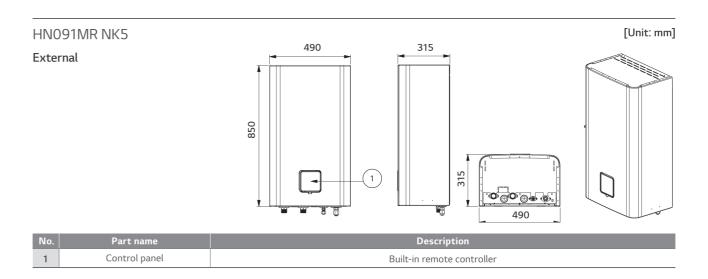
[Unit: mm]



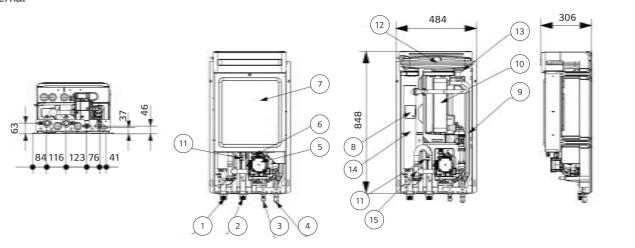
No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-



PRODUCT SPECIFICATION



Internal



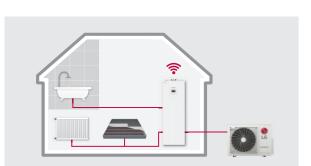
No.	Part name	Description
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
2	Entering water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)
3	Refrigerant pipe (liquid)	Ø 9.52 (mm)
4	Refrigerant pipe (gas)	Ø 15.88 (mm)
5	Water pump	To circulate water inside the system
6	Safety valve	Open at water pressure 3 bar
7	Control box	PCB and terminal blocks
8	Thermal switch	Cut-off power input to electric heater at 90°C
9	Flow sensor	To measure the water flow rate (5-80 LPM)
10	Plate heat exchanger	Heat exchange between refrigerant and water
11	Pressure sensor	To measure the water pressure (0-2 MPa)
12	Expansion tank	Absorbing volume change of heated water
13	Air vent	Air purging when charging water
14	Backup heater	6 kW
15	Strainer	Filtering and stacking particles inside circulating water



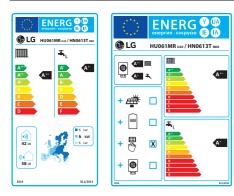
THERMA V_m (R32) R32 SPLIT 4/6 kW IWT







Energy Label



- * 16 kW 3 Ø model.

Excellent performance & efficiency







User convenience























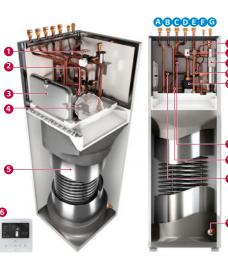
* Detailed description for each function is presented on page 44 ~ 54.

R32 Split IWT Introduction

LG Therma V Split IWT with an integrated indoor hot water tank – a domestic hot water supply, space heating and cooling solution - has reached a new era of innovation. A stainless steel water tank reduces the risk of corrosion, while an internal coil type heat exchanger contributes to higher efficiency. Compact and lightweight components allow quicker and easier installation, with various advanced control options providing for user convenience.

The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 4/6 kW model is suitable for new build houses that are well insulated and require a small heating load.

Key Components



Components

- 1 Plate heat exchanger (ref. / water)
- 3 Expansion tank for heating (8 ℓ) 4 Reserved space for DHW expansion tank
- with internal coil type heat exchanger
- 6 Standard III remote controller (attached on front panel)
- Air vent valve
- 8 3 Way diverting valve (DC)
 - Electric back-up heater (3 kW)
 - Water flow sensor
 - Main water pump with air vent and safety valve (water circuit, 3 bar)
 - Water pressure sensor
 - 13 Drain valve for water circuit
 - 14 Safety valve (DHW tank, 10 bar) 15 Drain valve for DHW tank

Connections

- A DHW recirculation pipe (female G1" *)
- B Domestic hot water outlet pipe (female G1" *) Opmostic cold water inlet pipe (female G1" *)
- D Heating circuit inlet pipe (female G1" *)
- F Refrigerant liquid pipe (SAE 1/4" with connector **)
- **G** Refrigerant gas pipe (SAE 1/2" with connector **)
- * According to ISO 228-1 (parallel pipe threads)
 ** In case of Split 4/6 kW model, the adaptors provided
- with the outdoor unit must be separately installed on the gas/liquid connection of the indoor unit when connecting the refrigerant pipe. After installing the adaptors, the liquid and gas connection size becomes Ø 6.35 (1/4 inch) and Ø 12.7 (1/2 inch) respectively.

All-in-One Solution: Integrated Water Tank Type

Therma V R32 Split IWT is the perfect spacesaving solution for residential application thanks to its fully integrated hot water tank. Unlike in the case of typical separate installation, in this all-inone solution hydronic components and Domestic Hot Water (DHW) are pre-wired, which requires reduced installation time and saves valuable living space. Therma V R32 Split IWT is easy to set up and operate while it demonstrates outstanding reliability and efficiency.





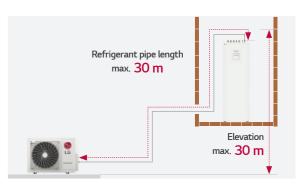
LG Therma V R32 Split IWT (less installation space required)

Small Refrigerant Amount - free from minimum floor area requirements due to R32 refrigerant

Minimum floor space requirements do not apply to R32 Split 4/6 kW, as the maximum refrigerant amount (including 30 m pipes) used in the product is smaller than the minimum set by regulation. As a result, there are more opportunities for flexible design and installation





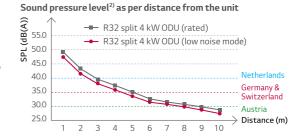


Reduced Noise Level

The R32 Split outdoor unit can be installed at the minimum of 4.5 m away¹⁾ from neighboring houses while complying with noise-related requirements in most European countries, including Germany. (based on 4 kW ODU & low noise mode)

Description		Germany	Austria	Switzerland	Netherlands
C	Day time	50 dB (A) (06:00 ~ 22:00)	40 dB (A) (06:00 ~ 19:00)	40 dB (A) (07:00 ~ 19:00)	45 dB (A) (07:00 ~ 19:00)
Sound pressure threshold	Evening	-	35 dB (A) (19:00 ~ 22:00)	-	-
cinesilota	Night time	35 dB (A) (22:00 ~ 06:00)	30 dB (A) (22:00 ~ 06:00)	35 dB (A) (19:00 ~ 07:00)	40 dB (A) (19:00 ~ 07:00)





- 1) Minimum distance to be away from a neighboring property may vary depending on installation conditions and noise regulations in individual countries
- 2) Sound pressure level is converted from sound power level of low noise mode based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2.

THERMA V_{III} SPLIT 4/6 kW IWT

R32 Split 4/6 kW IWT







Indoor unit HN0613T NK0 **Outdoor unit** HU041MR U20 HU061MR U20















Features

- Answers the needs of new build houses with good insulation
 Innovative design & technology and a small heating demand
- Demonstrates a lower noise level (sound pressure level at 3 m: 39 dB (A) for 4 kW / 40 dB (A) for 6 kW)

All-in-one integration

- Quick and easy installation
- DHW tank and hydronic component integration
- Integrated 3 kW backup heater and expansion tank for heating (8 ℓ)

Enhanced installation flexibility

- Free from minimum floor area requirements due to R32
- (max. refrigerant amount (including 30 m pipes) < 1.842 kg)
- Light weight and compact size
- Max. 30 m refrigerant piping

High efficiency & operational range

- SCOP up to 4.65 / 3.23 (low temp. / mid temp. application): A*** / A**
- Water heating efficiency 133 % (4,6 kW, profile L): A*
- COP up to 5.10 (outdoor air 7°C / leaving water 35°C)
- Operation range (ambient: -20 ~ 35°C / water side: 15 ~ 55°C)

- Duplex stainless steel water tank (200 ℓ)
- Durable stainless steel: no need to install an anode and replace it on a regular basis in the case of a magnesium anode, or no electricity consumption in the case of an impressed current anode.

0000011

-22



- Internal coil type heat exchanger
- Built-in water flow and pressure sensors to monitor the water circuit in real time
- PWM-pump with option to control by ΔT
- Energy monitoring of estimated power consumption

Control & connectivity

- LG ThinQ Wi-Fi control and monitoring solution
- PV / ESS or smart grid connectivity
- · Modbus connectivity without a gateway
- Schedule-based control logic for DHW recirculation pump
- Enhanced 2nd circuit control logic

Model line-up

		Model	name	
Category	Unit	Capacity (kW)		
		4.0	6.0	
1 Phase model	Outdoor unit	HU041MR U20	HU061MR U20	
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN0613T NK0		

Seasonal energy

Description -			Outdoor unit	HU041MR U20	HU061MR U20
Description .		Indoor unit	unit HN0613T NK0		
	Average	SCOP	-	4.65	4.65
Space	climate water	Seasonal space heating efficiency (ηs)	%	183	183
heating	outlet 35°C	Seasonal space Heating eff. class	-	A+++	A+++
(according	Average	SCOP	-	3.23	3.23
to EN14825)	climate water	Seasonal space heating efficiency (ηs)	%	126	126
	outlet 55°C	Seasonal space heating eff. class	-	A++	A++
	Average climate	Declared load profile	-	L	L
		Water heating efficiency (ŊwH)	%	133	133
		COP _{DHW}	-	3.15	3.15
		Water heating eff. class	-	A+	A+
Domestic		Declared load profile	-	L	L
hot water efficiency	Warmer	Water heating efficiency (ŊwH)	%	160	160
(according	climate	COP _{DHW}	-	3.69	3.69
to EN16147)		Water heating eff. class	-	A++	A++
		Declared load profile	-	L	L
	Colder	Water heating efficiency (η _{WH})	%	110	110
	climate	COP _{DHW}	-	2.54	2.54
		Water heating eff. class	-	А	А

PRODUCT SPECIFICATION

Nominal capacity and nominal power input

Technical specification		OAT1)	OAT ¹⁾ LWT ²⁾		HU041MR U20	HU061MR U20
		UAI '	LWI	Indoor unit	N0613	T NKO
		7°C	35°C	kW	4.00	6.00
	Heating	7°C	55°C	kW	3.70	4.60
Naminal associtus	Heating	2°C	35°C	kW	3.60	4.80
Nominal capacity		-7°C	35°C	kW	4.00	6.00
	Cooling	35°C	18°C	kW	4.00	6.00
	Cooling	35°C	7°C	kW	4.00	6.00
	Heating	7°C	35°C	kW	0.78	1.21
		7°C	55°C	kW	1.30	1.59
Nominal power input		2°C	35°C	kW	0.96	1.32
Moninal power input		-7°C	35°C	kW	1.30	2.01
	Cooling	35°C	18°C	kW	0.83	1.25
		35°C	7°C	kW	1.18	1.88
		7°C	35°C	W/W	5.10	4.95
COD	Heating	7°C	55°C	W/W	2.85	2.90
COP	Heating	2°C	35°C	W/W	3.75	3.65
		-7°C	35°C	W/W	3.08	2.98
EED	Cooling	35°C	18°C	W/W	4.80	4.80
EER	Cooling	35°C	7°C	W/W	3.40	3.20

¹⁾ OAT: Outdoor Air Temperature

^{*} Keymark, Eurovent and EHPA label under development

²⁾ LWT: Leaving Water Temperature



R32 Split 4/6 kW IWT

Product specification (outdoor unit)

Technical specification			Unit	HU041MR U20	HU061MR U20	
Operation range	Heating	Min. ~ Max.	°C DB	-20 ~ 35		
(outdoor temp.)	Cooling IVIII. ~ IVIAX.		CDB	5 ~ 48	3	
Compressor	Туре		-	Hermetic sealed	twin rotary	
	Туре		-	R32		
Refrigerant	GWP (Global Warmi	ng Potential)	-	675		
Refrigerant	Precharged amount		g	1,100)	
	t-CO ₂ eq		-	0.743	3	
	Outer diameter	Liquid	mm (inch)	Ø 6.35 (1/4)	
	Outer diameter	Gas	mm (inch)	Ø 12.7 (1/2)	
	Length	Standard	m	5		
Piping connections	Length	Max.	m	30		
	Level difference	Max.	m	30		
	Chargeless-pipe length		m	10		
	Additional charging	volume	g/m	20		
Rated water flow rate (at LWT	35°C)		ℓ/min	11.5	17.3	
Sound power level	Heating	Rated	dB(A)	57	58	
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	49	50	
Dimensions	Unit	WxHxD	mm	870 × 650	× 330	
Weight	Unit		kg	44.7		
Exterior	Color / RAL code		-	Warm gray / F	RAL 7044	
	Voltage, phase, freq	uency	V, Ø, Hz	220-240,	1, 50	
Power supply	Rated	Heating	А	3.5	5.6	
r ower supply	running current	Cooling	А	3.7	5.4	
	Recommended circu	iit breaker	А	16	20	
Wiring connections	Power supply cable (included earth, H07RN-F)	mm ² x cores	2.5 x 3	С	

Product specification (indoor unit)

Technical specificati	on		Unit	HN0613T NK0
Operation range	Heating			15 ~ 55
(Leaving water	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾
temperature)	DHW			15 ~ 80 ²⁾
	Volume		l	200
Domestic hot water tank	Material		-	Duplex stainless steel
	Internal thermal protect lin	nit	°C	85
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80
Water pressure sensor	Measuring range	Min. ~ Max.	bar (G)	0 ~ 20
Expansion vessel (heating circuit)	Volume		l	8
Safety valve	Heating circuit	Upper limit	bar	3
Sarety valve	DHW circuit	Upper limit	bar	10
	Refrigerant circuit	Liquid (outside diameter)	mm (inch)	Ø 6.35 (1/4) ³⁾
		Gas (outside diameter)	mm (inch)	Ø 12.7 (1/2) ³⁾
	Water circuit	Inlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
Piping connections	vvacer circuit	Outlet	inch	Terrate of according to 150220 T (paraticl pipe till caus)
	DHW tank water circuit	Cold inlet	inch	5 O4
		Hot outlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
		Recirculation	inch	
Sound power level	Heating	Rated	dB(A)	42
Dimensions	Unit	W×H×D	mm	600 × 1,750 × 660
Weight	Unit		kg	118
Exterior	Color / RAL code		-	Noble white / RAL 9016
Wiring connections	Power and communication of	cable (included earth, H07RN-F)	mm ² x cores	0.75 x 4 C
	Туре		-	Sheath
	No. of heating coil		EA	2
	Capacity combination		kW	3
Electric heater	Heating step		Step	1
	Power supply		V, Ø, Hz	220-240, 1, 50
	Wiring connections power sup	ply cable (included earth, H07RN-F)	mm² x cores	2.5 x 3 C
	Rated current		А	13

- When a fan coil unit is not used.
 DHW 50 80°C operating is available only when the booster heater is operating.
 When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor unit.

