

2026 | LG | **THERMA V™**

 **Monobloc 51 kW**



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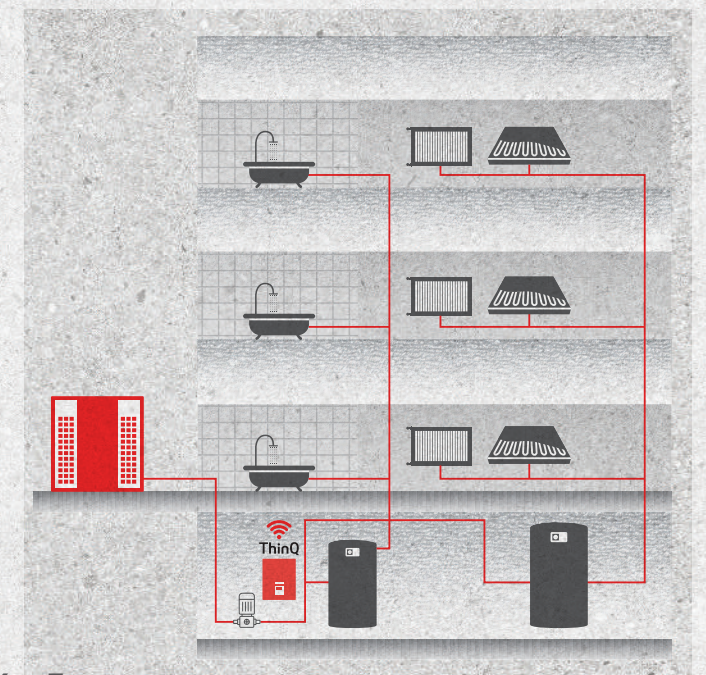
Compact Yet Powerful

The innovative Collective Solution R32 Monobloc 51 kW delivers efficient performance for large residential spaces with easy installation and inherently safe operation. Compact and lightweight, yet with high capacity and high efficiency, it is ideal for multi-family homes and light commercials.

What is R32 Monobloc 51 kW

The LG R32 Monobloc 51 kW is a large capacity heat pump that provides a collective central heating solution for multi-family houses or light commercial buildings. Ideal for locations that require reliable heating and cooling year-round, this air to water heat pump offers a versatile solution.

Operating efficiently as a single system, it is well-suited for various commercial spaces including multi family house, office buildings, schools and universities.



Key Features

- Fits to Multi-family homes (MFH) or light commercial buildings
- ErP Energy Labeling A++ / A++ for space heating (Average Climate 35°C / 55°C LWT)
- 100% Heating capacity at -10°C outdoor temperature
- Maximum flow temperature up to 60°C
- Operation range down to -25°C
- Compact size and light weight
- Easy installation with no refrigerant piping work
- Convenient wiring with Control Unit installed indoor
- Enhanced control connectivity aligned with THERMA V lineup
- LG ThinQ and LGMV are available for cascade system (require Wi-Fi modem)



Product Range

Description		Indoor Unit	Outdoor Unit
		Control Unit	
3 Ø	51 kW	PHCSL0 ENCXLEU	HM513MR UXC0

HIGHLIGHT OF R32 MONOBLOC 51 kW

Large Capacity THERMA V

Just Simply Install a Large Capacity Heat Pump Instead of Multiple Small Heat Pumps

Installing a high-capacity heat pump system provides efficient and powerful heating while handling high thermal loads. The R32 Monobloc 51 kW ensures centralized heat production, simplify installation, and optimize space utilization. Perfect suitable solution for buildings with high & variable thermal loads (commercial, multi-residential, industrial).

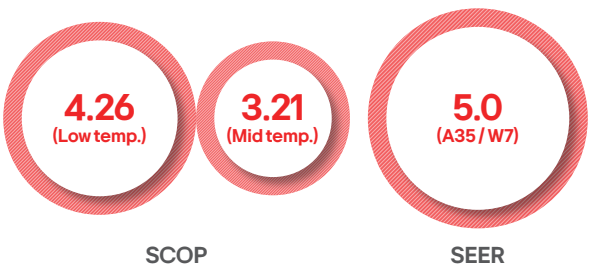
- Well-suited large capacity heat pump for multi family house and various commercial spaces including office buildings, schools and universities
- Centralized solution for both new built and renovation projects
- No refrigerant work require (Plug and play concept)



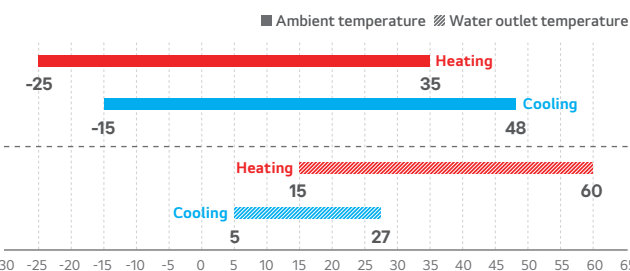
Excellent Performance

High Energy Efficiency

- High heating efficiency SCOP 4.26 / 3.21 (Low / Mid temp.)
- High cooling efficiency SEER 5.0 (A35 / W7)
- 100% Heating capacity at -10°C outdoor temperature



Achieving the highest ErP energy grade A++ / A++ for space heating



Space Optimization

Handy Installation with Small Size and Weight

- Light weight and small size, easy to install
- Ideal for buildings with limited space or where compact installation is required.



