

REFERENCED APPLICATION #1 SPACE HEATING & COOLING WITH DRY CONTACT

DWG NO.:

REV. 00

10/09/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump	显	Motorized 3 Way Valve	Ž	Check Valve	○○○	RS3 Remote Controller
Θ	Expansion Tank	\mathbb{R}	Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
Ê	Air Vent	\nearrow	Differential Pressure Valve	1	Y-type strainer	•.0	Dry Contact
⊙ T	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor	•	Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve		Magnetic Contactor	-0	Thermostat
Yq	Drain	\bowtie	Pressure Reducing Valve	Ų,	Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessorie	s	
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
Extension Cable for Wi-Fi Modem	Cable Length 10m	PWYREW000
Dry Contact	A control switch that enables turning THERMA V On/Off after receiving the signal from external control system.	PDRYCB000 PDRYCB320

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss. Controlled by THERMA V with 230V power.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time: less than 90s.
Direct Digital Controller	A control device that uses the analogue or digital signals from various devices and then process and control the system based on the program written inside the controllers and has the capability to sends the information to another controller.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
2 Way Valve for Thermostat	A isolation valve paired with thermostat to allow whether water flows into the water circuit.

ACCESSORY LIST		Scope	of supply
Full Name	LG Part No.	LG	3rd party
2 Remo Cable	PZCWRC2	0	
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	-		0
Buffer Tank	For IWT, OSHB-40KT	0	0
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	0	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	0	0
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve	-		0
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor	-	0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger	-		0
Radiator	-		0
Recirculation Pump	-		0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
Solar Pump	-		0
Safety Relief Valve	-		U
Strainer	-		0
Solar Temperature Sensor (PT-1000)	-		0
Service Valve	-		0
Thermostat	-		0
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	0	0
Under Floor Heating Coil	-		0
Wi-Fi Modem	PWFMDD200	0	
Water Temperature Sensor	-		0



REFERENCED APPLICATION #1 SPACE HEATING & COOLING WITH DRY CONTACT

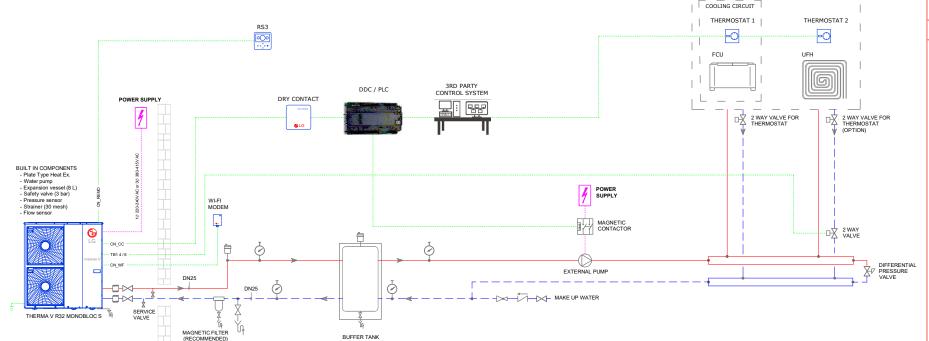
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & Cooling with Dry Contact
Product	R32 Monobloc S (New)
Terminal Device	UFH(H) + FCU(H&C)
Main Controller	3rd Party Controller
Control Setting of LG RS3 Controller	Based on Water Temp.
External Pump	Controlled by 3rd Party Controller

SYMBOL & LEGENDS RS3 Remote Controller Circulation Pump Motorized 3 Way Valve Check Valve Safety Relief Valve with drain Remote Room Air Sensor Differential Pressure Valve Y-type strainer Thermostatic Mixing Valve Wi-Fi Modem Shut Off Valve Magnetic Contactor Pressure Reducing Valve Cover Plate

SPACE HEATING AREA



NOTE

- 1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

LG ACCESSORIES

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

extendable up to max. 50m using extension cable (PZCWRC1)

Wi-Fi Modem (PWFMDD200)

A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m

Extension Cable for Wi-Fi Modem (PWYREW000)

Cable Length 10m

Dry Contact (PDRYCB000, PDRYCB320)

A control switch that enables turning THERMA V On/Off after receiving the signal from external control system.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

2 Way Valve

A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode.

Controlled by THERMA V with 230V power.

Required operating time: less than 90s.

DDC (Direct Digital Controller)

A control device that uses the analogue or digital signals from various devices and then process and control the system based on the program written inside the controllers and has the capability to sends the information to another controller.

Thermostat

A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint Thermost at must be connected with Therma V, Valve, Pump, and FCU where applicable.

2 Way Valve for Thermostat

A isolation valve paired with thermostat to allow whether water flows into the water circuit.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.



REFERENCED APPLICATION #1 SPACE HEATING & COOLING WITH DRY CONTACT

WIRING DIAGRAM MAIN PCB (HYDRO) MONOBLOC UNIT 1 2 3 4 5 6 7 8 WATER PUMP (C) BR BL 19 20 L N OOOOOOOO 3RD PARTY DDC DRY CONTACT CONTROL SYSTEM ON OFF 1 2 3 4 5 6 7 8 N 18 BL N -0 H! THERMOSTAT 1 -0 THERMOSTAT 2 WATER PUMP (B) BR BL 15 16 L N W.TANK HEATER B BR BL F 13 14 CN_TH4 3 WAY VALVE (B BR WH | 10 11 : SOLAR DEW <u>ω</u> AMBIENT 3 WAY VALVE (A BR WH 7 8 L L1 MAIN PCB (CYCLE) ON For 5/7/9 kW models Party WH 27 B 123456 3rd P. Contr. BK EXT BOILER PUMP A2 RD 25 MAGNETIC CONTACTOR 24 BK TB2 & TB3 BL BR 1 21 22 L N POWER SUPPLY 1Ø 220 ~ 240 V AC NOTE RS3 WIFI MODEM 1. The wiring cable size and Circuit breaker selection 3 PHASE HEATER1 HEATER2 must comply with installation manual and POWER applicable local regulations. Power supply of the 1 Phase Model SUPPLY Main T/B 1(L)2(N) 2. Make sure that Earth Leakage Circuit Breaker 1Ø 220 ~ 240 V AC TB_HEAT_CONTACT (ELCB) should be installed for power supply line. Power supply of the 3 Phase Model POWER Main T/B R S T N **(** SUPPLY 3Ø 380 ~ 415 V AC