- Note
 1. Due to our policy of innovation, some specifications may be changed without notification.
 2. Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.
 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
 Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.
 Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 Rated running current: outdoor Temp. 7°C DB / 6°C VM J.LWT 35°C
 Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).



Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU041MR U20 + HN0613T NK0

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C			
temperature		Capacity (kW)							
-20°C DB	4.00	4.00	4.00	4.00	-	-			
-15°C DB	4.00	4.00	4.00	4.00	4.00	-			
-7°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
-4°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
-2°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
2°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
7°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
10°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
15°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
18°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
20°C DB	4.00	4.00	4.00	4.00	4.00	4.00			
35°C DB	4.00	4.00	4.00	4.00	4.00	4.00			

HU061MR U20 + HN0613T NK0

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C			
temperature		Capacity (kW)							
-20°C DB	4.92	4.78	4.64	4.50	-	-			
-15°C DB	5.56	5.52	5.48	5.44	5.40	-			
-7°C DB	6.00	6.00	6.00	6.00	6.00	6.00			
-4°C DB	6.00	6.00	6.00	6.00	6.00	6.00			
-2°C DB	6.00	6.00	6.00	6.00	6.00	6.00			
2°C DB	6.00	6.00	6.00	6.00	6.00	6.00			
7°C DB	6.00	6.00	6.00	6.00	6.00	6.00			
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00			
15°C DB	6.00	6.00	6.00	6.00	6.00	6.00			
18°C DB	6.00	6.00	6.00	6.00	6.00	6.00			
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00			
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00			

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)

- 2. Direct interpolation is permissible. Do not extrapolate.

 3. Measuring procedure follows EN-14511.

 Rated values are based on standard conditions and and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU041MR U20 + HN0613T NK0

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature	temperature Capacity (kW)						
10°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00
20°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00
30°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00
35°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00
40°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00
45°C DB	4.00	4.00	4.00	4.00	4.00	4.00	4.00

HU061MR U20 + HN0613T NK0

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature	re Capacity (kW)						
10°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
20°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
30°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
35°C DB	6.00	6.00	6.00	6.00	6.00	6.00	6.00
40°C DB	5.74	5.81	5.87	5.91	6.00	6.00	6.00
45°C DB	5.48	5.61	5.73	5.81	5.94	6.00	6.00

- Note 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)

- 2. Direct interpolation is permissible. Do not extrapolate.

 3. Measuring procedure follows EN-14511.

 Rated values are based on standard conditions and and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

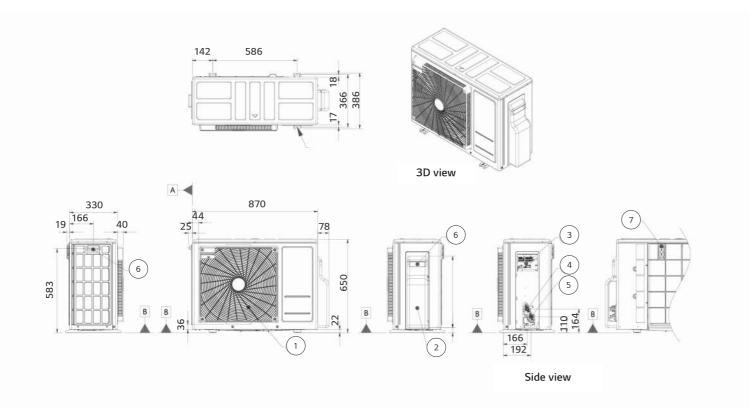
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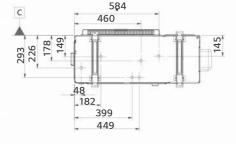
Drawings

Category	Unit	Model name Capacity (kW)				
		4.0	6.0			
1 Phase model	Outdoor unit	HU041MR U20	HU061MR U20			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN0613T NK0				

HU041MR U20 / HU061MR U20

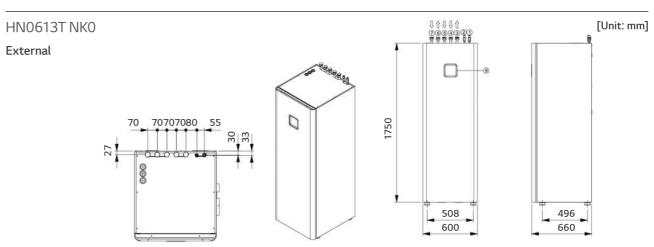
[Unit: mm]





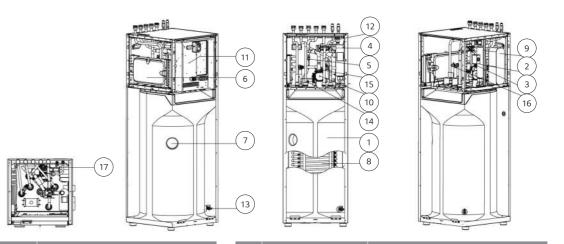
No.	Part name	Description
1	Air outlet	-
2	Control cover & SVC valve cover	-
3	Power and communication cable connection	-
4	Gas pipe connection	Flare joint
5	Liquid pipe connection	Flare joint
6	Handle	-
7	Intake air temperature sensor cover	-

PRODUCT SPECIFICATION



No.	Part name	Description			
1	Refrigerant gas pipe	SAE 1/2"1)			
2	2 Refrigerant liquid pipe SAE 1/4"1)				
3	Heating circuit outlet pipe				
4	Heating circuit inlet pipe				
5	Domestic cold water inlet pipe	Female G1" according to ISO228-1 (parallel pipe threads)			
6	Domestic cold water outlet pipe				
7					
8	3 Control panel Built-in remote controller				

1) When connecting the refrigerant pipe, the adaptors provided with the outdoor unit must be installed on the connection of the indoor units.



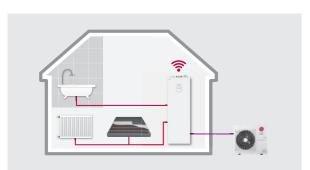
No.	Part name	Description			
1	DHW tank	Domestic hot water tank (200 ℓ)			
2	Heater	Electric heater (3 kW)			
3	Flow sensor	Flow metering sensor			
4	3 way valve	For DHW / heating			
5	Pressure sensor	Pressure sensor			
6	Expansion vessel	8 ℓ for Heating circuit			
7	DHW tank sensor	Temperature sensor			
8	Heat exchanger 1	Coil heat exchange (water / DHW)			
9	Heat exchanger 2	Plate heat exchange (ref. / Water)			

No.	Part name	Description		
10	Water pump	Main circulation pump		
11	Control box	PCB'A and terminal blocks		
12	Air vent	For air purging		
13	Drain cock 1	Valve for DHW tank drain		
14	Drain cock 2	Valve for water circuit drain		
15	Strainer	For water circuit		
16	Safety valve	For DHW (10 bar)		
17	Safety valve	For water circuit (3 bar)		

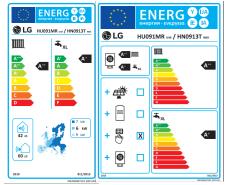
THERMA V_{TM} (R32) R32 SPLIT 5/7/9 kW IWT







Energy Label



- * 9 kW 1 Ø model

Excellent performance & efficiency









User convenience













Easy Installation & Maintenance









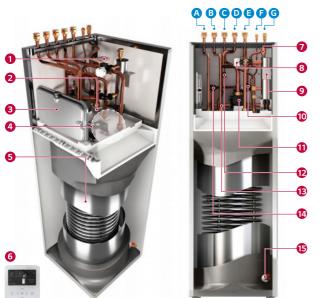
* Detailed description for each function is presented on page 44 \sim 54.

R32 Split IWT Introduction

LG Therma V Split IWT with an integrated indoor hot water tank – a domestic hot water supply, space heating and cooling solution - has reached a new era of innovation. A stainless steel water tank reduces the risk of corrosion, while an internal coil type heat exchanger contributes to higher efficiency. Compact and lightweight components allow quicker and easier installation, with various advanced control options providing for user convenience.

The outdoor unit is on offer in 4/6 kW and 5/7/9 kW capacity range and R32 Split 5/7/9 kW model is suitable for both new build and renovation projects.

Key Components



Components

- 1 Plate heat exchanger (ref. / water)
- 2 Strainer
- **3** Expansion tank for heating (8 ℓ)
- 4 Reserved space for DHW expansion tank
- **⑤** DHW storage tank (stainless steel, 200 ℓ) with internal
- coil type heat exchanger

 Standard III remote controller (attached on front panel)
- Air vent valve
- **8** 3 way diverting valve (DC)
- 9 Electric back-up heater (3 kW)
- 10 Water flow sensor
- 1 Main water pump with air vent and safety valve (water circuit, 3 bar)
- Water pressure sensor
- 13 Drain valve for water circuit
- Safety valve (DHW tank, 10 bar) 15 Drain valve for DHW tank

Connections

- A DHW recirculation pipe (female G1" *)
- Domestic hot water outlet pipe (female G1" *)
- O Domestic cold water inlet pipe (female G1" *)
- D Heating circuit inlet pipe (female G1" *) • Heating circuit outlet pipe (female G1" *)
- Refrigerant liquid pipe (SAE 3/8")
- **G** Refrigerant gas pipe (SAE 5/8")

All-in-One Solution: Integrated Water Tank Type

Therma V R32 Split IWT is the perfect spacesaving solution for residential application thanks to its fully integrated hot water tank. Unlike in the case of typical separate installation, in this all-inone solution hydronic components and Domestic Hot Water (DHW) are pre-wired, which requires reduced installation time and saves valuable living space. Therma V R32 Split IWT is easy to set up and operate while it demonstrates outstanding reliability and efficiency.

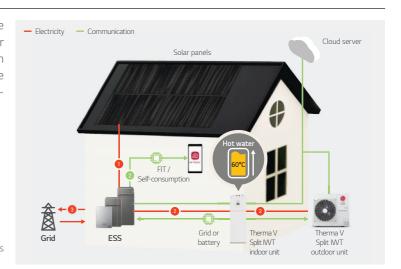




LG Therma V R32 Split IWT (less installation space required)

Energy States Interlock

Therma V R32 Split IWT provides an energy state interlock function enabling customers to use their own renewable energy as much as possible. It can shift set points depending on input signal from the Energy Storage System (ESS) or any other thirdparty device using Modbus or Digital 230 V inputs.



- 1) Energy is generated from solar panels and sent to your
- 2) Once the battery is fully charged, the surplus energy from the ESS will heat the water tank. The user gets to monitor the status with the LG ThinQ app.
- 3) Once the water is heated, the user can choose to sell surplus energy to the grid.

Easy Draining System

It is convenient for maintenance or moving as the water inside can be easily drained through the built-in drain valve.





DHW Recirculation Pump Control

Therma V can be connected to the DHW recirculation pump, which can then be managed via the scheduling function. When a user opens the faucet, hot water is immediately accessible thanks to the DHW recirculating function. This feature also has the added advantage of preventing Legionella growth in the hot water pipe.



* According to ISO 228-1 (parallel pipe threads)

THERMA V_{TM} (R32) SPLIT 5/7/9 kW IWT

R32 Split IWT (Integrated Water Tank)







Indoor unit

HN0913T NK0

Outdoor unit

HU051MR U44 HU071MR U44 HU091MR U44











Austria and













Features

All-in-one integration

- Quick and easy installation
- DHW tank and hydronic component integration
- Integrated 3 kW backup heater and expansion tank for heating (8 ℓ)

Enhanced installation flexibility

- Refrigerant pipes connect IDU & ODU
- · Light weight and compact size indoor unit
- Max. 50 m refrigerant piping and 3-way piping connection availability

High efficiency & wide operational range

- R32 Refrigerant with low GWP
- SCOP up to 4.65 / 3.23 (low temp. / mid temp. application): A*** / A**
- Water heating efficiency 133 % (5,7 kW, profile L) / 140 % (9 kW, profile XL): A*
- COP up to 4.90 (outdoor air 7°C / leaving water 35°C)
- Operation range (ambient: $-25 \sim 35^{\circ}$ C / water side: $15 \sim 65^{\circ}$ C)

Innovative design & technology

- Duplex stainless steel water tank (200 ℓ)
- Durable stainless steel: no need to install an anode and replace it on a regular basis in the case of a magnesium anode, or no electricity consumption in the case of an impressed current anode.