Simplified and Centralized Solution

- Easy to design and manage the entire system, with fewer points of failure and simpler hydraulic and electrical connections.
- Easy and cost effective to monitor and maintain with only one unit



THERMA V R32 MONOBLOC 51 kW

Outdoor unit

HM513MR UXCO

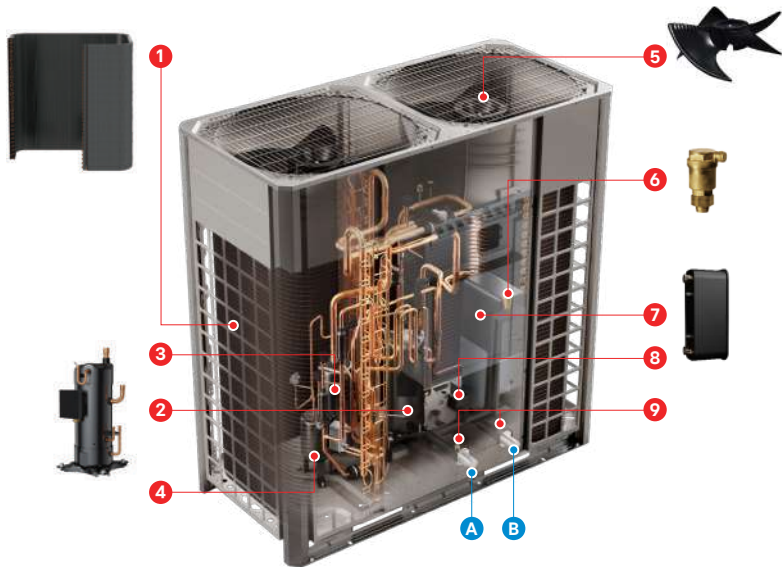
Indoor unit

PHCSLO ENCXLEU



Key Components

Outdoor Unit



Components

- 1 Black Fin heat exchanger (air / ref.)
- 2 Compressor
- 3 Accumulator
- 4 Receiver
- 5 Biomimetic fan
- 6 Air vent
- 7 Plate heat exchanger
- 8 Flow Switch
- 9 Inlet / Outlet Temp. sensor

Connections

- A Leaving water pipe (male PT 1-1/2")
- B Entering water pipe (male PT 1-1/2")

Indoor Unit (Control Unit)



Components

- 1 Standard III remote controller¹⁾

1) Temperature control class (ERP class) : V

Product Specification

Efficiency Data		Unit	51 kW (3 Ø)
Seasonal space heating eff. class (35°C / 55°C)		-	A++ / A++
Seasonal space heating efficiency (η _s) (35°C / 55°C)		%	167 / 125
SCOP (35°C / 55°C)		-	4.26 / 3.21
Sound power level	Rated / low noise mode (heating)	dB(A)	82 / 75
Sound pressure level at 10m	Rated / low noise mode (heating)	dB(A)	54 / 47
Nominal Capacity and COP/EER			
Air +7°C / water +35°C	Heating capacity / COP	kW / -	51.0 / 4.30
Air +2°C / water +35°C	Heating capacity / COP	kW / -	51.0 / 3.40
Air -7°C / water +35°C	Heating capacity / COP	kW / -	51.0 / 2.50
Air +7°C / water +55°C	Heating capacity / COP	kW / -	51.0 / 2.80
Air -7°C / water +55°C	Heating capacity / COP	kW / -	40.0 / 1.67
Air +35°C / water +18°C	Cooling capacity / EER	kW / -	51.0 / 4.50
Air +35°C / water +7°C	Cooling capacity / EER	kW / -	51.0 / 3.10
Outdoor Units		Unit	HM513MR UXCO
Operation range (outdoor air temperature)	Heating & DHW (Min. ~ Max.)	°C	-25 ~ 35
	Cooling (Min. ~ Max.)	°C	-15 ~ 48
Refrigerant	Type	-	R32
	GWP	-	675
	Precharged amount	kg	10
Piping connections (water)	Inlet / outlet diameter	inch	Male PT 1-1/2" according to ISO 7-1 (tapered pipe threads)
Plate heat exchanger	Rated water flow rate	LPM	146
	Minimum flow rate (flow switch trigger point)	LPM	100
Dimension	H x W x D	mm	1,690 x 1,640 x 825
Weight	Net	kg	335
Exterior	Color of chassis / RAL code	-	Morning gray & dawn gray / RAL 7038 & RAL 7037
Power supply	Voltage, phase, frequency	V, Ø, Hz	380 ~ 415, 3, 50
	Standby power consumption	W	20
	Recommended circuit breaker	A	50
Indoor Units		Unit	PHCSLO ENCXLEU
Operation range (leaving water temperature)	Heating (Min. ~ Max.)	°C	25 ~ 60 (65) ⁷⁾
	Cooling (Min. ~ Max.)	°C	5 ~ 27
	DHW (Min. ~ Max.)	°C	25 ~ 80
Dimension	H x W x D	mm	490 x 420 x 141
Weight	Net	kg	6.8
Exterior	Color / RAL code	-	Essence white / RAL 9003
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 ~ 240, 1, 50
	Recommended circuit breaker	A	10

Note

- 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 EN 12102-1 and ISO 9614. Sound pressure level is not a value declared on Eurovent Program and 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 according to ErP regulation.
- This product contains fluorinated greenhouse gases.
- All installation sites must be equipped with an earth leakage circuit breaker (ELCB).
- The leaving water temperature of 65°C is possible only when a backup heater is installed.
- DHW 55-80°C Operating is available only when the booster heater is operating.