DIP SWITCH SETTINGS



REFERENCED APPLICATION #2-1 SPACE HEATING & COOLING WITH THERMOSTAT

DWG NO.:

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SYMBOL & LEGENDS

	Circulation Pump	墨	Motorized 3 Way Valve	Ž	Check Valve	• <u></u> ••••	RS3 Remote Controller
Θ	Expansion Tank	呂	Motorized 2 Way Valve	1	Safety Relief Valve with drain		Remote Room Air Sensor
Ê	Air Vent	$^{\wedge}$	Differential Pressure Valve	1	Y-type strainer	•.0	Dry Contact
⊙ _	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor	·	Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	17	Magnetic Contactor	-0	Thermostat
Yq.	Drain	\bowtie	Pressure Reducing Valve	F,	Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessorie	es	
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time: less than 90s.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
2 Way Valve for Thermostat	A isolation valve paired with thermostat to allow whether water flows into the water circuit.

ACCESSORT EIST		Scope	of supply
Full Name	LG Part No.	LG	3rd party
2 Remo Cable	PZCWRC2	0	
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	-		0
Buffer Tank	For IWT, OSHB-40KT	0	0
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	0	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	0	0
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve	-		0
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter	-		0
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor	-	0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger	-		0
Radiator	-		0
Recirculation Pump			0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
0-1 0	-		0
Solar Pump			0
Safety Relief Valve	-		
	-		0
Safety Relief Valve	-		0
Safety Relief Valve Strainer	- - -		
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000)			0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat	-	0	0 0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat Thermostatic Mixing Valve	-	0	0 0 0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat	- - OSHA-MV	0	0 0



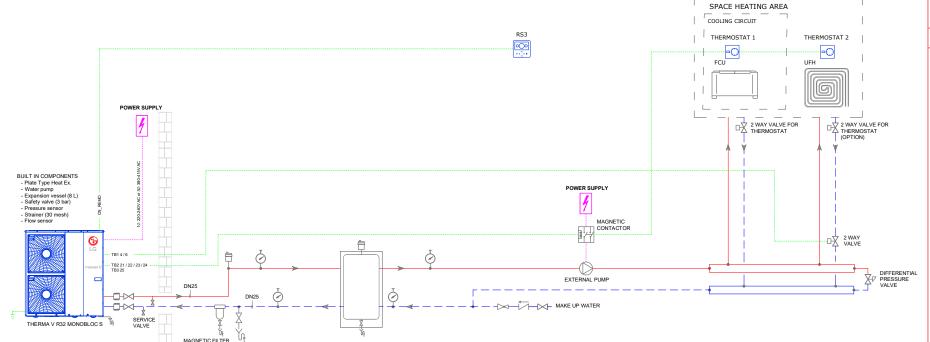
REFERENCED APPLICATION #2-1 SPACE HEATING & COOLING WITH THERMOSTAT

HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & Cooling with Thermostat
Product	R32 Monobloc S (New)
Terminal Device	UFH(H) + FCU(H&C)
Main Controller	Thermostat
Control Setting of LG RS3 Controller	Based on Water Temp.
External Pump	Controlled by Thermostat

SYMBOL & LEGENDS Circulation Pump Expansion Tank Motorized 3 Way Valve Expansion Tank Motorized 2 Way Valve Safety Relief Valve with drain Remote Controller Air Vent Differential Pressure Valve Y-3-ype strainer Pressure Gauge Thermostatic Mixing Valve Flow Sensor Flow Sensor Flow Sensor Wi-Fi Modem Flexible Connection Shut Off Valve Pressure Reducing Valve Drain Pan Cover Plate



LG ACCESSORIES

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

Monobloc : supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended) A magnetic filter that collects metallic particle

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

2 Way Valve

A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time: less than 90s.

Thermostat

A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint Thermostat must be connected with each 2 Way Valve and FCU where applicable.

2 Way Valve for Thermostat

A isolation valve paired with thermostat to allow whether water flows into the water circuit.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.

NO

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- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.



REFERENCED APPLICATION #2-1 SPACE HEATING & COOLING WITH THERMOSTAT

WIRING DIAGRAM MONOBLOC UNIT 8L I N I I I 3 WAY 3 WAY 1 WALVE (B) 2 WALVE (B) 1 WALV CN_TH4 SOLAR DEW g AMBIENT WANTENDE COLOR OF THE COLOR OF EXTERNAL 3rd Party Controller RD BK WH 25 26 27 L3 A B EXT BOILER PUMP A2 230 V AC / L3 DHW THERMOSTAT (Default 230 V AC WH BK 23 24 L1 L2 230 V AC / L2 Heating (On/Off) 230 V AC / L1 Cooling BL BR 1 TB2 & 230 V AC MECHANICAL THERMOSTAT (3rd party) RS3 MAGNETIC CONTACTOR COMMON 3 PHASE HEATER1 HEATER2 POWER Power supply of the 1 Phase Model SUPPLY Main T/B 1(L)2(N) 1Ø 220 ~ 240 V AC TB_HEAT_CONTACT CN_WF POWER SUPPLY Power supply of the 3 Phase Model 1Ø 220 ~ 240 V AC POWER Main T/B R S T N **(** SUPPLY 3Ø 380 ~ 415 V AC

DIP SWITCH SETTINGS

MAIN PCB (HYDRO)