- Internal coil type heat exchanger
- Built-in water flow and pressure sensors to monitor the water circuit in real time
- \bullet PWM-pump with option to control by ΔT
- Energy monitoring of estimated power consumption

Control & connectivity

- LG ThinQ Wi-Fi control and monitoring solution
- PV / ESS or smart grid connectivity
- · Modbus connectivity without a gateway
- Schedule-based control logic for DHW recirculation pump
- Enhanced 2nd circuit control logic

Model line-up

			Model name				
Category	Unit	Capacity (kW)					
		5.0	7.0	9.0			
1 Phase model	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN0913T NK0					

PRODUCT SPECIFICATION

Seasonal energy

Deseriation	Description –		Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
Description			Indoor unit	HN0913T NK0		
Space	Average	SCOP	-	4.65	4.65	4.65
	climate water	Seasonal space heating efficiency (ηs)	%	183	183	183
heating	outlet 35°C	Seasonal space heating eff. Class	-	A+++	A+++	A+++
(according	Average	SCOP	-	3.23	3.23	3.23
to EN14825)	Climate water	Seasonal space heating efficiency (ηs)	%	126	126	126
	outlet 55°C	Seasonal space heating eff. class	-	A++	A++	A++
	Average climate	Declared load profile	-	L	L	XL
		Water heating efficiency (η _{WH})	%	133	133	140
		COP _{DHW}	-	3.15	3.15	3.40
		Water heating eff. class	-	A+	A+	A+
Domestic	Warmer	Declared load profile	-	L	L	XL
hot water efficiency		Water heating efficiency (η _{WH})	%	160	160	170
(according	climate	COP _{DHW}	-	3.69	3.69	4.10
to EN16147)		Water heating eff. class	-	A++	A++	A++
		Declared load profile	-	L	L	XL
	Colder	Water heating efficiency (η _{WH})	%	110	110	115
	climate	COP _{DHW}	-	2.54	2.54	2.65
		Water heating eff. class	-	А	А	А

Nominal capacity and nominal power input

Description		OAT1) (DD)	LVA/T ²) /DD\	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44
		UAI " (DB)	LWT ²⁾ (DB)	Indoor unit	HN0913T NK0		
		7°C	35°C		5.50	7.00	9.00
	Heating	7°C	55°C		5.50	5.50	5.50
Nominal capacity		2°C	35°C	kW	3.30	4.20	5.40
	Cl:	35°C	18°C		5.50	7.00	9.00
	Cooling	35°C	7°C		5.50	7.00	9.00
	Heating	7°C	35°C	kW	1.12	1.43	1.94
		7°C	55°C		2.04	2.04	2.04
Nominal power input		2°C	35°C		0.94	1.20	1.54
power input	Cooling	35°C	18°C		1.20	1.56	2.14
		35°C	7°C		1.96	2.59	3.46
		7°C	35°C		4.90	4.90	4.65
COP	Heating	7°C	55°C	W/W	2.70	2.70	2.70
		2°C	35°C		3.52	3.51	3.50
FED	Caaliaa	35°C	18°C	10//10/	4.60	4.50	4.20
EER	Cooling	35°C	7°C	W/W	2.80	2.70	2.60

¹⁾ OAT: Outdoor Air Temperature

²⁾ LWT: Leaving Water Temperature

R32 Split 5/7/9 kW IWT (Integrated Water Tank)

Product specification (outdoor unit)

Technical specification			Unit	HU051MR U44	HU071MR U44	HU091MR U44	
Operation range	Heating	Min. ~ Max.	°C DB		-25 ~ 35		
(outdoor temp.)	Cooling	IVIIII. ~ IVIAX.	CDB		5 ~ 48		
Compressor	Type		-		Hermetic sealed scroll		
	Туре		-		R32		
Refrigerant	GWP (Global Warmi	ng Potential)	-		675		
Reingerant	Precharged amount g 1,500	1,500					
	t-CO ₂ eq		-		1.013		
	Outer diameter	Liquid	mm (inch)		Ø 9.52 (3/8)		
	Outer diameter	Gas	mm (inch)	Ø 15.88 (5/8)			
	Length	Standard	m	5			
Piping connections	Lengui	Max.	m	50			
	Level difference	Max.	m	30			
	Chargeless-pipe length		m	10			
	Additional charging volume		g/m	40			
Rated water flow rate (at LWT	35°C)		ℓ/min	15.8	20.1	25.9	
Sound power level	Heating	Rated	dB(A)	60			
Sound pressure level (at 1 m)	Heating	Rated	dB(A)		52		
Dimensions	Unit	WxHxD	mm		950 × 834 × 330		
Weight	Unit		kg	60.0			
Exterior	Color / RAL code		-		Warm gray / RAL 7044		
	Voltage, phase, frequency	uency	V, Ø, Hz		220-240, 1, 50		
Power supply	Rated	Heating	А	5.0	6.3	8.6	
rower supply	running current	Cooling	А	5.3	6.9	9.5	
	Recommended circu	it breaker	А	20	25	30	
Wiring connections	Power supply cable (included earth, H07RN-F)	mm ² x cores		4.0 x 3 C		

Product specification (indoor unit)

Technical specificati	on		Unit	HN0913T NK0
Operation range	Heating			15 ~ 65
(leaving water	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (16 ~ 27) ¹⁾
temperature)	DHW			15 ~ 80 ²⁾
	Volume		l	200
Domestic hot water tank	Material		-	Duplex stainless steel
	Internal thermal protect lin	nit	°C	85
Flow sensor	Measuring range	Min. ~ Max.	LPM	5 ~ 80
Water pressure sensor	Measuring range	Min. ~ Max.	bar (G)	0 ~ 20
Expansion vessel (heating circuit) Volume		l	8	
Safety valve	Heating circuit	Upper limit	bar	3
	DHW circuit	Upper limit	bar	10
	D-f-i	Liquid (outside diameter)	mm (inch)	Ø 9.52 (3/8)
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 15.88 (5/8)
Piping connections	Water circuit	Inlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
r iping connections	Tracer en eare	Outlet Cold inlet	inch	remailed a decorating to local a reparation pripe an educacy
	DHW tank water circuit	Hot outlet	inch	Female G1" according to ISO228-1 (parallel pipe threads)
		Recirculation	inch	
Sound power level	Heating	Rated	dB(A)	42
Dimensions	Unit	W×H×D	mm	600 × 1,750 × 660
Weight	Unit		kg	118
Exterior	Color / RAL code		-	White / RAL 9016
Wiring connections	Power and communication of	cable (included earth, H07RN-F)	mm² x cores	0.75 x 4 C
	Туре		-	Sheath
	No. of heating coil		EA	2
	Capacity combination		kW	3
Electric heater	Heating step		Step	1
	Power supply		V, Ø, Hz	220-240, 1, 50
	Wiring connections power sup	ply cable (included earth, H07RN-F)	mm² x cores	2.5 x 3 C
	Rated current		A	13.0

- 1) When a fan coil unit is not used.
 2) DHW 55 80°C operating is available only when the electric heater is operating.

- Note
 1. Due to our policy of innovation, some specifications may be changed without notification.
 2. Wiring cable size must comply with the applicable local and national codes.
 Especially the power cable and circuit breaker should be selected in accordance with that.
 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
 Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.
 Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
 Rated running current: Outdoor Temp. 7°C DB / 6°C/WB, LWT 35°C
 Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).



Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU051MR U44 + HN0913T NK0

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capaci	ty (kW)			
-25°C DB	4.02	3.90	3.78	3.66	-	-	-	-
-20°C DB	4.64	4.51	4.38	4.26	4.13	-	-	-
-15°C DB	5.26	5.12	4.99	4.85	4.72	4.58	-	-
-7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
-4°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
-2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	-
2°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
7°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
15°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
18°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50

HU071MR U44 + HN0913T NK0

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature	emperature Capacity (kW)							
-25°C DB	6.40	6.20	6.00	5.80	-	-	-	-
-20°C DB	7.23	7.00	6.77	6.54	6.31	-	-	-
-15°C DB	8.06	7.80	7.54	7.28	7.02	7.10	-	-
-7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	8.60	-
-4°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
15°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
18°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	7.95

HU091MR U44 + HN0913T NK0

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C
temperature				Capacit	ty (kW)			
-25°C DB	6.40	6.20	6.00	5.80	-	-	-	-
-20°C DB	7.23	7.00	6.77	6.54	6.31	-	-	-
-15°C DB	8.06	7.80	7.54	7.28	7.02	7.10	-	-
-7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	8.60	-
-4°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
-2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	-
2°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
7°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
15°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
18°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00	7.95

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU051MR U44 + HN0913T NK0

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
20°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
30°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
35°C DB	5.50	5.50	5.50	5.50	5.50	5.50	5.50
40°C DB	5.32	5.34	5.35	5.37	5.38	5.40	5.41
45°C DB	5.13	5.17	5.21	5.23	5.27	5.29	5.32

HU071MR U44 + HN0913T NK0

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
20°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
30°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
35°C DB	7.00	7.00	7.00	7.00	7.00	7.00	7.00
40°C DB	6.50	6.63	6.81	7.00	7.00	7.00	7.00
45°C DB	6.43	6.48	6.63	6.66	6.70	6.74	6.77

HU091MR U44 + HN0913T NK0

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
10°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
20°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
30°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
35°C DB	9.00	9.00	9.00	9.00	9.00	9.00	9.00
40°C DB	8.10	8.10	8.70	9.00	9.00	9.00	9.00
45°C DB	7.50	7.70	7.80	7.90	8.00	8.10	8.20

- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C) 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- · Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
- The rating might slightly vary depending on test standards or countries.
- 4. The shaded areas are not guaranteed continuous operation.

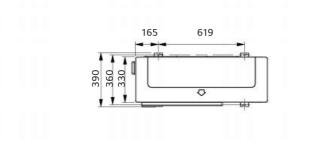
THERMA V_{TM} (R32) SPLIT 5/7/9 kW IWT

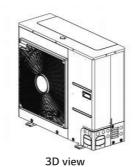
Drawings

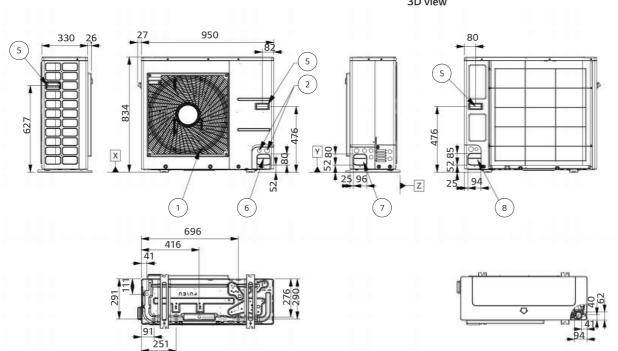
		Model name				
Category	Unit					
		5.0	7.0	9.0		
1 Phase model	Outdoor unit	HU051MR U44	HU071MR U44	HU091MR U44		
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN0913T NK0			

HU051MR U44 / HU071MR U44 / HU091MR U44

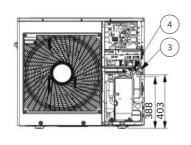
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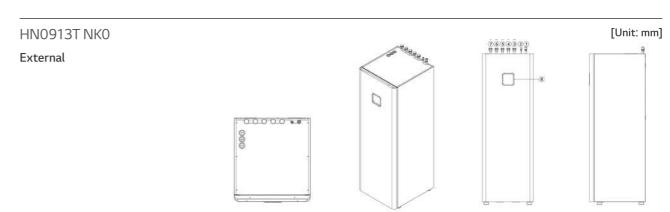




No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-

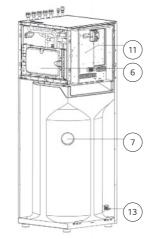


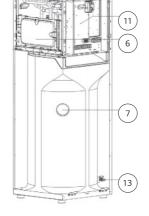
PRODUCT SPECIFICATION



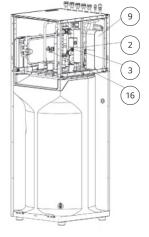
No.	Part name	Description
1	Refrigerant gas pipe	SAE 5/8"
2	Refrigerant liquid pipe	SAE 3/8"
3	Heating circuit outlet pipe	
4	Heating circuit inlet pipe	
5	Domestic cold water inlet pipe	Female G1" according to ISO228-1 (parallel pipe threads)
6	Domestic cold water outlet pipe	
7	DHW re-circulation pipe	
8	Control panel	Built-in remote controller

Internal





9999998	12	
TIE PERSON	(4)	
	15	
	(10)	1
0	1	
(11)	8	
		9



No.	Part name	Description
1	DHW tank	Domestic hot water tank (200 ℓ)
2	Heater	Electric heater (3 kW)
3	Flow sensor	Flow metering sensor
4	3 way valve	For DHW / heating
5	Pressure sensor	Pressure sensor
6	Expansion vessel	8 ℓ for heating circuit
7	DHW tank sensor	Temperature sensor
8	Heat exchanger 1	Coil heat exchange (water / DHW)
9	Heat exchanger 2	Plate heat exchange (ref. / water)

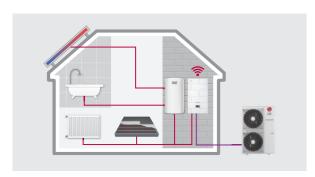
No.	Part name	Description
10	Water pump	Main circulation pump
11	Control box	PCB'A and terminal blocks
12	Air vent	For air purging
13	Drain cock 1	Valve for DHW tank drain
14	Drain cock 2	Valve for water circuit drain
15	Strainer	For water circuit
16	Safety valve	For DHW (10 bar)
17	Safety valve	For water circuit (3 bar)



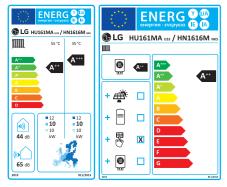








Energy Label



- * 16 kW 1 Ø model.

Excellent performance & efficiency







User convenience













Easy installation & maintenance



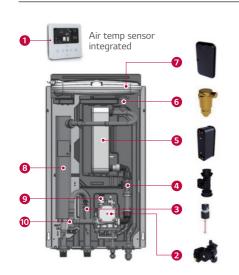


piping design connection

R410A Split Hydro Box Introduction

The LG Therma V R410A Split Hydro Box is a hydro box type comprising a separate indoor and outdoor unit, which are connected by refrigerant piping. Hydronic components such as a plate heat exchanger, an expansion tank and a water pump are located within the indoor unit, making the unit capable of withstanding freezing outside ambient temperatures.