THERMA V R32

MONOBLOC 51 kW

Performance Table for Heating Operation

Maximum heating capacity (including defrost effect)

HM513MR UXC0

Outdoor Temp. [°C DB]	LWT 30 °C	LWT 35 °C	LWT 40 °C	LWT 45 °C	LWT 50 °C	LWT 55 °C	LWT 60 °C
	Capacity (kW)						
-25	30.3	29.3	25.3	19.2	-	-	-
-22	34.0	32.0	27.0	23.0	-	-	-
-20	37.1	36.8	35.3	32.8	29.6	-	-
-17	43.2	42.5	41.8	40.6	39.0	-	-
-15	47.3	46.4	46.1	45.8	45.3	40.0	-
-12	49.5	49.2	47.9	47.8	46.3	41.9	-
-10	51.0	51.0	49.2	49.1	47.0	43.1	36.0
-7	51.0	51.0	51.0	51.0	48.0	45.0	42.0
-2	51.0	51.0	51.0	51.0	51.0	51.0	47.5
2	51.0	51.0	51.0	51.0	51.0	51.0	51.0
7	51.0	51.0	51.0	51.0	51.0	51.0	51.0
10	51.0	51.0	51.0	51.0	51.0	51.0	51.0
15	51.0	51.0	51.0	51.0	51.0	51.0	51.0
20	51.0	51.0	51.0	51.0	51.0	51.0	51.0
25	51.0	51.0	51.0	51.0	51.0	51.0	51.0
30	-	51.0	51.0	51.0	51.0	51.0	51.0
35	-	-	51.0	51.0	51.0	51.0	51.0

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C),
LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)

2. Direct interpolation is permissible. Do not extrapolate.

3. Measuring procedure follows EN-14511.

- Rated values are based on standard conditions and it can be found on specifications.
- Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
- In accordance with the test standard (or nations), the rating will vary slightly.

4. The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum cooling capacity

HM513MR UXC0

Outdoor Temp. [°C DB]	LWT 5 °C	LWT 7 °C	LWT 10 °C	LWT 13 °C	LWT 15 °C	LWT 18 °C	LWT 20 °C	LWT 22 °C	LWT 27 °C
	Capacity (kW)								
-15	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
-10	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
-5	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
10	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
20	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
30	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
35	48.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0
40	46.5	48.8	51.0	51.0	51.0	51.0	51.0	51.0	51.0
45	44.0	48.5	50.5	51.0	51.0	51.0	51.0	51.0	51.0
48	42.5	43.8	45.8	48.3	51.0	51.0	51.0	51.0	51.0

Note

1. DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C),
LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)

2. Direct interpolation is permissible. Do not extrapolate.

3. Measuring procedure follows EN-14511.

- Rated values are based on standard conditions and it can be found on specifications.
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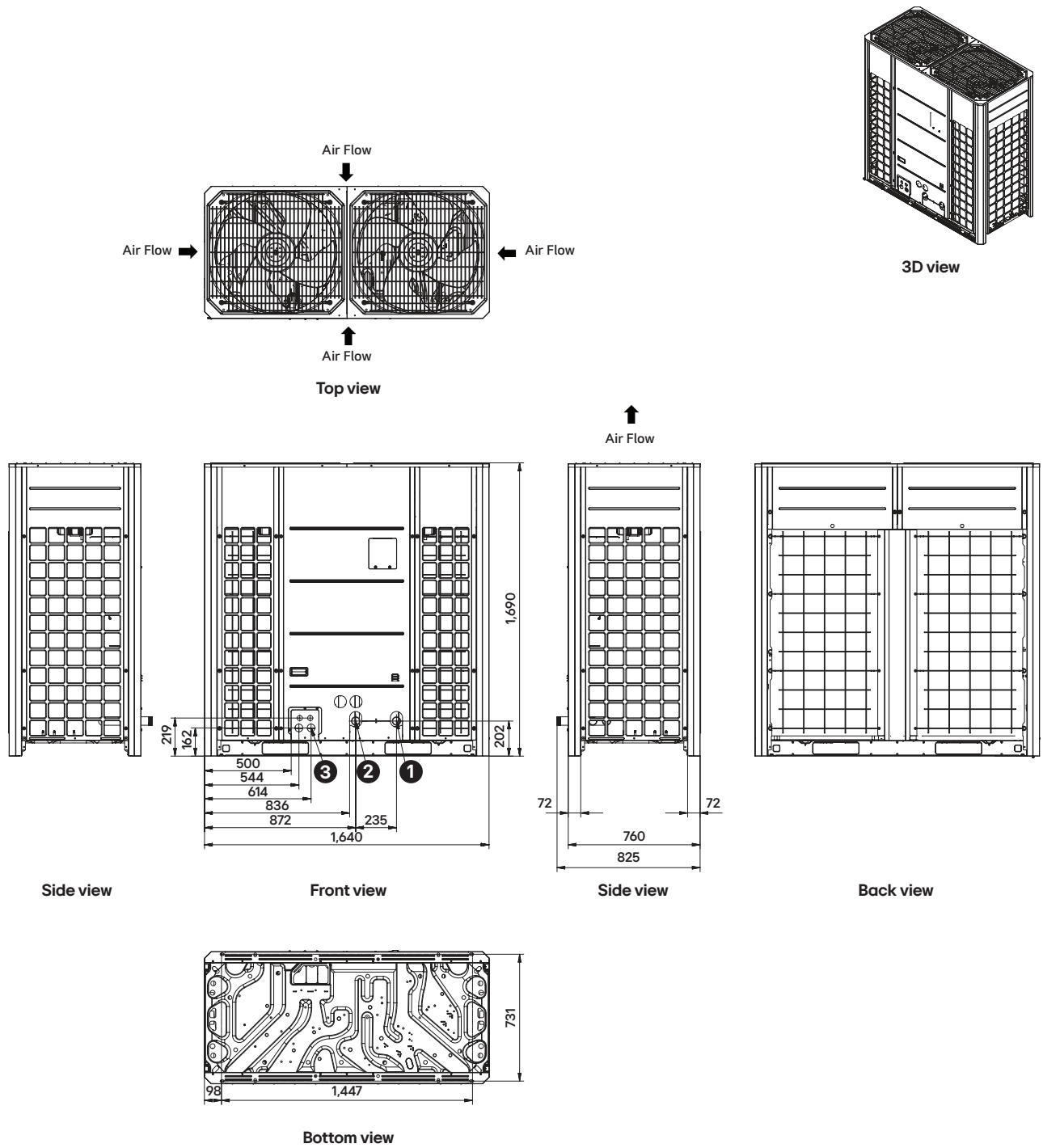
4. The shaded areas are not guaranteed continuous operation.