SW2



	DIP SW 1	1	2	3	4	5	6	7	8
MODBUS Communication	Master (Link to LG controller)	х		Г			Г	Г	Г
Type	Slave (Link to 3rd party controller)	0	П	Г	Г	П	Г	Г	Г
MODBUS	REGINE		х	Г		Г		Г	П
Function	Unified Open Protocol	П	0	Г		Г	П	Г	Г
	Antifreeze is not applied	Г		Г	П	Г	г	Г	х
Antifreeze Mode	Antifreeze is applied (Adjustable anti-freeze temp.)	Г	П	Г	Г	Г	Г	Г	0
	default setting	х	х	Г	Т	Г	г	Г	х
						_		_	
	DIP SW 2	1	2	3	4	5	6	7	8
Indoor Unit Type Setting for Group	As Master	х		Г			Г	Г	Г
Control	As Slave	0		Г	Г	П	Г	Г	Г
Accessory	Heat pump installation (Heating or cooling circuit only)	Г	×	х	П	Г	Г	Г	Г
Installation	Heat pump + DHW tank are installed		х	0					
Information	Heat pump + DHW tank + Solar thermal system are installed		0	х			Г		
Heat Pump Cycle	Heating only				х				
near rump Cycle	Heating and cooling			Г	0	Г		Г	П
Remote Room Air Sensor	Remote room air sensor is not installed	Г		Г		х	Г	Г	Г
(Accessory)	Remote room air sensor is installed	Г		П	Г	0	Г	Г	П
	Backup heater is not used	П		Т		Т	х	×	Т
Selecting Backup Heater Capacity	Half capacity is used	Г		Г	П	Т	0	х	П
пеше сприску	Full capacity is used	Г		Г		Г	0	0	П
Thermostat	Thermostat is not installed			Г				Г	х
Installation	Thermostat is installed	П							0
	default setting	Х	х	х	Х	х	Х	х	х

MAIN PCB (CYCLE)

123456

ON For 5/7/9 kW models

	DIP SW 1	2	3	
	Always mode : Maintain low noise mode for target temperature	х		
Low Noise Mode	Partial mode : Escape low noise mode for target temperature	0		
	Max mode		х	1
Peak Control	Peak control : To limit maximum current (Power saving)	Г	0	
	default setting	х	х	1

<u>NOTE</u>

- 1. The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- 2. Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.



REFERENCED APPLICATION #2-2 SPACE HEATING & COOLING WITH THERMOSTAT

DWG NO.:

REV. 00

10/09/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump	\mathbb{Z}	Motorized 3 Way Valve	$\overrightarrow{\square}$	Check Valve	• ○ •	RS3 Remote Controller
Θ	Expansion Tank	\bowtie	Motorized 2 Way Valve	T-	Safety Relief Valve with drain		Remote Room Air Sensor
Ê	Air Vent	À	Differential Pressure Valve	~	Y-type strainer	Fe file	Dry Contact
Q	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor	į	Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	14	Magnetic Contactor	-0	Thermostat
Yq	Drain	\bowtie	Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessorie	LG supplied accessories						
Full Name	Description	Part No.					
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3rd party accessories	
Full Name	Description
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2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time: less than 90s.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST		Scope	of supply
Full Name	LG Part No.	LG	3rd party
2 Remo Cable	PZCWRC2	0	
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	-		0
Buffer Tank	For IWT, OSHB-40KT	0	0
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	0	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	0	0
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve	-		0
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor	-	0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger	-		0
Radiator	-		0
Recirculation Pump	-		0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
Solar Pump	-		0
Safety Relief Valve	-		Ü
Strainer	-		0
Solar Temperature Sensor (PT-1000)	-		0
Service Valve	-		0
Thermostat	-		0
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	0	0
Under Floor Heating Coil	-		0
Wi-Fi Modem	PWFMDD200	0	
Water Temperature Sensor	-		0



REFERENCED APPLICATION #2-2 SPACE HEATING & COOLING WITH THERMOSTAT

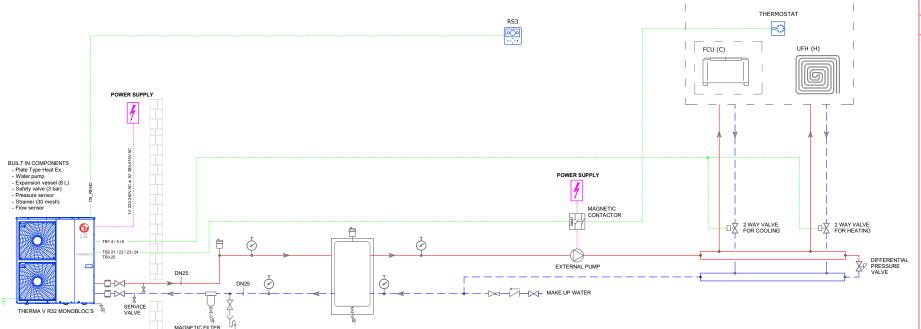
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & Cooling with Thermostat
Product	R32 Monobloc S (New)
Terminal Device	UFH(H) + FCU(H&C)
Main Controller	Thermostat
Control Setting of LG RS3 Controller	Based on Water Temp.
External Pump	Controlled by Thermostat

SYMBOL & LEGENDS RS3 Remote Controller Circulation Pump Motorized 3 Way Valve Check Valve Safety Relief Valve with drain Differential Pressure Valve Y-type strainer Thermostatic Mixing Valve Wi-Fi Modem Shut Off Valve Magnetic Contactor Pressure Reducing Valve Cover Plate

SPACE HEATING AREA



LG ACCESSORIES

RS3 Controller (Default)

A wired remote controller with built-in temperature Monobloc : supplied with 10m length cable,

extendable up to max. 50m using extension cable (PZCWRC1)

3RD PARTY ACCESSORIES

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended) A magnetic filter that collects metallic particle

caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

2 Way Valve

A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode.

Controlled by THERMA V with 230V power. Required operating time : less than 90s.

Thermostat

A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint In this application, Thermostat must be connected with Therma V and interlocking operation with FCU is required.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.

- 1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.