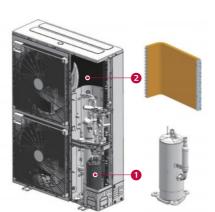
Key Components



- 1 Standard III remote controller (attached on the front panel)
- 2 Water pump
- 3 Water pressure sensor
- 4 Flow sensor
- 5 Plate type heat exchanger (ref./water)
- 6 Air vent valve
- **7** Expansion vessel (8 ℓ)
- 8 Back up electric heater (6 kW)
- Safety valve
- 10 Strainer

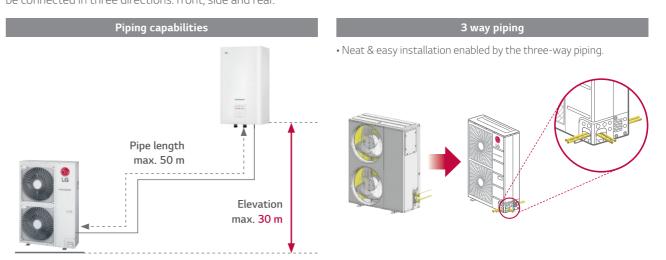
1 R1 Compressor

2 Gold Fin heat exchanger (ref/air)



Flexible Refrigerant Piping Design

Installation flexibility is enabled by Therma V Split's long pipe length (up to 50 m) and the fact that the refrigerant piping can be connected in three directions: front, side and rear.



^{*} Detailed description for each function is presented on page 44 ~ 54.

THERMA V. (R410A) SPLIT HYDRO BOX

R410A Split Hydro Box







Indoor unit

HN1616M NK5 HN1636M NK5

Outdoor unit

HU121MA U33 HU141MA U33 HU161MA U33 HU123MA U33 HU143MA U33 HU163MA U33





















Features

- Refrigerant pipes connect IDU & ODU
- SCOP up to 4.65 (average climate / low temp. application): SCOP up to 3.37 (average climate / mid temp. application):
- COP up to 4.55 (outdoor air 7°C / leaving water 35°C)
- 100% heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 15 ~ 57°C)
- Built-in water flow & pressure sensors to monitor real-time water circuit
- R1 Compressor
- Gold Fin heat exchanger
- LG ThinQ
- Keymark / MCS / Eurovent certification
- * EHPA label under development

Model line-up

		Model name					
Category	Unit	Capacity (kW)					
		12.0	14.0	16.0			
1 Phase model	Outdoor unit	HU121MA U33	HU141MA U33	HU161MA U33			
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN1616M NK5				
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Outdoor unit	HU123MA U33	HU143MA U33	HU163MA U33			
	Indoor unit		HN1636M NK5				

PRODUCT SPECIFICATION

Seasonal energy

			Outdoor unit	HU121MA U33 (1 Ø)	HU141MA U33 (1 Ø)	HU161MA U33 (1 Ø)
Danamintian	Description			HU123MA U33 (3 Ø)	HU143MA U33 (3 Ø)	HU163MA U33 (3 Ø)
Description	Description		Indoor unit		HN1616M NK5 (1 Ø)	
		IIIuuui uiiit	HN1636M NK5 (3 Ø)			
	Average	SCOP	-	4.65	4.61	4.56
Space	climate water	Seasonal space heating efficiency (ηs)	%	183	182	179
heating	outlet 35°C	Seasonal space heating eff. class (A+++ to D scale)	-	A+++	A+++	A+++
(according	· Average	SCOP	-	3.36	3.37	3.32
to EN14825)	climate water	Seasonal space heating efficiency (ηs)	%	131	132	130
	outlet 55°C	Seasonal space heating eff. class (A+++ to D scale)	-	A++	A++	A++

Nominal capacity and nominal power input

				Outdoor	HU121MA U33 (1 Ø)	HU141MA U33 (1 Ø)	HU161MA U33 (1 Ø)		
Description		OAT ¹⁾ (DR)	LWT ²⁾ (DB)	unit	HU123MA U33 (3 Ø)	HU143MA U33 (3 Ø)	HU163MA U33 (3 Ø)		
Description		OAI (DB)		Indoor	HN1616M NK5 (1 Ø)				
			unit	HN1636M NK5 (3 Ø)					
Nominal capacity Coolin		7°C	35°C		12.00	14.00	16.00		
	Heating	7°C	55°C		11.00	11.50	12.00		
		2°C	35°C	kW	11.00	12.00	13.80		
	Caalina	35°C	18°C		10.40	12.00	13.00		
	Cooling	35°C	7°C		7.94	8.50	8.92		
		7°C	35°C	kW	2.64	3.17	3.76		
	Heating	7°C	55°C		4.31	4.51	4.71		
Nominal power input		2°C	35°C		3.04	3.32	3.83		
power input	Cooling	35°C	18°C		2.60	3.08	3.60		
	Cooling	35°C	7°C		2.66	3.02	2.53		
		7°C	35°C		4.55	4.41	4.26		
COP	Heating	7°C	55°C	W/W	2.55	2.55	2.55		
		2°C	35°C		3.62	3.61	3.60		
EER	Cooling	35°C	18°C	W/W	4.00	3.90	3.61		
CCK	Cooling	35°C	7°C	VV/VV	2.98	2.81	3.53		

¹⁾ OAT: Outdoor Air Temperature

²⁾ LWT: Leaving Water Temperature

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R410A Split Hydro Box

Product specification (outdoor unit)

Technical specific	cation		Unit	HU121MA U33	HU141MA U33	HU161MA U33	HU123MA U33	HU143MA U33	HU163MA U33	
Operation range	Heating	Min. ~ Max.	°C DB			-25	~ 35			
(outdoor temp.)	Cooling	IVIIII. ~ IVIAX.	CDB			5 ~	48			
Compressor	Quantity		EA			-				
Compressor	Туре		-			Hermetic s	ealed scroll			
	Туре		-			R41	I0A			
Refrigerant	GWP (Global War	rming Potential)	-			2,0	88			
Remgerant	Precharged amo	unt	g			2,5	00			
	t-CO ₂ eq		-			5.2	219			
	Outside	Gas	mm (inch)			Ø 15.8	8 (5/8)			
	diameter	Liquid	mm (inch)	Ø 9.52 (3/8)						
D	Length	Standard	m	7.5						
connections Level difference Chargeless-p	Length	Max.	m	50						
	Level difference	Max.	m			3	0			
	Chargeless-pipe	Chargeless-pipe length		7.5						
	Additional charg	ing volume	g/m	40						
Rated water flow	rate (at LWT 35°C	()	LPM	34.5	40.3	46.0	34.5	40.3	46.0	
Sound power level	Heating	Rated	dB(A)	63	64	65	63	64	65	
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	55	56	57	55	56	57	
Dimensions	Unit	WxHxD	mm			950 x 1,3	80 x 330			
Weight	Unit		kg		84.8			85.4		
Exterior	Color / RAL code	e	-			Warm gray	/ RAL 7044			
	Voltage, phase, f	frequency	V, Ø, Hz		220-240, 1, 50	0		380-415, 3, 50)	
Power supply	Rated running	Heating	А	11.5	13.8	16.3	6.6	8.0	9.4	
Tower supply	current	Cooling	А	11.3	13.4	15.7	6.5	7.7	9.0	
	Recommended c		А		40			20		
Wiring connections	117		mm ² x cores		6.0 x 3 C			2.5 x 5 C		

- 1. Due to our policy of innovation, some specifications may be changed without notification.
- 2. Wiring cable size must comply with the applicable local and national codes.
- Especially the power cable and circuit breaker should be selected in accordance with that. 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
- Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
- 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation
- \bullet Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
- Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
- 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

PRODUCT SPECIFICATION

Product specification (indoor unit)

Technical specification			Unit	HN1616M NK5	HN1636M NK5
	Heating			15 -	- 57
Operation range (leaving water)	Cooling	Min. ~ Max.	°C DB	5 ~ 27 (1	16 ~ 27) ¹⁾
(leaving water)	DHW			15 ~	802)
Flow sensor	Measuring range Min. ~ Max.		LPM	5 ~	80
Water pressure sensor	Measuring range Min. ~ Max.		bar(G)	0 ~	20
Expansion vessel	Volume		l	}	3
Safety valve	Pressure limit Upper limit		bar	3	3
	Туре		-	Sheath	Sheath
	Number of heating coil		EA	2	3
Backup heater	Capacity combination		kW	3.0 + 3.0	2.0 + 2.0 + 2.0
	Heating steps		Step	2	2
	Power supply	V, Ø, Hz	220-240, 1, 50	380-415, 3, 50	
	Rated running current	А	25.0	8.7	
	Power supply cable (included earth,	H07RN-F)	mm² x cores	4.0 x 3 C	2.5 x 4 C
	Water circuit	Inlet	inch		pe threads)
Piping connections	vvater circuit	Outlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
	Refrigerant circuit	Gas (outside diameter)	mm (inch)	Ø 15.8	8 (5/8)
	Kerrigerant Circuit	Liquid (outside diameter)	mm (inch)	Ø 9.52	2 (3/8)
Wiring connections	Power and communication cable (i	ncluded earth, H07RN-F)	mm ² x cores	0.75	x 4 C
Sound power level	Heating	Rated	dB(A)	4	4
Dimensions	Unit	W×H×D	mm	490 × 8!	50 × 315
Weight	Unit		kg	40.5	41.5
Exterior	Color / RAL code		-	Noble white	/ RAL 9016

1) When a fan coil unit is not used.

2) DHW 50 ~ 80°C Operating is available only when the booster heater is operating.

- 1. Due to our policy of innovation, some specifications may be changed without notification.
- 2. Wiring cable size must comply with the applicable local and national codes.
- Especially the power cable and circuit breaker should be selected in accordance with that.
- 3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
 Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation. Rated sound power level is in accordance with EN12102-1 under condition of EN14825.
- 4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation \bullet Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C
- Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.
- 5. This product contains fluorinated greenhouse gases.
 6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

THERMA V. (R410A) SPLIT HYDRO BOX

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU121MA U33 + HN1616M NK5 / HU123MA U33 + HN1636M NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C				
temperature		Capacity (kW)								
-20°C DB	11.25	10.95	10.22	9.85	-	-				
-15°C DB	12.00	11.32	10.90	10.32	-	-				
-7°C DB	12.00	11.66	11.45	11.16	11.13	-				
-4°C DB	12.00	12.00	12.00	12.00	12.00	11.24				
-2°C DB	12.00	12.00	12.00	12.00	12.00	11.98				
2°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
7°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
10°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
15°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
18°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
20°C DB	12.00	12.00	12.00	12.00	12.00	12.00				
35°C DB	12.00	12.00	12.00	12.00	12.00	12.00				

HU141MA U33 + HN1616M NK5 / HU143MA U33 + HN1636M NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C				
temperature		Capacity (kW)								
-20°C DB	11.25	11.17	10.79	10.32	-	-				
-15°C DB	12.11	11.98	11.54	10.90	-	-				
-7°C DB	13.06	12.99	12.77	12.27	12.42	-				
-4°C DB	14.00	14.00	14.00	13.64	13.09	11.67				
-2°C DB	14.00	14.00	14.00	14.00	14.00	12.67				
2°C DB	14.00	14.00	14.00	14.00	14.00	13.98				
7°C DB	14.00	14.00	14.00	14.00	14.00	14.00				
10°C DB	14.00	14.00	14.00	14.00	14.00	14.00				
15°C DB	14.00	14.00	14.00	14.00	14.00	14.00				
18°C DB	14.00	14.00	14.00	14.00	14.00	14.00				
20°C DB	14.00	14.00	14.00	14.00	14.00	14.00				
35°C DB	14.00	14.00	14.00	14.00	14.00	14.00				

HU161MA U33 + HN1616M NK5 / HU163MA U33 + HN1636M NK5

Outdoor	LWT 30°C	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C				
temperature		Capacity (kW)								
-20°C DB	12.27	12.01	11.48	10.86	-	-				
-15°C DB	13.11	12.90	12.62	12.30	-	-				
-7°C DB	13.73	13.70	13.46	13.16	12.42	-				
-4°C DB	14.36	14.50	14.30	14.01	13.40	12.50				
-2°C DB	15.20	14.80	14.50	14.25	14.00	13.50				
2°C DB	16.00	16.00	16.00	16.00	16.00	14.51				
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00				
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00				
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00				
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00				
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00				
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00				

1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)

- 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
 Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
 The rating might slightly vary depending on test standards or countries.
 The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

Performance Table for Cooling Operation

Maximum cooling capacity

HU121MA U33 + HN1616M NK5 / HU123MA U33 + HN1636M NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
20°C DB	7.60	8.55	9.51	10.33	11.19	11.98	-
30°C DB	8.62	9.05	9.78	10.67	10.90	11.37	-
35°C DB	7.94	8.66	9.33	10.10	10.40	10.75	11.16
40°C DB	7.56	8.02	8.81	9.36	9.54	9.89	10.28
45°C DB	6.38	7.08	7.79	8.44	9.14	9.44	9.78

HU141MA U33 + HN1616M NK5 / HU143MA U33 + HN1636M NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
20°C DB	8.13	9.87	10.97	11.92	12.91	13.82	-
30°C DB	9.24	10.44	11.29	12.31	12.58	13.12	-
35°C DB	8.50	9.99	10.76	11.65	12.00	12.40	12.88
40°C DB	8.10	9.25	10.17	10.80	11.01	11.42	11.86
45°C DB	7.17	8.17	8.99	9.73	10.55	10.89	11.23

HU161MA U33 + HN1616M NK5 / HU163MA U33 + HN1636M NK5

Outdoor	LWT 7°C	LWT 10°C	LWT 13°C	LWT 15°C	LWT 18°C	LWT 20°C	LWT 22°C
temperature				Capacity (kW)			
20°C DB	8.54	10.69	11.89	12.91	13.98	14.97	-
30°C DB	9.70	11.31	12.22	13.34	13.63	14.21	-
35°C DB	8.92	10.82	11.66	12.63	13.00	13.43	13.96
40°C DB	8.51	10.03	11.02	11.70	11.93	12.37	12.85
45°C DB	7.52	8.85	9.73	10.55	11.42	11.80	12.16
45°C DB	7.52	8.85	9.73	10.55	11.42	11.80	12.16

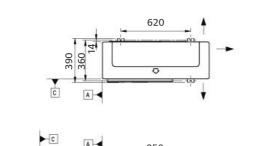
- 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)
- 2. Direct interpolation is permissible. Do not extrapolate.
- 3. Measuring procedure follows EN-14511.
- Rated values are based on standard conditions and can be found on specifications.
- Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.
 The rating might slightly vary depending on test standards or countries.
 The shaded areas are not guaranteed continuous operation.