THERMA V R32 MONOBLOC 51 kW

Drawings

[Unit: mm]

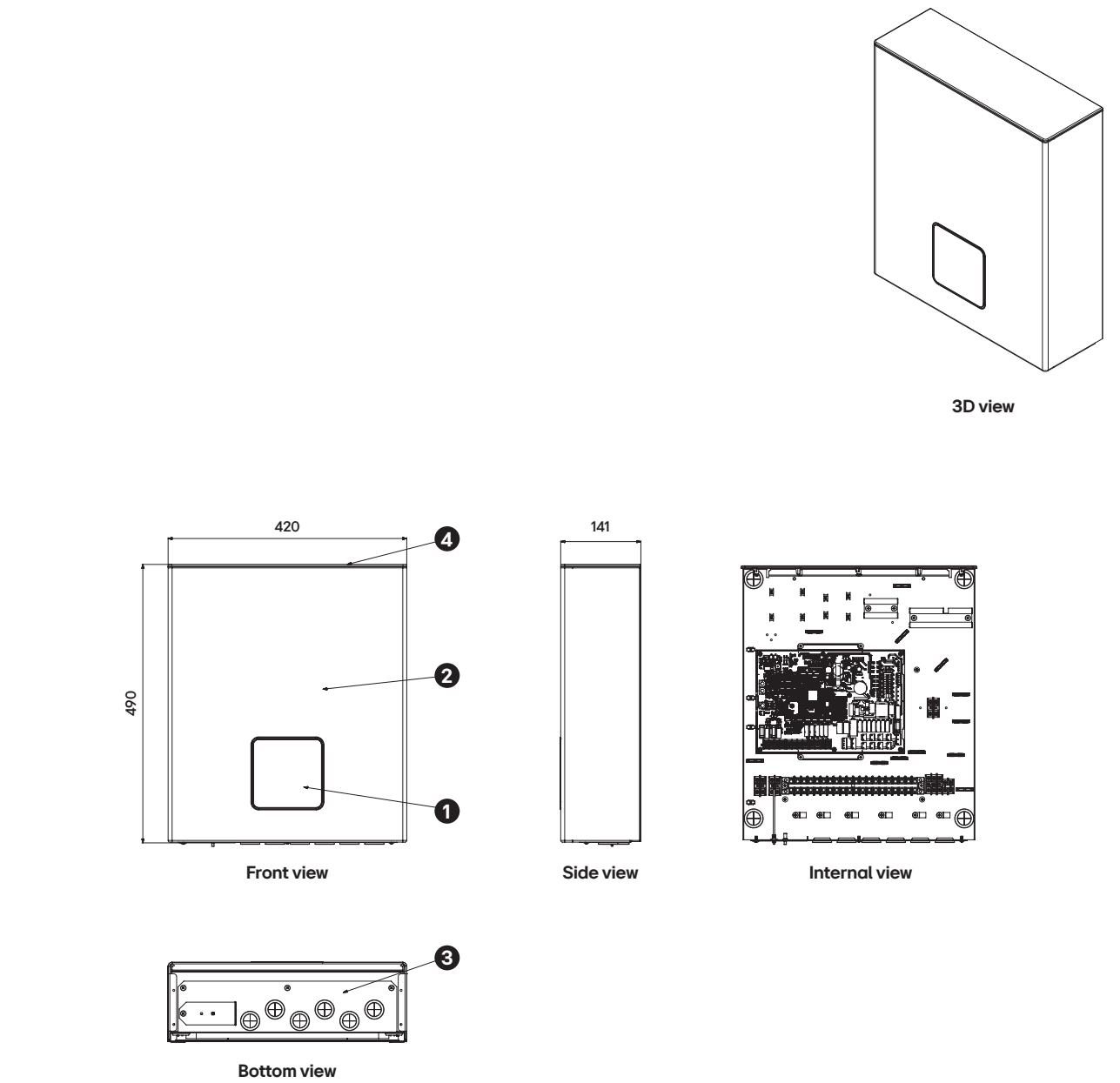
HM513MR UXC0



No.	Part Name	Description
1	Entering Water Pipe	Male PT 1-1/2" according to ISO 7-1 (Tapered pipe threads)
2	Leaving Water Pipe	Male PT 1-1/2" according to ISO 7-1 (Tapered pipe threads)
3	Access to Electrical Terminals	Power, Communication cables

PHCSL0 ENCXLEU

[Unit: mm]



No.	Part Name	Description
1	Remote Controller Assembly	Built-in Remote Controller
2	Panel Assembly,Front	SGMCD1 M08 ESSENCE WHITE PCM
3	Panel Assembly,Indoor	PCB and Terminal Blocks
4	Cover	MOLD ABS