POWER

SUPPLY

POWER

SUPPLY

Main T/B 1(L)2(N)

Main T/B R S T N

REFERENCED APPLICATION #2-2 SPACE HEATING & COOLING WITH THERMOSTAT

WIRING DIAGRAM MONOBLOC UNIT WATER PUMP (C) BR BL 19 20 L N WATER PUMP (B) R BL 1 15 16 L N 2 WAY VALVE FOR HEATING (NC Valve) 2 WAY VALVE - L : on Voltage when Cooling is active W.TANK HEATER P BR BL F 13 14 : - L1 : on Voltage when Cooling is not active 2 WAY VALVE FOR COOLING MACALVE CALVE (A) 3WAY 3WAY 3WAY BR BR BR BR BR WH BL BR WH BR WH BL BR WH BR WH BL BR WH BR CN_TH4 SOLAR DEW g AMBIENT CN_ROOM2 CN_ROOM1 EXTERNAL 3rd Party Controller RD BK WH 25 26 27 L3 A B EXT BOILER PUMP A2 230 V AC / L3 DHW THERMOSTAT (Debult 230 v AC WH BK 23 24 L1 L2 230 V AC / L2 Heating (On/Off) 230 V AC / L1 Cooling **FB2 & TB3** BL BR 1 CN MIX OUT 230 V AC MECHANICAL THERMOSTAT

3 PHASE HEATER1 HEATER2

CN_WF

TB_HEAT_CONTACT

Power supply of the 1 Phase Model

(

1Ø 220 ~ 240 V AC

Power supply of the 3 Phase Model

3Ø 380 ~ 415 V AC

RS3

DIP SWITCH SETTINGS MAIN PCB (HYDRO)

1 2 3 4 5 6 7 8

W2									
ON	1	2	3	4	5	6	7	8	

	DIP SW 1		-	13	-	9	0	-	8
MODBUS Communication	Master (Link to LG controller)	х		Г			Г		Г
Type	Slave (Link to 3rd party controller)	March 20 planty controlled)	П	Г					
MODBUS Function	REGINE		х	Г		Г			Г
Function	Unified Open Protocol	П	0	Г		5 X	П		Г
	Antifreeze is not applied	П		Г	П	Г	г		х
Antifreeze Mode	Antifreeze is applied (Adjustable anti-freeze temp.)	Г	П	Г	Г		Г	П	0
	default setting	х	х						х
				_		_			
	DIP SW 2	1	2	3	4	5	6	7	8
Indoor Unit Type Setting for Group	As Master	х							
Control	As Slave	0		Г	Г	П	Г	П	Г
Accessory Installation	Heat pump installation (Heating or cooling circuit only)	Г	×	х	П	Г	Г		Г
	Heat pump + DHW tank are installed		х	0					Г
Information	Heat pump + DHW tank + Solar thermal system are installed		0	х	x		Г		
Heat Pump Cycle	Heating only			×					
ricat rump cycle	Heating and cooling				0				
Remote Room Air Sensor	Remote room air sensor is not installed					х	Г		Г
Air Sensor inst	Remote room air sensor is installed			П	Г	0	Г		Г
	Backup heater is not used	Т		Т		Т	х	х	Г
Selecting Backup Heater Capacity	Half capacity is used	0 X X 0 X X 0 X X X X X X X X X X X X X	х	Г					
	Full capacity is used			Г			0	0	Г
Thermostat	Thermostat is not installed	П		Г		П	Г	П	х
Installation	Thermostat is installed								0
	default setting	х	х	Х	Х	Х	Х	х	х

MAIN PCB (CYCLE)

123456

ON For 5/7/9 kW models

				X:OFF/0:01
	DIP SW 1	2	3	
Low Noise Mode	Always mode : Maintain low noise mode for target temperature	х		
	Partial mode : Escape low noise mode for target temperature	0		
	Max mode		х	
Peak Control	Peak control : To limit maximum current (Power saving)	Г	0	
	default setting	х	х	

<u>NOTE</u>

(3rd party)

POWER SUPPLY

1Ø 220 ~ 240 V AC

MAGNETIC CONTACTOR

- 1. The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- 2. Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.



REFERENCED APPLICATION #2-3 SPACE HEATING & COOLING WITH THERMOSTAT

DWG NO.:

REV. 00

10/09/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump	\mathbb{Z}	Motorized 3 Way Valve	$\overrightarrow{\square}$	Check Valve	• ○ •	RS3 Remote Controller
Θ	Expansion Tank	\bowtie	Motorized 2 Way Valve	T-	Safety Relief Valve with drain		Remote Room Air Sensor
Ê	Air Vent	À	Differential Pressure Valve	~	Y-type strainer	Fe file	Dry Contact
Q	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor	į	Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	14	Magnetic Contactor	-0	Thermostat
Yq	Drain	\bowtie	Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories					
Full Name	Description	Part No.			
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default			

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
3 Way Valve	A motorized 3-way diverting valve determining flow direction to underfloor coil or FCU. Controlled by THERMA V with 230V power. Operating time 3s.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

	Scope	of supply
LG Part No.		3rd party
PZCWRC2		v py
-		0
OSHA-3V	0	0
-		0
For IWT, OSHB-40KT	0	0
For 3rd party Back-up Heater,		
PRSTAT5K10	0	
HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	0	0
-	0	0
-		0
PDC-HK10	0	
Integrated with DHW Tank	0	0
PDRYCB000 PDRYCB320	0	
-		0
-		0
PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	
	0	
	0	_
-		0
-		0
- DWW/DEW000		0
		0
PZCWRC1	- 0	0
For IMT OSHE 12KT (DHM Circuit)	_	
FOI IWI, OSHE-12KI (BHW Circuit)	U	0
-		0
-		0
-		0
OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
-		0
PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
-	0	0
-		0
PENKTH000	0	
-		0
PRSTAT5K10	0	
-	_	0
PMNFP14A1	0	
-		0
-		0
-		0
- DODETAG		0
	0	
2 Remo control		
2 Remo control		0
2 Remo control		0
-		0
- - -		0 0
- - - -		0 0 0
-		0 0 0 0
- - - -	0	0 0 0 0 0
- - - - - - OSHA-MV	0	0 0 0 0
	PZCWRC2	PZCWRC2