PRODUCT SPECIFICATION

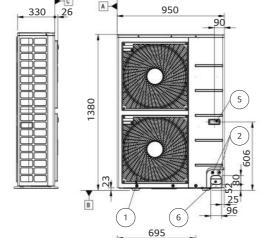
Drawings

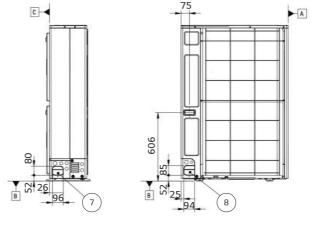
	Unit	Model name					
Category		Capacity (kW)					
		12.0	14.0	16.0			
1 Phase model	Outdoor unit	HU121MA U33	HU161MA U33				
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit		HN1616M NK5				
3 Phase model 380 ~ 415 V, 3 Ø, 50 Hz	Outdoor unit	HU123MA U33 HU143MA U33		HU163MA U33			
	Indoor unit		HN1636M NK5	·			

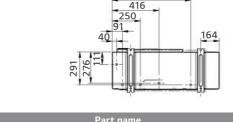
HU121MA U33 / HU141MA U33 / HU161MA U33 / HU123MA U33 / HU143MA U33 / HU163MA U33 [Unit: mm]



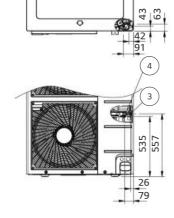








No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-



Piping connection port

HN1616M NK5 / HN1636M NK5 External 98 490 315 98 490 490 490 490

Built-in remote controller

Internal		12 484 306 10 9 9
	84 116 123 76 41	1 2 3 4 15

Control panel

No.	Part name	Description		
1	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)		
2	Entering water pipe Male PT 1" according to ISO 7-1 (tapered pipe threads)			
3	Refrigerant pipe (liquid)	Ø 9.52 (mm)		
4	Refrigerant pipe (Gas)	Ø 15.88 (mm)		
5	Water pump	To circulate water inside the system		
6	Safety valve	Open at water pressure 3 bar		
7	Control box	PCB and terminal blocks		
8	Thermal switch	Cut-off power input to electric heater at 90°C		
9	Flow sensor	To measure the water flow rate (5-80 LPM)		
10	Plate heat exchanger	Heat exchange between refrigerant and water		
11	Pressure sensor	To measure the water pressure (0-2 MPa)		
12	Expansion tank	Absorbing volume change of heated water		
13	Air vent	Air purging when charging water		
14	Backup heater	6 kW		
15	Strainer	Filtering and stacking particles inside circulating water		

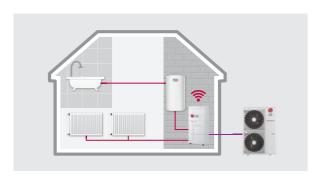


HIGH TEMPERATURE

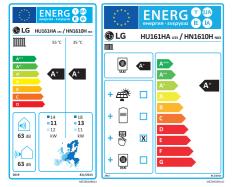






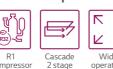


Energy Label



- * 16 kW 1 Ø model.

Excellent performance & efficiency







User convenience









Easy installation & maintenance

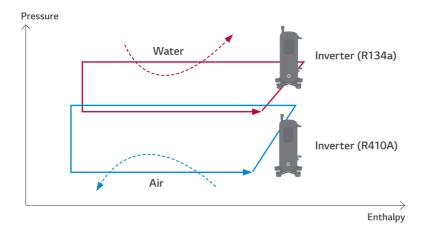






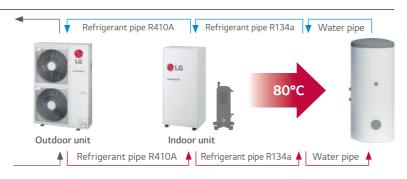
piping design connection

THERMA V High Temperature Cycle



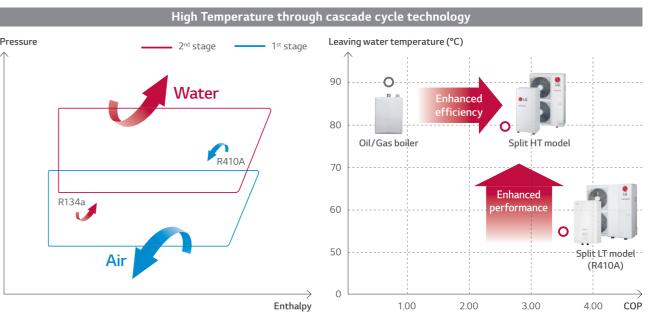
High Temperature Introduction

The LG Therma V High Temperature is a split type unit that consists of a separate indoor and outdoor unit. With cascade 2 stage compression technology, it can supply a high leaving water temperature of up to 80°C, while maintaining high energy efficiency.



Cascade 2 Stage Compression Technology

The Therma V High Temperature unit can produce up to 80°C hot water with high efficiency through cascade 2 stage compression (from R410A to R134a) technology, making it an optimized replacement for a boiler heating system which demands hot water supply.



 * Condition for HT model: outdoor air temp. 18 °C, entering water temp. 70 °C * Condition for LT model: outdoor air temp. 18°C, entering water temp. 55°C

1. OAT: Outdoor Air Temperature, EWT: Entering Water Temperature, LWT: Leaving Water Temperature

Suitable for Old Radiator

The LG Therma V High Temperature product is suitable for houses with poor insulation, an existing radiator heating system, or are required to meet sanitary water regulation needs at high temperatures.



^{*} Detailed description for each function is presented on page 44 ~ 54.

THERMA V. HIGH TEMPERATURE

High Temperature



Indoor unit HN1610H NK3 Outdoor unit HU161HA U33

















R1Compressor™

Black Fin ThinQ

Features

- Maximum 80°C leaving water temperature
- Cascade 2 stage compression
- Only for heating (no cooling)
- Suitable for old radiator
- SCOP up to 3.23 (average climate / low temp. application): A SCOP up to 3.01 (average climate / mid temp. application): A
- COP up to 3.27 (outdoor air 7°C / leaving water 35°C)
- 100 % heating capacity at -7°C OAT (@ LWT 35°C)
- Wide operation range (ambient: -25 ~ 35°C / water side: 25 ~ 80°C)

- R1 Compressor (for outdoor unit)
- Black Fin heat exchanger
- LG ThinQ
- Keymark / MCS / Eurovent certification

Model line-up

		Model name
Category	Unit	Capacity (kW)
		16.0
1 Phase model	Outdoor unit	HU161HA U33
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN1610H NK3

Seasonal energy

Description			Outdoor unit	HU161HA U33
Description			Indoor unit	HN1610H NK3
	Average	SCOP	-	3.23
6	climate water outlet 35°C	Seasonal space heating efficiency (ηs)	%	126
Space heating (according to		Seasonal space heating eff. class (A+++ to D scale)	-	A+
EN14825)	Average climate water	SCOP	-	3.01
2111 1020)		Seasonal space heating efficiency (ηs)	%	117
	outlet 55°C	Seasonal space heating eff. class (A+++ to D scale)	-	A+

Nominal capacity and nominal power input

Description		OAT 1) (DP)	LWT ²⁾ (DB)	Outdoor unit	HU161HA U33
Description		OAI (DB)	LVVI (DB)	Indoor unit	HN1610H NK3
		7°C	35°C		16.00
Nominal capacity	Heating	7°C	55°C	kW	14.00
		2°C	35°C		16.00
Maninal		7°C	35°C	kW	4.89
Nominal power input	Heating	7°C	55°C		5.00
power input		2°C	35°C		4.92
		7°C	35°C		3.27
COP	Heating	7°C	55°C	W/W	2.78
		2°C	35°C		3.25

¹⁾ OAT: Outdoor Air Temperature

Product specification (outdoor unit)

Technical specification			Unit	HU161HA U33
Operation range (outdoor temp.)	Heating Min. ~ Max.		°C DB	-25 ~ 35
Compressor	Quantity		EA	1
Compressor	Туре		-	Hermetic sealed scroll
	Туре		-	R410A
Refrigerant	GWP (Global Warming F	Potential)	-	2,088
Remigerant	Precharged amount		g	3,800
	t-CO₂ eq		-	7.933
	Outside diameter	Gas	mm (inch)	Ø 15.88 (5/8)
	Outside diameter	Liquid	mm (inch)	Ø 9.52 (3/8)
Dining	Length	Standard	m	7.5
Piping connections		Max.	m	50
connections	Level difference	Max.	m	30
	Chargeless-pipe length		m	7.5
	Additional charging volu	ime	g/m	40
Rated water flow rate	at LWT 35°C		LPM	46.0
Sound power level	Heating	Rated	dB(A)	63
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	55
Dimensions	Unit	WxHxD	mm	950 × 1,380 × 330
Weight	Unit		kg	89.0
Exterior	Color / RAL code		-	Warm gray / RAL 7044
	Voltage, phase, frequen	су	V, Ø, Hz	220-240, 1, 50
Power supply	Rated running current	Heating	А	8.4
	Recommended circuit b	reaker	А	20
Wiring connections	Power cable (included e	arth)	mm ² x cores	4.0 x 3 C

Product specification (indoor unit)

Technical specification			Unit	HN1610H NK3	
Operation range (leaving water temp.)	range (leaving water temp.) Heating Min. ~ Max.		°C DB	25 ~ 80	
C	Quantity		EA	1	
Compressor	Туре		-	Hermetic sealed twin rotary	
	Туре		-	R134a	
Defeirement	GWP (Global Warm	ing Potential)	-	1,430	
Refrigerant	Precharged amount	:	g	1,800	
	t-CO ₂ eq		-	2.574	
	10/	Inlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
	Water circuit	Outlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
Piping connections	Defii	Gas (outside diameter)	mm (inch)	Ø 15.88 (5/8)	
	Refrigerant circuit	Liquid (outside diameter)	mm (inch)	Ø 9.52 (3/8)	
Rated water flow rate (at LWT 35°	C)		LPM	46.0	
Sound power level	Heating	Rated	dB(A)	58 / 63 ¹⁾	
Sound pressure level (at 1 m)	Heating	Rated	dB(A)	50	
Dimensions	Unit	WxHxD	mm	520 x 1,080 x 330	
Weight	Unit		kg	84.0	
Exterior	Color / RAL code		-	Morning gray / RAL 7030	
	Voltage, phase, frequency		V, Ø, Hz	220 ~ 240, 1, 50	
Power supply	Rated running current	Heating	А	9.8	
	Recommended circuit breaker		А	25	
Mining connections	Power cable (includ	ed earth)	mm ² x cores	4.0 x 3 C (H07RN-F)	
Wiring connections	Communication cabl	e (included earth)	mm ² x cores	1.0 ~ 1.5 x 2 C (VCTF-SB)	
Accessory kit of the indoor unit			Unit	HN1610H NK3	
Remote controller			-	Standard III	
Water tank temperature Sensor size		Ø	7		
sensor with holder	Resistance		kΩ	5	
Strainer	Mesh size / materia	l	-	28 mesh / stainless steel	

¹⁾ This sound power level (63 dB(A)) is when AC cooling fan is operated.

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wirring cable size must comply with the applicable local and national codes.
Especially the power cable and circuit breaker should be selected in accordance with that.

3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
Sound pressure level is converted from sound power level based on a tonality penalty of 0 dB and installation in free-field. The directivity index (Q) is assumed as 2. Therefore, these values can be increased owing to ambient conditions during operation.

Rated sound power level is in accordance with EN12102-1 under condition of EN14825.

4. Performances are in accordance with EN14511 and reflect ErP testing conditions. Above gives the declared values at rated conditions acc. ErP regulation

• Rated running current: outdoor Temp. 7°C DB / 6°C WB, LWT 35°C

• Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0 m.

5. This product contains fluorinated greenhouse gases.

6. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

²⁾ LWT: Leaving Water Temperature

THERMA V... HIGH TEMPERATURE

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HU161HA U33 + HN1610H NK3

Outdoor	LWT 35°C	LWT 40°C	LWT 45°C	LWT 50°C	LWT 55°C	LWT 60°C	LWT 65°C	LWT 70°C	LWT 75°C	LWT 80°C
temperature					Capaci	ty (kW)				
-25°C DB	13.50	13.29	13.07	12.86	12.64	12.43	12.21	12.00	-	-
-20°C DB	14.19	14.04	13.88	13.73	13.58	13.42	13.27	13.11	12.96	-
-15°C DB	14.89	14.79	14.70	14.60	14.51	14.41	14.32	14.22	14.10	14.00
-7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
-4°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
-2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
2°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
7°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
10°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
15°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
18°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
20°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
35°C DB	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00

- Note

 1. DB: Dry Bulb Temperature (°C), LWT: Leaving Water Temperature (°C)

 2. Direct interpolation is permissible. Do not extrapolate.

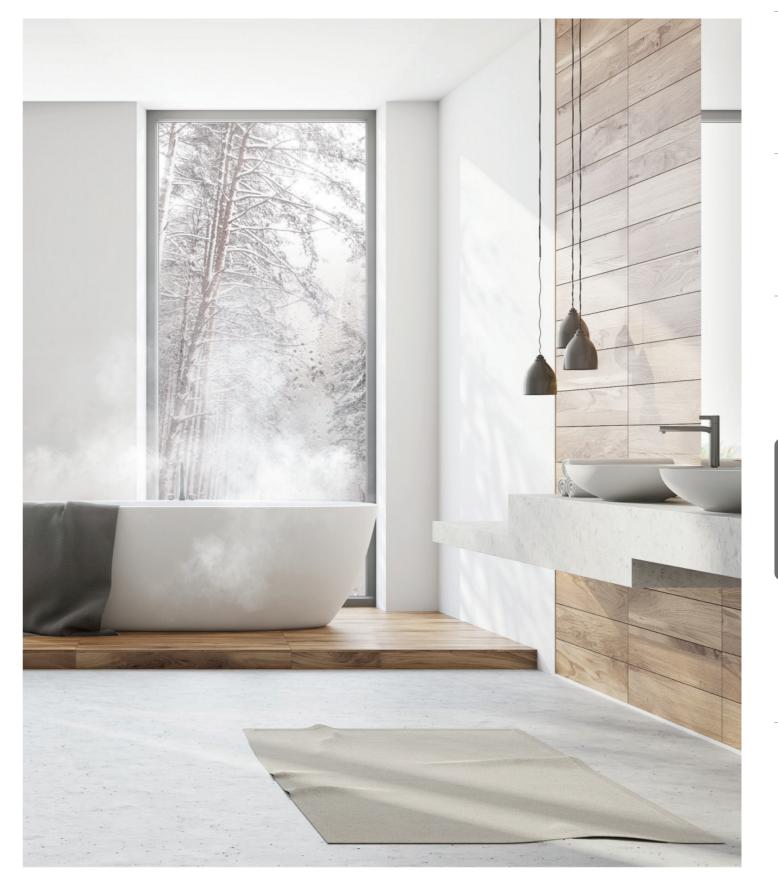
 3. Measuring procedure follows EN-14511.