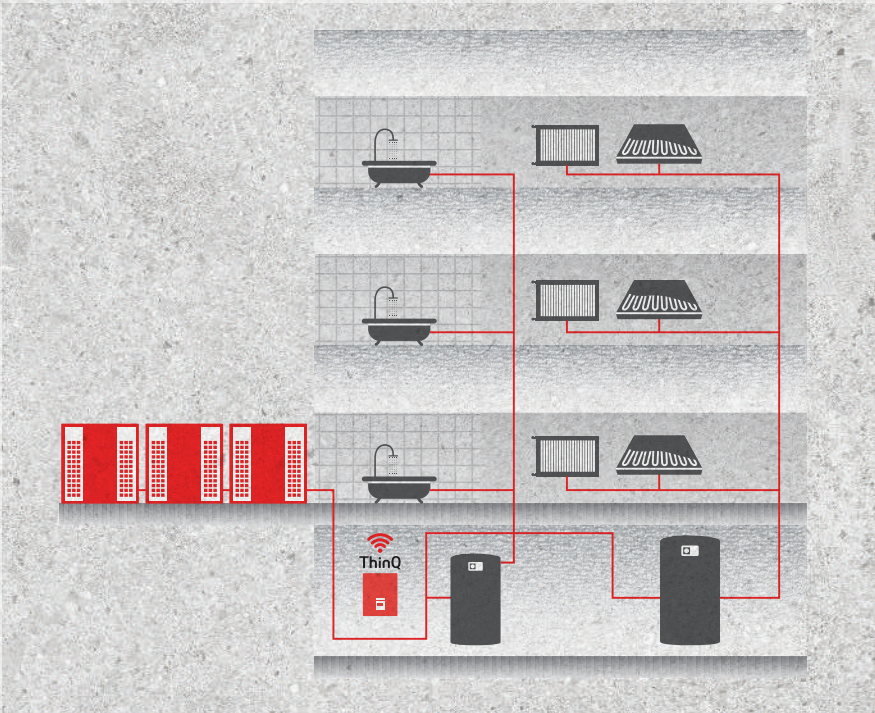


Flexible Combination, Great Scalability

Cascade system offers efficient performance across all heating capacity ranges, adapting to fluctuating demand while maintaining reliability and reducing unnecessary energy consumption. If necessary, it enables easy addition or removal of units according to the changes of thermal requirements such as renovation or Insulation improvement work, even after installation.

What is R32 Monobloc 51 kW Cascade

The LG R32 Monobloc 51 kW cascade solution is system allows more than one heat pump unit to work together to meet a property’s heating, cooling and hot water needs. It offers several significant advantages in terms of Performance, Flexibility, and Energy efficiency for buildings with variable thermal loads such as residential Collective Housing and light commercial.



Key Features

- Up to 8 outdoor units can be operated as one product
- Heating demands up to 408 kW can be covered through flexible combination
- Easy to configure as no separate devices are required except for the cascade control unit
- High efficient operation using the R32 Monobloc 51 kW outdoors over wide heating capacity ranges
- Intuitive interface through a 4.3 inch full-touch & full-color display and motion graphics
- Optimized Runtime Control for stable operation and maintenance
- Alternating defrost operation that Individual units enter into the defrost operation sequentially
- Emergency operation for various emergency situations
- LG ThinQ and LGMV are available for cascade system (require Wi-Fi modem)

R32

A++

A++

60°C

-25°C

ThinQ

Product Range

Description		Indoor Unit	Outdoor Unit
		Cascade Unit	
3 Ø	51 kW	PHCML0 ENCXLEU	HM513MR UXC0 (up to 8 units)

HIGHLIGHT OF R32 MONOBLOC 51 kW CASCADE

Cascade Solution for THERMA V

No Need to Install Separate Indoor Units; Just Connect the Outdoor Units

The cascade system allows more than one heat pump unit to work together to meet a property's heating, cooling and hot water needs. It is the perfect solution for buildings with variable thermal loads. (Residential Collective Housing, light commercial)

Installing a Cascade Heat Pump system offers several significant advantages in terms of Performance, Flexibility, and Energy efficiency.

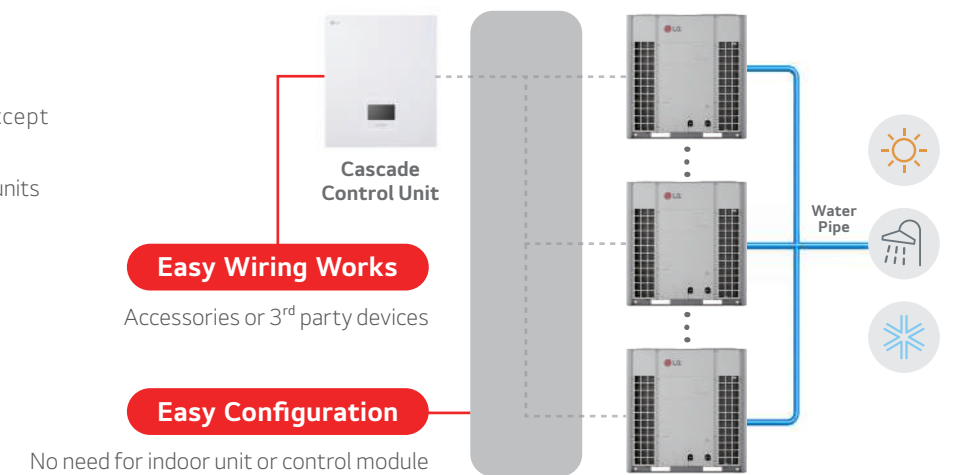
- Modularity and scalability
- Optimal operation
- Installation flexibility
- Built-in redundancy and maintenance