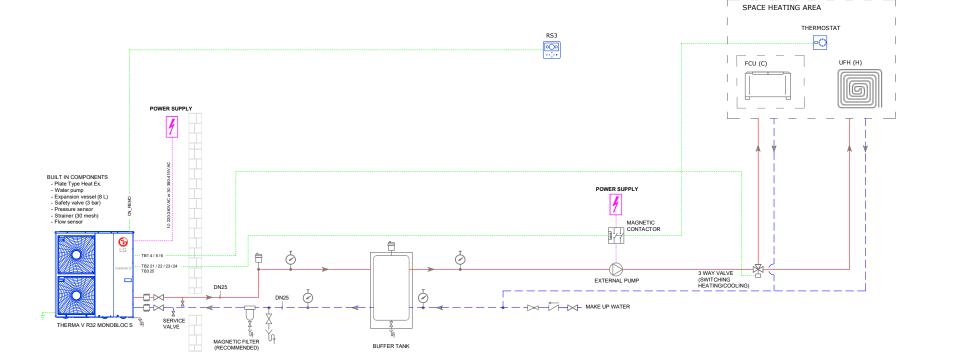
REFERENCED APPLICATION #2-3 SPACE HEATING & COOLING WITH THERMOSTAT

HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & Cooling with Thermostat
Product	R32 Monobloc S (New)
Terminal Device	UFH(H) + FCU(H&C)
Main Controller	Thermostat
Control Setting of LG RS3 Controller	Based on Water Temp.
External Pump	Controlled by Thermostat

SYMBOL & LEGENDS Circulation Pump Circulation Pump Expansion Tank Motorized 3 Way Valve Safety Relief Valve with drain Air Vent Differential Pressure Valve Thermostatic Mixing Valve Flow Sensor Flow Sensor Wi-Fi Modem Flexible Connection Shut Off Valve Pressure Reducing Valve



NOTE

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- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

LG ACCESSORIES

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

Monobloc : supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended) A magnetic filter that collects metallic particle

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

3 Way Valve

A motorized 3-way diverting valve determining flow direction to underfloor coil or FCU. Controlled by THERMA V with 230V power. Operating time 3s.

Thermostat

A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired selpoint. In this application, Thermostat must be connected with Therma V and interlocking operation with FCU is required.

Differential Pressure Valve A self pressure regulating valve that provides

constant differential pressure between supply and return headers.



REFERENCED APPLICATION #2-3 SPACE HEATING & COOLING WITH THERMOSTAT

WIRING DIAGRAM MONOBLOC UNIT WATER PUMP (C) BR BL 19 20 L N WATER PUMP (B) R BL 1 15 16 L N 3 WAY VALVE (SWITCHING HEATING/COOLING) 3 WAY VALVES FOR SWITCHING HEATING / COOLING W.TANK HEATER F BR BL E 13 14 : L N - L : on Voltage when Cooling is active - L1 : on Voltage when Heating is active MACALVE CALVE (A) 3WAY 3WAY 3WAY BR BR BR BR BR WH BL BR WH BR WH BL BR WH BR WH BL BR WH BR CN_TH4 SOLAR DEW g AMBIENT CN_ROOM2 CN_ROOM1 EXTERNAL 3rd Party Controller RD BK WH 25 26 27 L3 A B EXT BOILER PUMP A2 230 V AC / L3 DHW THERMOSTAT (Debult 230 v AC WH BK 23 24 L1 L2 230 V AC / L2 Heating (On/Off) 230 V AC / L1 Cooling **FB2 & TB3** BL BR 1 CN MIX OUT 230 V AC MECHANICAL THERMOSTAT (3rd party) RS3 MAGNETIC CONTACTOR 3 PHASE HEATER1 HEATER2 POWER Power supply of the 1 Phase Model SUPPLY Main T/B 1(L)2(N) 1Ø 220 ~ 240 V AC TB_HEAT_CONTACT CN_WF POWER SUPPLY Power supply of the 3 Phase Model POWER Main T/B R S T N **(** 1Ø 220 ~ 240 V AC SUPPLY 3Ø 380 ~ 415 V AC

DIP SWITCH SETTINGS

MAIN PCB (HYDRO)

1 2 3 4 5 6 7 8

SW2



						X : 0	DFF	10:	01
	DIP SW 1	1	2	3	4	5	6	7	8
MODBUS Communication	Master (Link to LG controller)	Х		П	Г		Г	П	Г
Type	Slave (Link to 3rd party controller)	0	П	Г	П	Т	Г	Г	Г
MODBUS	REGINE		х	Г		Г		Г	Г
Function	Unified Open Protocol	П	0	Г		Г	П	Г	Г
	Antifreeze is not applied	П		Г	П	Г	г	Г	7
Antifreeze Mode	Antifreeze is applied (Adjustable anti-freeze temp.)	Г	П	Г	Г		Г	Г	d
	default setting	х	х	Г	П	Г	г	Г	>
						_		_	_
	DIP SW 2	1	2	3	4	5	6	7	8
Indoor Unit Type	As Master	х		Г			Г	Г	Г
Setting for Group Control	As Slave	0		Г	Г	П	Г	Г	Г
Accessory	Heat pump installation (Heating or cooling circuit only)	П	х	х	Г		Г	Г	Γ
Installation	Heat pump + DHW tank are installed		х	0					
Information	Heat pump + DHW tank + Solar thermal system are installed		0	х			Г		Г
Heat Pump Cycle	Heating only				х				Г
neat rump Cycle	Heating and cooling				0				
Remote Room Air Sensor	Remote room air sensor is not installed					х	Г		Γ
(Accessory)	Remote room air sensor is installed			Г		0	Г	Г	Г
	Backup heater is not used	Т		Т		Т	х	×	T
Selecting Backup Heater Capacity	Half capacity is used	Т		Г	П	Т	0	х	T
riumur Capacity	Full capacity is used						0	0	Γ
Thermostat	Thermostat is not installed			Г		Т		Г	1
Installation	Thermostat is installed						Г	Г	0
	default setting	x	¥	×	x	×	x	x	1

MAIN PCB (CYCLE)

123456

ON For 5/7/9 kW models

				X:OFF/O:ON
	DIP SW 1	2	3	
Always mode : Maintain low noise mode for target temperature				
Partial mode : Escape low noise mode for target temperature		0		
	Max mode		х	
Peak Control	Peak control : To limit maximum current (Power saving)		0	
	default setting	Х	х	

<u>NOTE</u>

- 1. The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- 2. Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.