 Rated values are based on standard conditions and can be found on specifications.

 Above table values may not be matched according to installation conditions. Except for rated values, the performance is not guaranteed.

 The rating might slightly vary depending on test standards or countries.

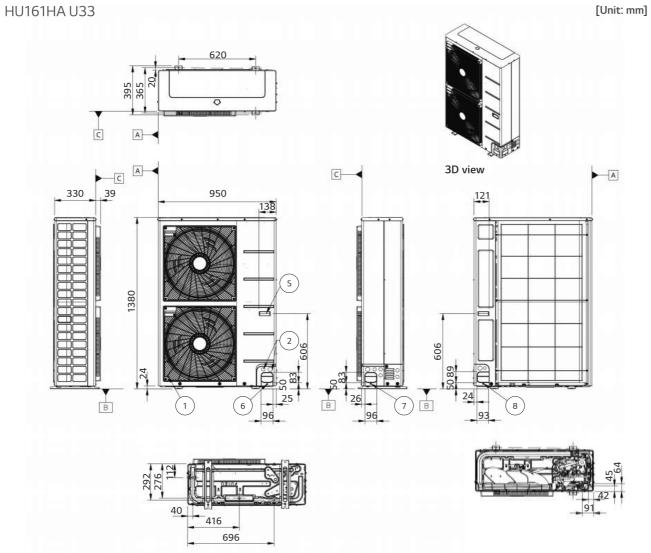
 4. The shaded areas are not guaranteed continuous operation.



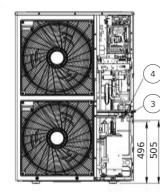
THERMA V... HIGH TEMPERATURE

Drawings

Category	Unit	Model name Capacity (kW) 16.0
1 Phase model	Outdoor unit	HU161HA U33
220 ~ 240 V, 1 Ø, 50 Hz	Indoor unit	HN1610H NK3

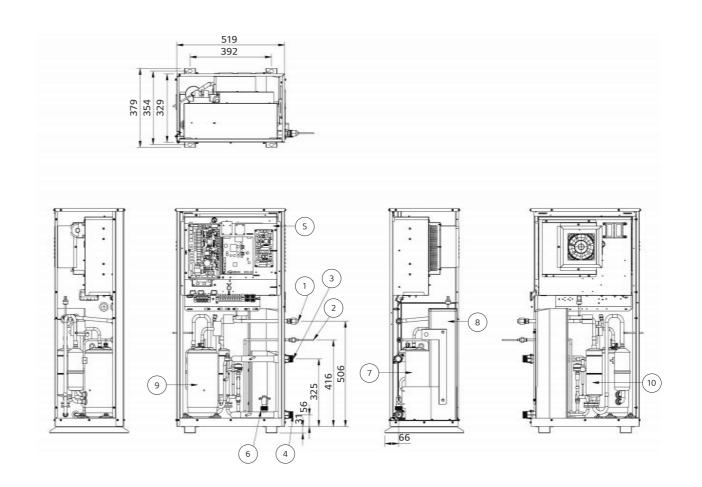


No.	Part name	Description
1	Air outlet	-
2	Power and communication cable hole	-
3	Gas pipe connection	Flare joint
4	Liquid pipe connection	Flare joint
5	Handle	-
6	Pipe routing hole (front)	-
7	Pipe routing hole (side)	-
8	Pipe routing hole (back)	-



PRODUCT SPECIFICATION

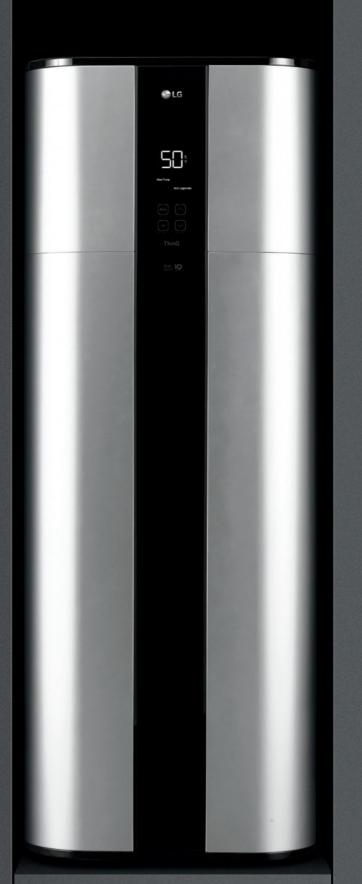
HN1610H NK3 [Unit: mm]



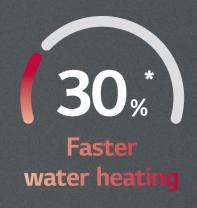
No.	Part name	Description			
1	Refrigerant pipe (liquid) Ø9.52 (mm)				
2	Refrigerant pipe (gas) Ø15.88 (mm)				
3	Leaving water pipe	Male PT 1" according to ISO 7-1 (tapered pipe threads)			
4	Entering water pipe	intering water pipe Male PT 1" according to ISO 7-1 (tapered pipe threads)			
5	Control box	PCB and terminal blocks			
6	Flow switch	Minimum operation range at 15 LPM			
7	Plate heat exchanger	nger Heat exchanger between refrigerant and water			
8	Plate heat exchanger	Heat exchanger between refrigerant and refrigerant			
9	Compressor	EPT525MBA			
10	Accumulator	716 cc			

HEATER









* This figure is the result of LG internal test compared to the electric heater, so it may differ from actual operation.



Stylish Design

LG unit's exclusive square shape and luxury silver color make it an excellent fit for any interior design.





Top Class Energy Efficiency

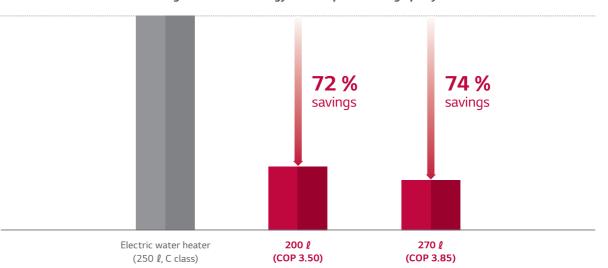
LG's new Inverter Heat Pump Water Heater with the highly efficient DUAL Inverter Compressor allows for impressive energy savings of over 70 % compared to a conventional electric heater.



Energy saving

Benefiting from the market's first DUAL Inverter Compressor, LG's Heat Pump Water Heater can run at low rotational speed (up to 10 Hz), reducing energy consumption by 70 % more than an electric water heater (250 £, C class).

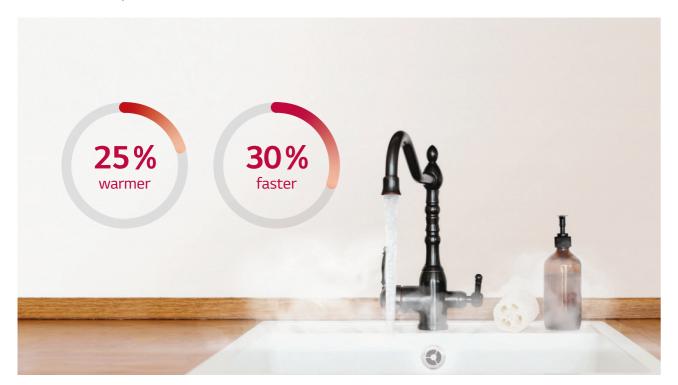
Average estimated energy consumption savings per year



- * Simulation data on daily electricity consumption, based on EU climate conditions (average, 15°C).
- * The data are based on LG internal simulation.
- * The data are depending on the experimental conditions and is changeable according to the usage environment

Powerful Heating Performance

The DUAL Inverter Compressor maximizes the heat pump's power in turbo mode for a 30 % faster heating time for first-use water than in auto operation mode.



Fast & powerful water heating

Turbo mode can run at high speeds (up to 80 Hz) with simultaneous heating. The target water temperature in the tank will be achieved 30 % faster in turbo mode than in in use auto mode or auto mode in one hour of operation starting from an empty tank. Furthermore, turbo mode can recover the water at 25 % warmer temperatures than in use auto mode or auto mode in one hour of operation starting from an empty tank.

- * The data are based on LG internal tests and simulations.
- * The data depend on the experimental conditions and are changeable according to the usage environment.

Continuous operation

The two heat sources, two heaters and a heat pump complement each other perfectly. If the heat pump or one of the heaters fails, the other heat source allows alternative operation.



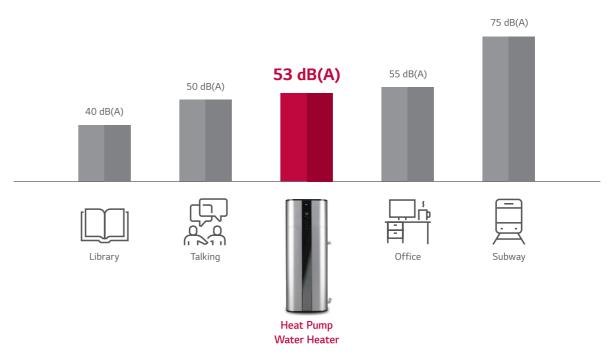




Low Noise Operation

Through BLDC motor and DUAL Inverter Compressor, noise is reduced to 53 dB(A) (sound power) and provides a comfortable environment even in indoor installation scenes.





Sound pressure is 38 dB(A) based on LG internal test. The data are based on LG internal test (sound power).

- * The data are based on LG internal tests and simulations.
- * The data are depending on the experimental conditions and is changeable according to the usage environment.

Various Operation Mode

LG Inverter Heat Pump Water Heater can be operated in four different modes for different conditions.



Operation



Using basic controlDisplay screen

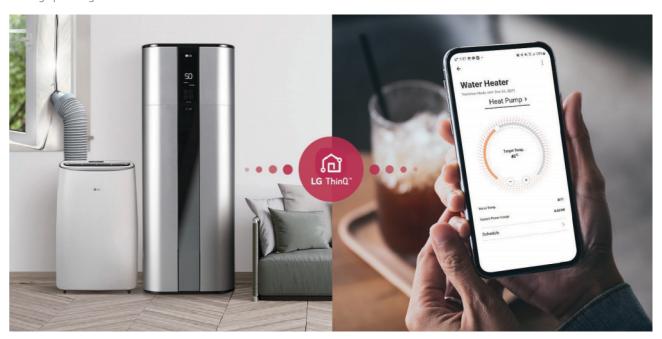
IIIII°° ° ? ₽	
Heat Pump Schedule Auto Vacation Turbo Anti Legionella -	
Mode (W-Fi(Sa) (F/C(Sa)	

Button

	Button	Display screen	Description		
		Heat pump	To select the heat pump mode		
	Mode	Auto	To select the auto mode		
	Mode	Turbo	To select the turbo mode		
		Vacation	To select the vacation mode		
	-	Schedule	Set schedule mode only in LG ThinQ application		
	- Anti legionella		To select the anti legionella mode		
	Set	-	To set the desired water temperature		
	$\bigcirc \bigvee$	188	To adjust the desired water temperature		
	Wi-Fi (3s)	<u>•</u>	To enable the Wi-Fi pairing		
	Reset Filter (3s)		To reset the filter alarm		
	°F/°C (3s)	°F °C	To change unit between °F and °C		
	Water Temp (3s)	188	To display the current water temperature for 5 seconds		

Smart Control

With the LG ThinQ smartphone app, users can easily control and monitor the heat pump, checking for current water temperatures, setting operating schedules and more.



Embedded Wi-Fi

You can control the LG ThinQ app, checking information such as current water temperature, operating mode and more.



Smart diagnosis

Smart diagnosis allows users to conveniently check setup, installation, troubleshooting and other information directly from a smartphone.

Easy check & monitoring

Easily comprehensible error messages make detecting a solution and contacting the service center simple and





powered by

DUAL Inverter Compressor[™]

LG's DUAL Inverter Compressor™ - exceptional in the market - saves energy with a wide power-saving operating range and produces efficient heating, performing quietly even in max operation mode. This technology allows the inverter compressor to achieve superior energy efficiency, cooling performance and comfort compared to compressors with on-off capabilities which is rare for monobloc heat pump water heaters.



Varied-speed dual rotary

A compressor motor has a wider energy efficient rotational frequency and a higher volumetric quick cooling capacity compared to a conventional non-inverter compressor.

Product reliability improvement

As twin rotaries balance each other while they are rotating with high speed, it reduces noise dramatically compared to a shaking single rotary compressor. The reduction in vibration reduces the possibility of fractures occurring in the surrounding pipework.