Easy Installation

Easy Wiring Works

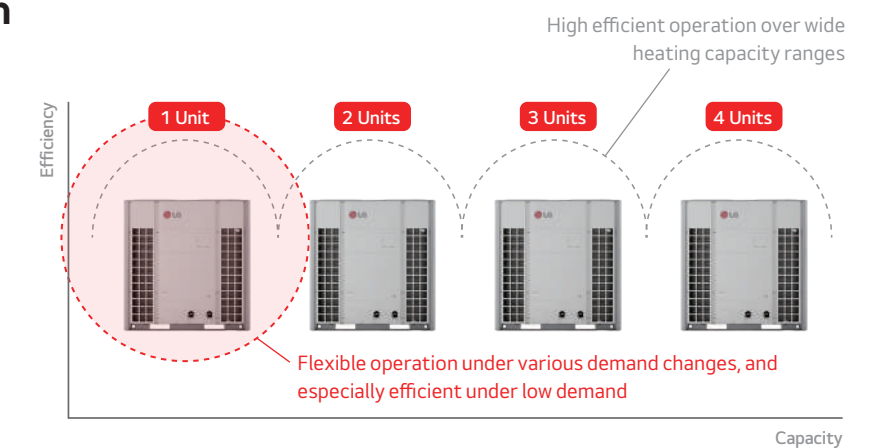
- No separate devices required except cascade control unit
- Direct control for multiple outdoor units



High Efficient Operation

Efficient Operation due to Cascade System

- Efficient operation over wide heating capacity ranges
- Efficient operation with ECO mode



High Functionality

Built-in Control Logic into Cascade Control Unit

- No external controller required
- Various control logics integrated into the Cascade Control Unit



THERMA V R32 MONOBLOC 51 kW

CASCADE CONTROL UNIT

Indoor unit
PHCML0 ENCXLEU



Product Specification

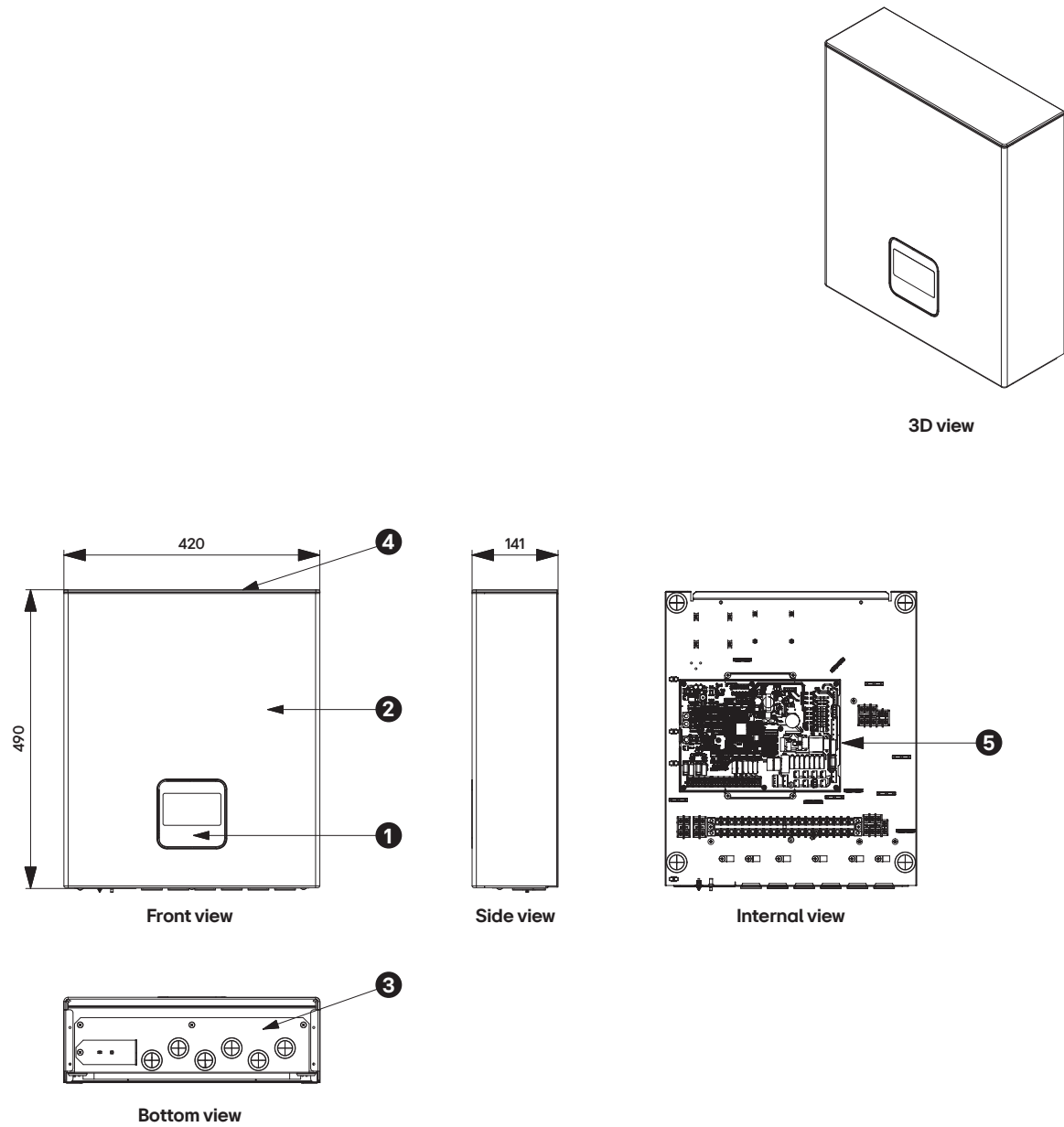
Indoor Unit		Unit	PHCML0 ENCXLEU
Operation range (leaving water temperature when combined to R32 Monobloc 51 kW)	Heating (Min. ~ Max.)	°C	25 ~ 60 (65) ³⁾
	Cooling (Min. ~ Max.)	°C	5 ~ 27
	DHW (Min. ~ Max.)	°C	15 ~ 80
Dimension	H x W x D	mm	490 x 420 x 141
Weight	Net	kg	7.1
Exterior	Color of chassis / RAL code	-	Essence white / RAL 9003
Power supply	Voltage, phase, frequency	V, Ø, Hz	220 ~ 240, 1, 50
	Recommended circuit breaker	A	10

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. The leaving water temperature of 65°C is possible only when a backup heater is installed.
4. DHW 55 ~ 80°C operating is available only when the booster heater is operating.