REFERENCED APPLICATION #3 SPACE HEATING WITH ANTI-FREEZE

DWG NO.:

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10/09/2021

GENERAL

SYMBOL & LEGENDS

		Circulation Pump	\mathbb{A}	Motorized 3 Way Valve	$\overrightarrow{\square}$	Check Valve	• <u></u> 00•	RS3 Remote Controller
	\bigcirc	Expansion Tank	丛	Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Ê	Air Vent	Å	Differential Pressure Valve		Y-type strainer	•	Dry Contact
	(S)	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor		Wi-Fi Modem
		Flexible Connection	\bowtie	Shut Off Valve	17	Magnetic Contactor	-0	Thermostat
	Yy	Drain	\bowtie	Pressure Reducing Valve	Ę,	Drain Pan		Cover Plate
ı								

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessorie	LG supplied accessories							
Full Name Description Part No.								
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default						
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200						
Extension Cable for Wi-Fi Modem	Cable Length 10m	PWYREW000						

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Plate Heat Exchanger	A heat exchanger made by stacking several thin metal plates that transfers heat between two fluids.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORT EIST		Scope	of supply
Full Name	LG Part No.	LG	3rd party
2 Remo Cable	PZCWRC2	0	
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	-		0
Buffer Tank	For IWT, OSHB-40KT	0	0
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	0	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	0	0
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve	-		0
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter	-		0
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor	-	0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger	-		0
Radiator	-		0
Recirculation Pump			0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
0-1 0	-		0
Solar Pump			0
Safety Relief Valve	-		
	-		0
Safety Relief Valve	-		0
Safety Relief Valve Strainer	- - -		
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000)			0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat	-	0	0 0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat Thermostatic Mixing Valve	-	0	0 0 0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat	- - OSHA-MV	0	0 0



REFERENCED APPLICATION #3 SPACE HEATING WITH ANTI-FREEZE

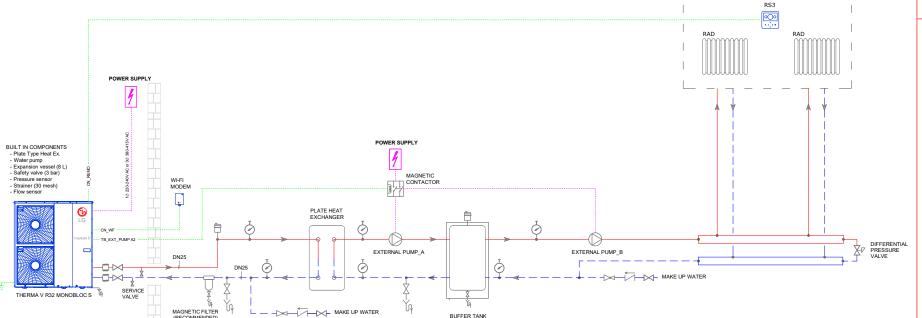
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating with Anti-freeze
Product	R32 Monobloc S (New)
Terminal Device	RAD
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp.
External Pump	Controlled by THERMA V
Remark	Antifreeze is applied on primary circuit only
Remark	(Therma V to PHE)

SYMBOL & LEGENDS RS3 Remote Controller Circulation Pump Motorized 3 Way Valve Check Valve Safety Relief Valve with drain Remote Room Air Sensor Differential Pressure Valve $\overline{}$ Y-type strainer Thermostatic Mixing Valve Wi-Fi Modem Shut Off Valve Magnetic Contactor Pressure Reducing Valve Cover Plate

SPACE HEATING AREA



LG ACCESSORIES

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc : supplied with 10m length cable,

Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)

Wi-Fi Modem (PWFMDD200)

A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m

Extension Cable for Wi-Fi Modem

Cable Length 10m

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended) A magnetic filter that collects metallic particle

caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

Plate Heat Exchanger

A heat exchanger made by stacking several thin metal plates that transfers heat between two fluids

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.

NOT

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2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.

3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.

4. In a cold climate region, water drainage from outdoor unit must be frost-proof.



REFERENCED APPLICATION #3 SPACE HEATING WITH ANTI-FREEZE

WIRING DIAGRAM MAIN PCB (HYDRO) MONOBLOC UNIT 1 2 3 4 5 6 7 WATER PUMP (C) BR BL 19 20 L N SW2 BL N 1 2 3 4 5 6 7 8 WATER PUMP (B) BR BL 15 16 L N SHORT PIN SHOULD BE 3 WAY VALVE (B) BR WH BL E 10 11 12 : L L1 N CN_TH4 SOLAR DEW g AMBIENT PUMP A PUMP_B MIXING VALVE BR BR BL E 1 2 3 L L1 N MAIN PCB (CYCLE) ON For 5/7/9 kW models 3rd Party Controller BK WH 26 27 A B 123456 BOILER PUMP A2 MAGNETIC RD 25 THERMOSTAT (Default 230 V AC WH BK 23 24 L1 L2 TB2 & TB3 POWER SUPPLY BL BR 1 21 22 L N 1Ø 220 ~ 240 V AC <u>NOTE</u> WIFI MODEM 1. The wiring cable size and Circuit breaker selection COMMON 3 PHASE HEATER1 HEATER2 must comply with installation manual and POWER applicable local regulations. Power supply of the 1 Phase Model SUPPLY Main T/B 1(L)2(N) 2. Make sure that Earth Leakage Circuit Breaker 1Ø 220 ~ 240 V AC TB_HEAT_CONTACT (ELCB) should be installed for power supply line. Power supply of the 3 Phase Model POWER Main T/B R S T N **(** SUPPLY 3Ø 380 ~ 415 V AC