- ** The data are based on LG internal test and simulation.** The data depend on the experimental conditions and are changeable according to the usage environment

Benefit & verification

Reliable air conditioner

The product safety is guaranteed with a 10-year warranty offered to customers.



Verification

TUV Rheinland, long term accelerated-reliability test & high marginal test



Twin rotary type

Long term accelerated-reliability test

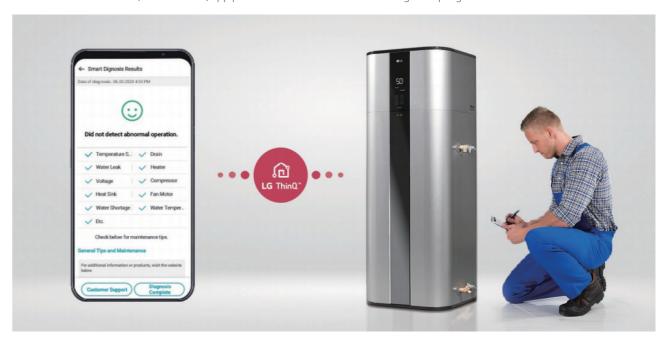
LG's unique testing method with reinforced operating condition for a product life assurance to test and determine the product life cycle in a short period of time by accelerating the life cycle. ※ High marginal test

Test method to secure durability in various adverse conditions that may occur in the field by performing compressor reliability test against higher pressure and temperature than the designed range of pressure and temperature which the compressor operates in.

* Verification obtained from TUV rheinland for 10-year product life cycle.

Quick & Easy Installation

The machine's one-direction inlet and outlet piping and easy-to-connect wires in the junction box allow for quick and easy installation. Furthermore, the LG ThinQ app provides service alarm and self diagnosis programs for convenient maintenance.



10-year warranty

The core parts of heat pump water heaters such as water tank and compressor are certified for 10-year durability by TUV rheinland. ceramic coating inside the water tank meets Germany ceramic standard DIN 4753 and guarantees 10 years of corrosion resistance.



* Other parts warranty may vary according to after sales service condition





Product specification

Sales model			WH20S	
Factory model			R5TT20F-SA1	
Capacity	Volume (nominal)	l	200	
Energy efficiency 1)	COP (7°C / 15°C)		3.30 / 3.50	
Energy consumption	Annual energy consumption (7°C / 15°C)	kWh	756 / 709	
Load profile			Large	
D	Upper element wattage (230 V)	kW	2	
Power input	Lower element wattage (230 V)	kW	2	
Energy efficiency class (7°C / 15	5°C)	-	A+ / A+	
Power supply		V, Ø, Hz	230 / 1 / 50	
Available voltage range		V	195 ~ 265	
Operating mode			Turbo / Auto / Heat pump / Vacation / Anti legionella	
	H/M	m³/min	6.7 / 4.4	
Air flow rate	H/M	CFM	236.6 / 155.4	
Sound pressure level	Auto	dB(A)+3	38	
Sound power level		dB(A)	55	
Dimensions	Net (W x H x D)	mm	580 x 1,625 x 582	
Weight	Net	kg	100	
Nominal insulation thickness	Min. / Max.	mm	40 / 80	
Heat pump operation range	Min. / Max.	°C DB	-5 / 48	
Exterior color code		-	Luxury silver	
	Туре	-	Inverter twin rotary	
	Warranty	Year	10	
Compressor	Manufacturer	-	LG Electronics	
	Motor output	W	510	
	High side	-	2.0 MPa / 290 PSI	
Design pressure (system)	Low side	-	0.9 MPa / 130.5 PSI	
Max. working pressure (water to	ank)	-	150 PSI (1,034 kPa)	
Circuit breaker	•	А	15	
Condensate water connection	I.D	mm	19, 12.7	
V40 (Mixed water at 40°C)		l	260	
	Туре	-	R134a	
	Pre charge	kg	0.650	
Refrigerant	GWP		1,430	
	t-CO ₂ eq		0.930	
Defrost method		-	Reverse cycle	
Anode			Impressed current cathodic protection	
T&P relief valve		-	Yes	
Water connection location		-	side	
Water connection size		inch	G ¾ M	
Digital display		-	Yes	
Wi-Fi (LG ThinQ) 2)		_	Yes	
Tank warranty		Year	10	

- 1) Water heater energy efficiency (at auto mode)
- 2) ThinQ main function
- Operation mode (auto. heatpump, turbo, vacation, schedule), temperature setting
- Monitoring hot water temperature
- Maintenance point alarm (filter, anode rod, etc.)
- * This product contains fluorinated greenhouse gases (R134a).
- * GWP: Global Warming Potential
- % t-CO₂eq: F-gas (kg)*GWP/1000
 % Specification, design and feature are subject to change without prior notice.

PRODUCT SPECIFICATION



Product specification

Sales model		WH27S			
Factory model			R5TT27F-SA0		
Capacity	Volume (nominal)	l	270		
Energy efficiency 1)	COP (7°C / 15°C)		3.45 / 3.85		
Energy consumption	Annual energy consumption (7°C / 15°C)	kWh	712 / 646		
Load profile			Large		
.	Upper element wattage (230 V)	kW	2		
Power input	Lower element wattage (230 V)	kW	2		
Energy efficiency class (7°C / 1	5°C)	-	A+ / A++ ²⁾		
Power supply		V, Ø, Hz	230 / 1 / 50		
Available voltage range		V	195 ~ 265		
Operating mode			Turbo / Auto / Heat pump / Vacation / Anti legionella		
	H/M	m³/min	6.7 / 4.4		
Air flow rate	H/M	CFM	236.6 / 155.4		
Sound pressure level	Auto	dB(A)+3	38		
Sound power level		dB(A)	55		
Dimensions	Net (W x H x D)	mm	580 x 2,008 x 582		
Weight	Net	kg	119		
Nominal insulation thickness	Min. / Max.	mm	40 / 80		
Heat pump operation range	Min. / Max.	°C DB	-5 / 48		
Exterior color code		-	Luxury silver		
	Туре	-	Inverter twin rotary		
	Warranty	Year	10		
Compressor	Manufacturer	-	LG Electronics		
	Motor output	W	510		
	High side	-	2.0 MPa / 290 PSI		
Design pressure (system)	Low side	-	0.9 MPa / 130.5 PSI		
Max. working pressure (water t	ank)	-	150 PSI (1,034 kPa)		
Circuit breaker	•	А	15		
Condensate water connection	I.D	mm			
V40 (Mixed water at 40°C)			360		
,	Туре	-	R134a		
	Pre charge	kg	0.750		
Refrigerant	GWP		1,430		
	t-CO ₂ eq		1.073		
Defrost method		-	Reverse cycle		
Anode			Impressed current cathodic protection		
T&P relief valve		-	Yes		
Water connection location		-	side		
Water connection size		inch	G ¾ M		
Digital display		-	Yes		
Wi-Fi (LG ThinQ) ²⁾		-	Yes		
Tank warranty		Year	10		

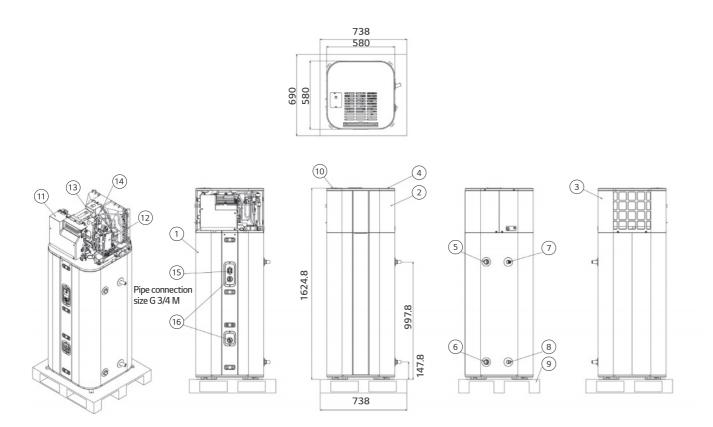
- 1) Water heater energy efficiency (at auto mode) 2) Energy label marked A+ and more than COP 3.75 in EU standard is A++
- 3) ThinQ main function
- Operation mode (auto. heatpump, turbo, vacation, schedule), temperature setting
- Monitoring hot water temperature
 Maintenance point alarm (filter, anode rod, etc.)
- * This product contains fluorinated greenhouse gases (R134a).
- ***** GWP: Global Warming Potential
- * Specification, design and feature are subject to change without prior notice.

PRODUCT SPECIFICATION

Drawings

	Model name				
Category	Capacity (DWH tank volume)				
	200 ℓ	270 ℓ			
1 Phase model 230 V, 1 Ø, 50 Hz	WH20S	WH27S			

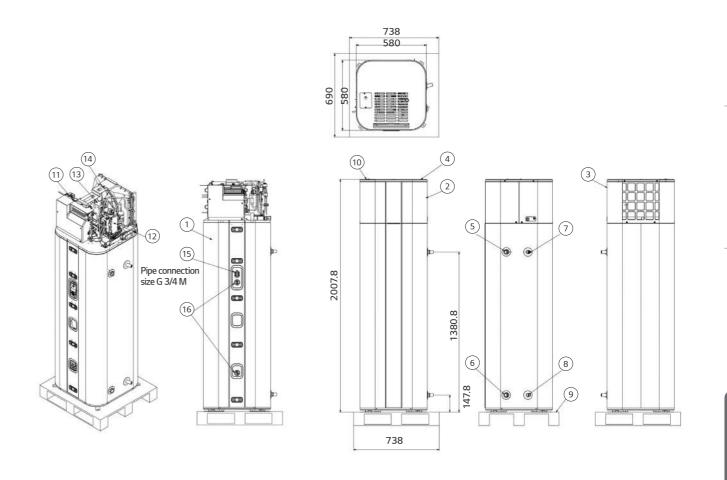
WH20S [Unit: mm]



No.	Part name	Description
1	Water tank	200 ℓ
2	Front panel	-
3	Rear panel	-
4	Top cover	-
5	T/P valve	210 °F / 99 °C 3/4 NPT
6	Drain valve	3/4 NPT
7	Outlet pipe	Water out, 3/4 NPT
8	Inlet pipe	Water in, 3/4 NPT

No.	Part name	Description
9	Wooden pallet	-
10	Junction cover	Power input
11	C/B case	-
12	Compressor	EST092MBA
13	Motor	43 W
14	Fan propeller 290 Ø	
15	ECO	Emergency cut off (77°C)
16	Heater	2 EA, 2000 W+2000 W, 220 ~ 240 V

WH27S [Unit: mm]



No.	Part name	Description			
1	Water tank	270 ℓ			
2	Front panel	-			
3	Rear panel	-			
4	Top cover	-			
5	T/P valve	210 °F / 99 °C 3/4 NPT			
6	Drain valve	3/4 NPT			
7	Outlet pipe	Water out, 3/4 NPT			
8	Inlet pipe	Water in, 3/4 NPT			

No.	Part name	Description		
9	Wooden pallet	-		
10	Junction cover	Power input		
11	C/B case	-		
12	Compressor	EST092MBA		
13	Motor	43 W		
14	Fan propeller 290 Ø			
15	ECO	Emergency cut off (77°C)		
16	Heater	2 EA, 2000 W+2000 W, 220 ~ 240 V		

ACCESSORIES



THERMA V. ACCESSORIES

Accessories Provided by LG

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
	Room temperature sensor	PQRSTAO	9	All Therma V products	Room temperature based control	To detect room air temperature for room temperature based control	• Max. wire length: 15 m
Sensors	Thermistor for 2 nd circuit or e/heater	PRSTAT5K10	0	All except for High Temperature	2 nd circuit (mixing circuit)	To detect 2 nd circuit temperature when using 2 nd circuit function	• 5 kΩ thermistor, 10 m
	Domestic hot water sensor	PHRSTA0	0	All except for R32 Split IWT and R32 Hydrosplit IWT	Domestic hot water heating	To detect DHW tank temperature	• Included in DHW tank kit
	3 way valve	OSHA-3 V		All except for R32 Split IWT and R32 Hydrosplit IWT	Domestic hot water heating	To divert water flow between space heating and DHW heating	• Size: DN 20 G 1" connection, male threaded
Valves	Thermostatic mixing valve	OSHA-MV		Regardless of the model	Domestic hot water supply	To blend hot water with cold water for ensuring constant, safe shower and bath outlet temp.	• Size: 3/4" DN20 male threaded
		OSHA-MV1					• Size: 1" DN25 male threaded
	Damartia	OSHW-200 F		All except for R32 Split IWT and R32 Hydrosplit IWT	Domestic hot water heating	To generate and store domestic hot water	• Storage volume: 200 \(\ell_1 \), 300 \(\ell_1 \), 500 \(\ell_2 \)
	Domestic hot water tank (single coil)	OSHW-300 F					Type: internal single coil Material: stainless steel Capacity of booster heater: 2.4 kW
DHW tanks		OSHW-500 F	- W				
Laiks	Domestic hot water tank (double coil)	OSHW-300 FD		All except for R32 Split IWT, R32 Hydrosplit IWT and High Temperature			 Storage volume: 300 l Type: internal double coil Material: stainless steel Capacity of booster heater: 2.4 kW
		PHLTA	0 . 6	Hydro Box for Split & Hydrosplit		To operate with DHW tank including the booster heater	Parts included: DHW tank sensor
	Domestic hot water	PHLTC		Old Hydro Box for R410A Split - 3 Ø (HN1639 NK3 only)	Domestic hot water heating		(thermistor), circuit breaker, relay
Installation kits	tank kit	PHLTB	**************************************	R32 Monobloc, R32 Monobloc S			Parts included: DHW tank sensor (thermistor), circuit breaker, relay, multi harness
	Solar thermal kit	PHLLA	10	R32 Split 4/6 kW Hydro Box (HN0613M NK5), R32 Monobloc, R410A Split Hydro Box (HN1616 NK3 / HN1639 NK3)	Solar thermal heat utilization	To operate with solar thermal system	Length of thermistor: 12 m Size of tube connector (W x H x D): 110 x 55 x 22