Drawings

[Unit: mm]

PHCML0 ENCXLEU



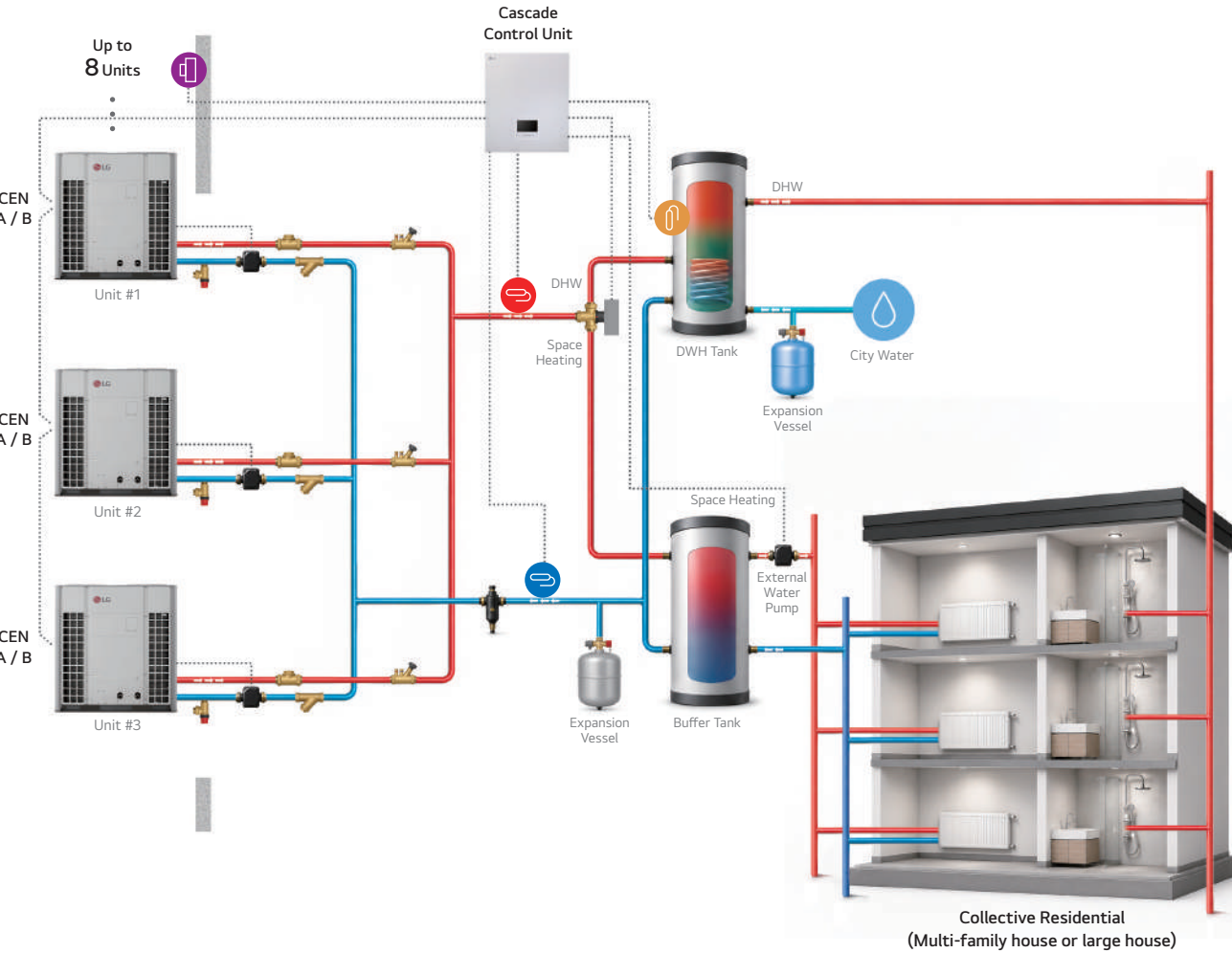
No.	Part Name	Description
1	Remote Controller Assembly	Built-in Remote Controller
2	Panel Assembly.Front	SGMCD1 M08 ESSENCE WHITE PCM
3	Base Assembly.Indoor	PCB and Terminal Blocks
4	Cover	MOLD ABS
5	PCB Assembly.Main	AWHP Cascade_Main PCBA

THERMA V™ **Monobloc 51 kW**

Case #2. Space Heating / Cooling System and Hot Water System are Designed Separately

Operation Mode ¹⁾	Unit #1	Unit #2	Unit #3
Space Heating / Cooling	Operable According to Load		
Domestic Hot Water	Operable According to Load		

1) Simultaneous operation of space heating / cooling and hot water using HP Cycle is not possible.