DIP SWITCH SETTINGS



REFERENCED APPLICATION #4 SPACE HEATING WITH 2ND CIRCUIT

DWG NO.:

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GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve	$\overrightarrow{\square}$	Check Valve	000	RS3 Remote Controller
Θ	Expansion Tank	尽	Motorized 2 Way Valve	1	Safety Relief Valve with drain		Remote Room Air Sensor
Ê	Air Vent	\bowtie	Differential Pressure Valve	₩.	Y-type strainer	•.0	Dry Contact
Q	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor	•	Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	1/4	Magnetic Contactor	-0	Thermostat
Yy	Drain	\bowtie	Pressure Reducing Valve	ų,	Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a defaul
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
Extension Cable for Wi-Fi Modem	Cable Length 10m	PWYREW000
Remote Room Air Femperature Sensor	Temperature sensor for the room. Cable length 15m.	PQRSTA0
Mixing Zone Femperature Sensor	A temperature sensor for the mixed circuit. Cable length 10m.	PRSTAT5K10

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Mixing Pump	An external water pump that circulates the water inside mixted circuit (zone 1). Controlled by THERMA V with 230V power.
Mixing Valve	A motorized 3-way mixing valve throttling mixing ratio of heated water and return water. Controlled by THERMA V with 230V power supply. Operating times: 60-900 sec.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

Full Name	LG Part No.		of supply
		LG	3rd party
2 Remo Cable	PZCWRC2	0	_
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	- Familiary COLID ACKT		0
Buffer Tank	For IWT, OSHB-40KT For 3rd party Back-up Heater,	0	0
Back-up Heater Temperature Sensor Back Up Heater	PRSTATSK10 HA031M E1 (10, 3kW, Monobloc) HA061M E1 (10, 6kW, Monobloc) HA063M E1 (30, 6kW, Monobloc) HA061C E1 (10, 6kW, Hydrosplit)	0	0
	HA063C E1 (3Ø, 6kW, Hydrosplit)		
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	0
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	- DIAN/D514/000		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter	-		0
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor		0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger			0
Radiator	-		0
Recirculation Pump	-		0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
Solar Pump	-		0
Safety Relief Valve	-		0
Strainer	-		0
Solar Temperature Sensor (PT-1000)	-		0
Service Valve	-		0
Thermostat	-		0
Thermostatic Mixing Valve	OSHA-MV	0	0
Under Floor Heating Coil	OSHA-MV1	-	0
Wi-Fi Modem	PWFMDD200	0	
			0



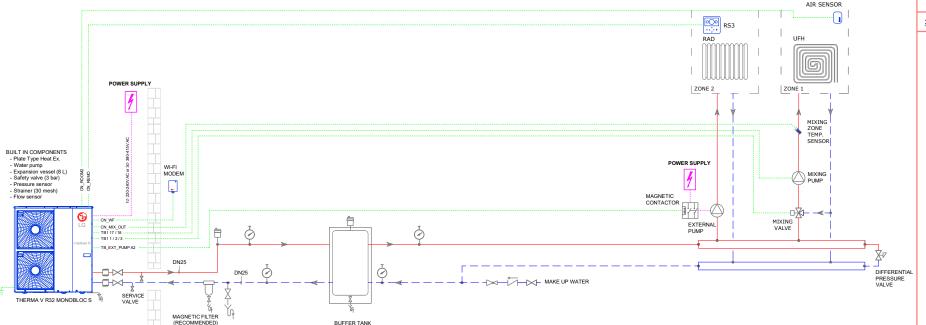
REFERENCED APPLICATION #4 SPACE HEATING WITH 2ND CIRCUIT

HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating with 2nd Circuit
Product	R32 Monobloc S (New)
Terminal Device	UFH + RAD
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS Circulation Pump Expansion Tank Motorized 3 Way Valve Expansion Tank Motorized 2 Way Valve Safety Relief Valve with drain Remote Room Air Sensor Pressure Gauge Thermostatic Mixing Valve Flow Sensor Flow Sensor Wi-Fi Modem Flexible Connection Shut Off Valve Pressure Reducing Valve Drain Pressure Reducing Valve Drain Pan Cover Plate



- 1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

LG ACCESSORIES

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

extendable up to max. 50m using extension cable (PZCWRC1)

Wi-Fi Modem (PWFMDD200)

A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m

Extension Cable for Wi-Fi Modem (PWYREW000)

Cable Length 10m

Remote Room Air Temperature Sensor

Temperature sensor for the room. Cable length 15m.

Mixing Zone Temperature Sensor (PRSTAT5K10)

A temperature sensor for the mixed circuit. Cable length 10m.

3RD PARTY ACCESSORIES

External Pump

REMOTE ROOM

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

lixing Pump

An external water pump that circulates the water inside mixted circuit (zone 1).

Controlled by THERMA V with 230V power.