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
		HA031M E1	@ 1.6		Capacity back up & emergency operation	To supplement insufficient capacity	Heater capacity: 3 kW Number of heating coil: 1ea (3.0 kW) Size (W x H x D): 210 x 607 x 217 Power: 220 - 240 V, 1 Ø
		HA061M E1		R32 Monobloc S			Heater capacity: 6 kW Number of heating coil: 2 ea (3.0 + 3.0 kW) Size (W x H x D): 210 x 607 x 217 Power: 220 ~ 240 V, 1 Ø
Installation kits	Electric back-up heater	HA063M E1					Heater capacity: 6 kW Number of heating coil: 3 ea (2.0 + 2.0 + 2.0 kW) Size (W x H x D): 210 x 607 x 217 Power: 380 - 415 V, 3 Ø
		HA061C E1		R32 Hydrosplit Hydro Box	Capacity back Up & emergency	To supplement insufficient	Heater capacity: 6 kW Number of heating coil: 2 ea (3.0 + 3.0 kW) Power: 220-240 V, 1 Ø
		HA063C E1		(HN1600MC NK1)	operation	capacity	Heater capacity: 6 kW Number of heating coil: 3 ea (2.0 + 2.0 kW) Power: 380-415 V, 3 Ø
	Buffer tank for space heating	OSHB-40KT		R32 Hydrosplit IWT	-	To provide the buffer volume of water to the heating circuit	• Volume: 40 ℓ • Size (W x H x D): 518 x 560 x 175
Vessel	Expansion vessel for DHW	OSHE-12KT		R32 Hydrosplit IWT	-	To absorb the volume changes by temperature of water for the DHW circuit	• Volume: 8 <i>l</i> • Connection: 3/4" • Max. pressure: 10 bar • Size (W x H x D): 416 x 238 x 502
	Extension wire for a wired remote controller	PZCWRC1	20g	All Therma V products	-	To extend the wire between the wired remote controller and the indoor unit	• Length: 10 m
	Extension cable for Wi-Fi modem	PWYREW000		All Therma V products	Wi-Fi control via LG ThinQ	To extend a wire between the WI-Fi modem and the indoor unit	• Length: 10 m
	2-remote control wire	PZCWRC2		All Therma V products	2 remote control	To connect two remote controllers on one indoor unit	• Length: 0.25 m
ETC		PHDPB	-	R32 Split Hydro Box (NK4 suffix), R410A Split Hydro Box (NK3 suffix)		To collect condensed water	
	Drain pan	PHDPC		R32 Hydrosplit , R32 Split Hydro Box (NK5 suffix), R410A Split Hydro Box (NK5 suffix)	Cooling operation	in the indoor unit during the cooling operation	-
	Cover plate	PDC-HK10		R32 Hydrosplit Hydro Box, R32 Hydrosplit IWT, R32 Split Hydro Box , R32 Split IWT, R410A Split Hydro Box	-	To fill the blank space of the indoor unit front panel when the remote controller is relocated indoors.	-

THERMA V_{TM} ACCESSORIES

Accessories Provided by LG

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
Remote controller	Wired remote controller	PREMTW101	15 15 2 15 15 2 17 10 10 10 10 10 10 10 10 10 10 10 10 10	All Therma V products	2 remote control	To control the AWHP using two remote controllers (an additional remote controller)	New modern design 4.3 inch color LCD display Information displayed with simple graphic, icon & text Built-in temperature sensor Size (W x H x D): 120 x 120 x 16 Extension cable (PZCWRC1, 10 m) and 2 remote cable (PZCWRC2, 0.25 m) are included
	AC Ez Touch ¹⁾	PACEZA000	## *** *** *** *** *** *** *** *** ***				• 5 inch color display • User-friendly control with iconographic interface (touch screen) • Max. 32 unit control • Total 200 schedule events (weekly/monthly/yearly/exception day) • Operation history • Remote controller lock (all, temp, mode) • PC access supported (IPv6 supported) • DI 1 ea (emergency stop only) • Size (W x H x D): 137 x 121 x 25
Central controller	AC Smart 5 ¹⁾	PACS5A000 (Smart 5)			Centralized control	To control the AWHP using LG central controller	• 10.2 inch color display • User-friendly control with iconographic interface (touch screen) • Max. IDU 64 • Total 100 schedule events (weekly/monthly/yearly/exception day) • History/operation trend • Interlock with 3rd party equipment (ACS IO, ACU IO module is needed) • Error alarm by e-mail • Remote controller lock (all, temp, mode) • Map view (visual navigation) • Web access supported with HTML5 (PC, smartphone, tablet) • DI 2 ea, DO 2 ea • BACnet IP/modbus TCP protocol support • Size (W x H x D): 253.2 x 167.7 x 28.9
	ACP 5 ¹⁾	PACP5A000 (ACP5)	** *********************************				Web access controller Max. 128 unit control Total 100 schedule events (weekly/monthly/yearly/exception day) History/operation trend Interlock with 3 rd party equipment (ACS IO, ACU IO module is needed) Error alarm by e-mail Remote controller lock (all, temp, mode) Map view (visual navigation) DI 10 ea, DO 4 ea BACnet IP/modbus TCP protocol support Lonworks protocol support* (max. 64 unit control) Size (W x H x D): 270 x 155 x 65

^{*} For using Lonworks protocol, only ACP 5 provides interface for BMS integration, and, need to U60FT module between ACP 5 and BMS system interface between Lonworks FT-10 BMS and LG HVAC unit. U60FT should be purchased separately from 3rd party supplier. Please contact regional LG office for more detailed information.

Category	Model name	Model number	Figure	Applicable product	Relevant function	Purpose	Feature
Gateway	Modbus RTU gateway	PMBUSB00A	Y MHHH	All Therma V	Centralized control	To communicate and control through the central controller (providing modbus RTU connection between the AWHP and BMS)	Modbus RTU slave (RS485) / 9,600 bps Size (W x H x D): 53.6 x 89.7 x 60.7 Max. 16 IDUs with single module / Max. 64 IDUs with 4 modules Power: DC 12 V
	PI485 gateway for Therma V	PP485A00T		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		To communicate and control through the central controller (converting LG protocol to RS485 protocol)	1 for each outdoor unit Power: supplied by outdoor unit
Dry contact	Simple dry contact	PDRYCB000			-		1 Set per 1 unit 1 Input contact for turning on/off Input power. 220 ~ 240 V 2 output contacts Operation status - Error status
	Dry contact for thermostat	PDRYCB320	T T	All Therma V products			1 Set per 1 unit Non voltage or 12 ~ 24 V 8 digital input contacts for thermostat - On/off, operation mode, DHW heating Emergency mode, silent mode 2 Output contacts - Operation status - Error status
ETC	LG Wi-Fi modem	PWFMDD200	© LG	All Therma V products	Wi-Fi control via LG ThinQ	To control the AWHP via a smartphone	Basic control function On/off, operation mode, set temp DHW heating and set temp Weekly on/off schedule Error status check Frequency: 2.4 GHz IEEE 802.11b/g/n supported
	Cloud gateway ¹⁾	PWFMDB200		R32 Monobloc S, R32 Split IWT, New Hydro Box for Split & Hydrosplit	LG BECON cloud service	For remote control, monitoring and diagnosis	• Max 16 indoor units • RS485: 1 channel (LGAP) • Wired/wireless IAN • Power: 12 V DC • Size (W x H x D): 120 x 120 x 29
	Meter interface	PENKTH000	That to the last of the last	All Therma V products	Energy monitoring	To measure production / consumption power	• Energy meter interface to monitor Electricity and Heat energy - Max. 3 watt - Hour meter - Max. 1 heat meter - Pulse width: 40 ms ~ 100 ms • Modbus RTU comm. with Therma V - 2 wire RS485 / 9600 bps • Power: DC 12 V • Size (W x H x D): 54 x 90 x 61

Note
1. PI485 Gateway (PP485A00T) should be installed on outdoor unit to use the central controller and cloud gateway.

THERMA V_{TM} ACCESSORIES

LG Wi-Fi Modem

PWFMDD200 ENCXLEU

Access LG Therma V anytime and from anywhere with a Wi-Fi equipped device. LG's exclusive home appliances control app (LG ThinQ) offers simple operation and various functions.

- On / Off
- Operation mode selection
- Current temperature
- Set temperature
- On / Off reservation scheduling
- Energy monitoring
- ESS monitoring
- Silent mode reservation
- Holiday mode
- Quick DHW heating



Model name	PWFMDD200		
Size (mm)	46 x 68 x 14		
Interfaceable products	All Therma V line-ups		
Connection type	Indoor unit 1 : 1		
Communication frequency	2.4 GHz		
Wireless standards	IEEE 802.11b/g/n		
Mobile application	LG ThinQ (Android v4.1 (Jellybean) or higher, iPhone iOS 9.0 or higher)		
Optional extension cable	PWYREW000 (10 m extension)		

- 1. Functionality may be different according to each Indoor model.
- 2. User interface of application shall be revised for its design and contents improvement.
- 3. Application is optimized for smartphone use, so it may not be well functioning with tablet devices. For the compatibility with indoor unit, please contact regional office.

Domestic Hot Water Tank

OSHW-200F AEU OSHW-300F AEU OSHW-500F AEU OSHW-300FD AEU

Energy efficiency class (A+ to F scale)

Standing heat loss



Technical specificati	on	Unit	OSHW-200F	OSHW-300F	OSHW-500F	OSHW-300FD
General characteristics	Water volume	l	200	300	500	300
	Diameter	mm	640	640	810	640
	Height	mm	1,350	1,850	1,900	1,850
	Empty weight	kg	61	100	146	106
	Tank materials	-	STS:F18	STS:F18	STS:F18	STS:F18
	Color	-	Grey (RAL 7035)	Grey (RAL 7035)	Grey (RAL 7035)	Grey (RAL 7035)
Specification of electric back up	Additional electric heater	W	2,400	2,400	2,400	2,400
	Power supply	V, Ø, Hz	230, 1, 50 (60)	230, 1, 50 (60)	230, 1, 50 (60)	230, 1, 50 (60)
	Adjustable thermostat	°C	0 ~ 90	0 ~ 90	0 ~ 90	0 ~ 90
	Exchanger type	-	Internal single coil	Internal single coil	Internal single coil	Internal double coil
Specification of	Material exchanger	-	STS: F18	STS: F18	STS: F18	STS: F18
heat exchanger	Maximum water temp.	°C	90	90	90	90
	Coil surface	m ²	2.3	3.1	4.8	3.1 + 1
	Heat pump inlet	inch	1 BSP female	1 BSP female	1 ¼ BSP female	1 BSP female (upper coil)
	Heat pump outlet	inch	1 BSP female	1 BSP female	1 ¼ BSP female	1 BSP female (upper coil)
Water connections	Solar inlet	inch	-	-	-	¾ BSP Female (lower coil)
	Solar outlet	inch	-	-	-	¾ BSP Female (lower coil)
	City water inlet	inch	¾ BSP male	¾ BSP male	1 BSP male	¾ BSP male
	Hot water outlet	inch	¾ BSP female	1 BSP female	1 BSP female	1 BSP female

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Mandatory optional accessories				
Domestic hot water tank installation kit	PHLTA (Hydro Box for Split & Hydrosplit), PHLTB (Monobloc), PHLTC (old Hydro Box for R410A Split 3 Ø - HN1639 NK3)			
Optional accessories				
Thermostatic mixing valve (3/4" DN20)	OSHA-MV			
Thermostatic mixing valve (1" DN25)	OSHA-MV1			
3 way valve	OSHA-3V			

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THERMA V_{TM} ACCESSORIES

Combined Test with DHW Tank

LG has conducted a combination test of Therma V with DHW tanks in accordance with EN16147 and obtained an ErP label for packages in accordance with the European nZEB regulations.

• R32 Monobloc S (5 ~ 16 kW) + OSHW-200 F

- HM051MR U44
- HM071MR U44
- HM091MR U44
- HM121MR U34
- HM141MR U34
- HM161MR U34
- HM123MR U34
- HM143MR U34
- HM163MR U34







Therma V line-up	R32 Monobloc S (5, 7, 9 kW)	R32 Monobloc S (12, 14, 16 kW) HM121MR U34 HM141MR U34 HM161MR U34 HM123MR U34 HM143MR U34 HM163MR U34	
Model name	HM051MR U44 HM071MR U44 HM091MR U44		
DHW tank	OSHW-200F AEU	OSHW-200F AEU	
l profile	L	L	
Water heating eff. class	A+	A+	
Water heating efficiency (Ŋwн)	144 %	146 %	
COP _{DHW}	3.1	3.2	
Annual energy consumption	712 kWh	701 kWh	
Water heating eff. class	A++	A++	
Water heating efficiency (ηwн)	174 %	166 %	
СОРони	3.8	3.6	
Annual energy consumption	588 kWh	616 kWh	
Water heating eff. class	A	А	
Water heating efficiency (ηwн)	87 %	101 %	
СОРони	1.9	2.2	
Annual energy consumption	1,172 kWh	1,011 kWh	
	ENERG © D © LG second - (700 mm m -) © LG	ENERG 00 LG MICHAEL / COUNT 200 - ENERG 00 EN	
	Model name DHW tank I profile Water heating eff. class Water heating efficiency (ηwн) COP _{DHW} Annual energy consumption Water heating efficiency (ηwн) COP _{DHW} Annual energy consumption Water heating efficiency (ηwн) COP _{DHW} Annual energy consumption Water heating eff. class Water heating eff. class Water heating efficiency (ηwн) COP _{DHW}	Model name HM051MR U44 HM071MR U44 HM091MR U44 DHW tank OSHW-200F AEU I profile L Water heating eff. class A+ Water heating efficiency (ηwh) COPDHW 3.1 Annual energy consumption 712 kWh Water heating efficiency (ηwh) COPDHW 3.8 Annual energy consumption 588 kWh Water heating eff. class A Water heating eff. class A Annual energy consumption 588 kWh Water heating eff. class A E E E E E E E E	