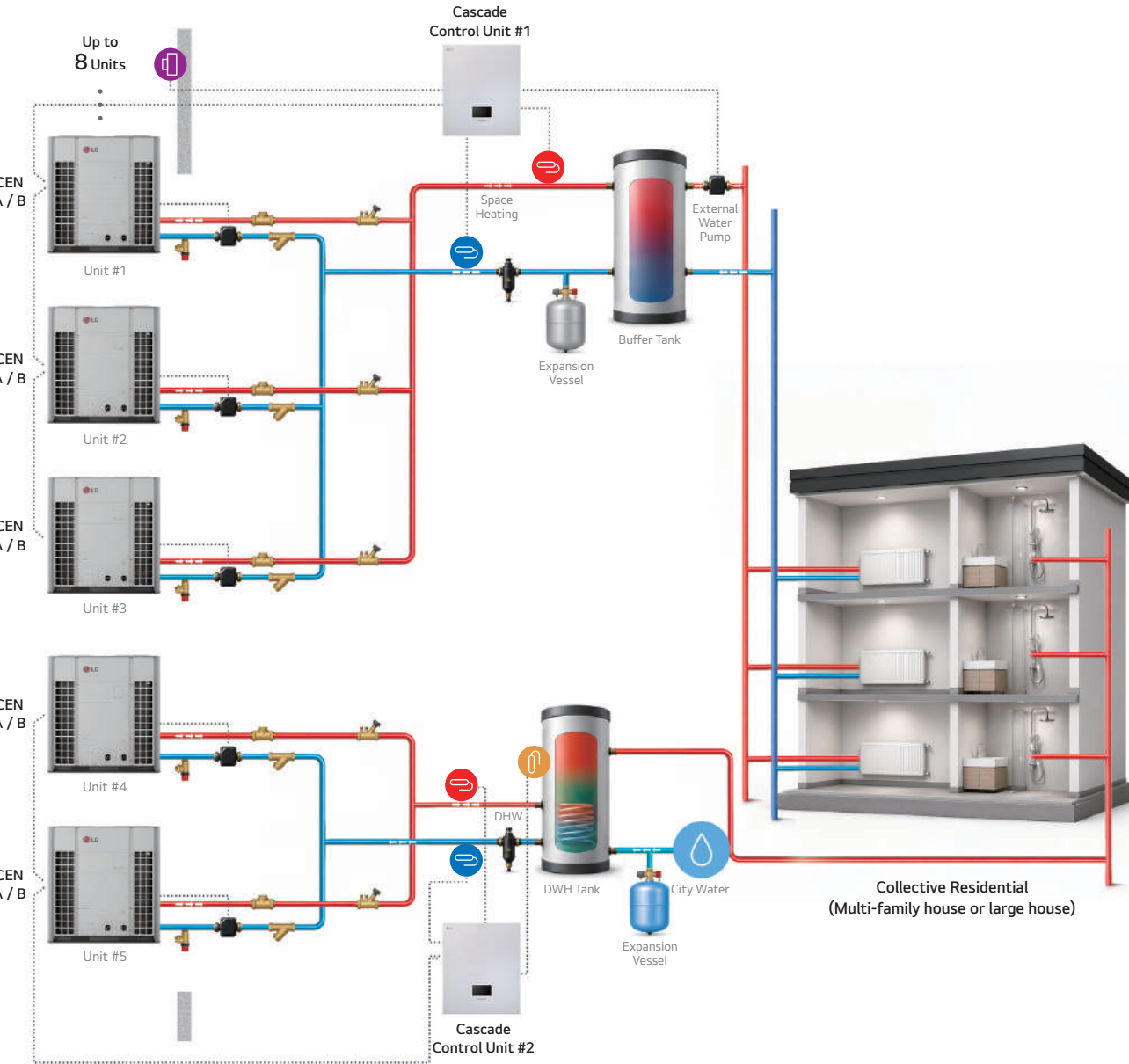


- | | | |
|--|---|--|
|  Safety Valve |  3 Way Valve |  Outlet Water Temperature Sensor (supplied with cascade control unit) |
|  Water Pump |  Balancing Valve with Flow Meter |  Inlet Water Temperature Sensor (supplied with cascade control unit) |
|  Strainer | |  DHW Temperature Sensor (accessory) |
|  Check Valve |  Magnetic Filter |  Wall-mounted Outside Sensor (accessory) |

1. All outdoor units connected to Cascade Control Unit must be configured with models of the same capacity.
2. Please select the flow rate for each unit based on ΔT 5°C and design the system so that the required flow rate is secured.
3. A water pump must be installed at the branch pipes of the each R32 Monobloc 51 kW and connected to the outdoor unit by magnetic switch.
4. Since the water pump in each unit can only be set to the same capacity, make sure to configure piping arrangement with a reverse return type or use a low loss header.
5. To ensure even flow distribution and prevent backflow, please install a balancing valve with flow meter and a check valve on each product.
6. Please install the inlet temperature sensor and outlet temperature sensor supplied with Cascade Control Unit at the location where the inlet and outlet lines join together.
7. It is important to design the size of combined water pipes appropriately. Please design the water pipes of sufficient size to ensure the required flow rate for each unit and reduce head loss.
8. In addition to the components listed above, please add various valves, drains, and fittings for stabilization and maintenance of the hydronic system.

Operation Mode	Cascade Control Unit ¹⁾	Unit #1	Unit #2	Unit #3	Unit #4	Unit #5
Space Heating / Cooling	Cascade Control Unit #1	Operable According to Load			Impossible	
Domestic Hot Water	Cascade Control Unit #2	Impossible			Operable According to Load	

1) If space heating / cooling and hot water loads are required consistently and continuously regardless of time, it is recommended to configure the system separately.



- | | | | | | |
|---|--------------|---|---------------------------------|---|--|
|  | Safety Valve |  | 3 Way Valve |  | Outlet Water Temperature Sensor (supplied with cascade control unit) |
|  | Water Pump |  | Balancing Valve with Flow Meter |  | Inlet Water Temperature Sensor (supplied with cascade control unit) |
|  | Strainer | | |  | DHW Temperature Sensor (accessory) |
|  | Check Valve |  | Magnetic Filter |  | Wall-mounted Outside Sensor (accessory) |