Mixing Valve

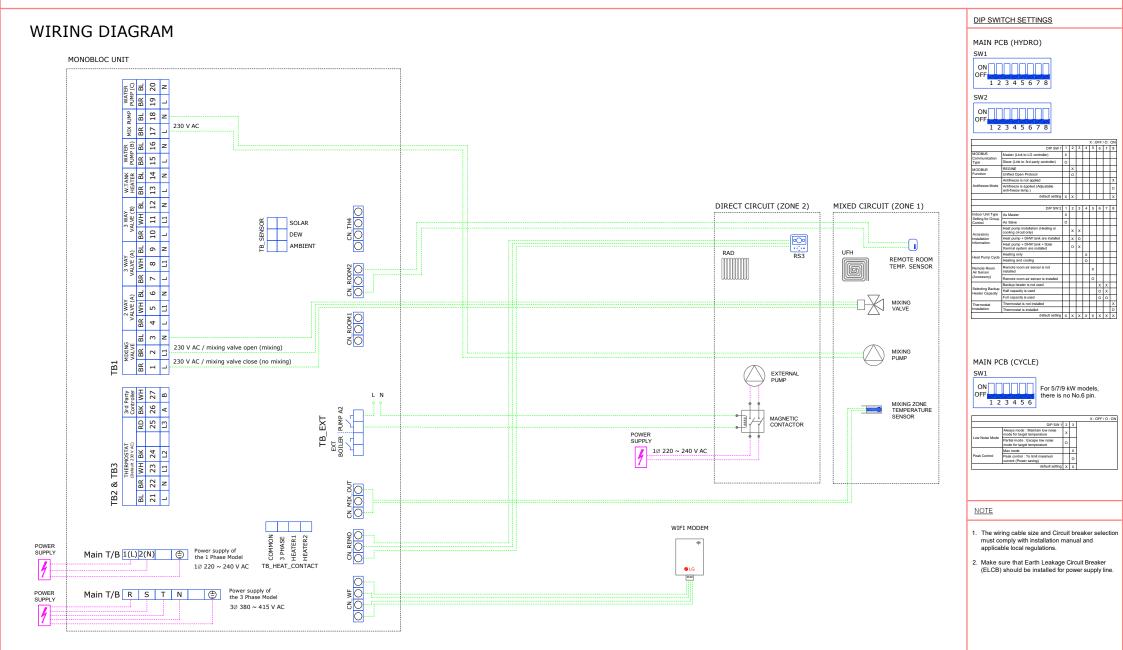
A motorized 3-way mixing valve throttling mixing ratio of heated water and return water. Controlled by THERMA V with 230V power supply. Operating times: 60-900 sec.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.



REFERENCED APPLICATION #4 SPACE HEATING WITH 2ND CIRCUIT





REFERENCED APPLICATION #5 SPACE HEATING AND COOLING WITH 2 REMOTE CONTROLLERS

DWG NO.:

REV. 00

10/09/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump	\mathbb{R}	Motorized 3 Way Valve	Ž	Check Valve	 • ⊕ •	RS3 Remote Controller
Θ	Expansion Tank	\mathbb{Z}	Motorized 2 Way Valve	1	Safety Relief Valve with drain		Remote Room Air Sensor
Ê	Air Vent	\bowtie	Differential Pressure Valve	₩.	Y-type strainer	•LG	Dry Contact
Q	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor		Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	177	Magnetic Contactor	-0	Thermostat
Yq	Drain	\bowtie	Pressure Reducing Valve	Ų,	Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories	s	
Full Name	Description	Part No.
RS3 wired remote controller (MASTER)	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
Extension Cable for Wi-Fi Modem	Cable Length 10m	PWYREW000
RS3 wired remote controller (SLAVE)	An additional wired remote controller with built-in temperature sensor that enables controlling THERMA V using two remote controller. Including extension wire(PZCWRC1) and 2 remo cable(PZCWRC2)	PREMTW101
Extension Wire for RS3 Controller	Cable length 10m	PZCWRC1, Included in PREMTW101.
2 Remo Cable	A cable that enables connecting two remote controller on the one indoor unit.	PZCWRC2, Included in PREMTW101.

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time: less than 90s.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST		Scope	of supply
Full Name	LG Part No.	LG	3rd party
2 Remo Cable	PZCWRC2	0	
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	-		0
Buffer Tank	For IWT, OSHB-40KT	0	0
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	0	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	0	0
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve	-		0
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor	-	0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger	-		0
Radiator	-		0
Recirculation Pump	-		0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
Solar Pump	-		0
Safety Relief Valve	-		Ü
Strainer	-		0
Solar Temperature Sensor (PT-1000)	-		0
Service Valve	-		0
Thermostat	-		0
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	0	0
Under Floor Heating Coil	-		0
Wi-Fi Modem	PWFMDD200	0	
Water Temperature Sensor	-		0



REFERENCED APPLICATION #5 SPACE HEATING AND COOLING WITH 2 REMOTE CONTROLLERS

HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & Cooling with 2 Remote Controllers
Product	R32 Monobloc S (New)
Terminal Device	UFH(H) + FCU(H&C)
Main Controller	LG RS3 Controllers
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by THERMA V
Remark	In 2-remo control, RS3 MASTER shows a temperature measured by built-in sensor in RS3 SLAVE. (Temperature value measured by RS3
	MASTER is overriden.)

SYMBOL & LEGENDS Circulation Pump Circulation Pump Expansion Tank Motorized 2 Way Valve Safety Relief Valve with drain Remote Room Air Sens

Expansion Tank

Motorized 2 Way Valve

Safety Relief Valve with drain

Remote Room Air Sensor

Dry Contact

Thermostatic Mixing Valve

Flow Sensor

Flexible Connection

Shut Off Valve

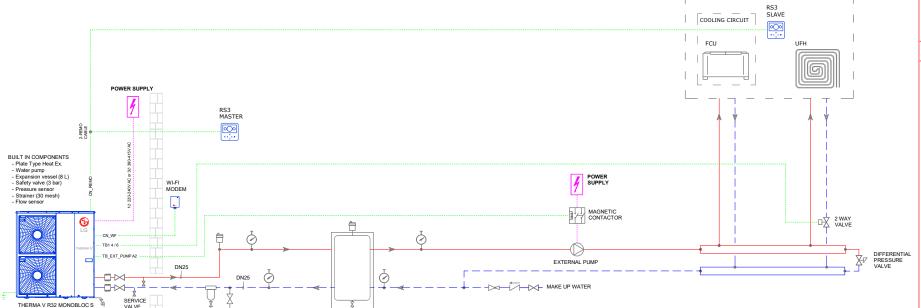
Pressure Reducing Valve

Pressure Reducing Valve

Drain

Pressure Reducing Valve

SPACE HEATING AREA



LG ACCESSORIES

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

extendable up to max. 50m using extension cable (PZCWRC1)

Wi-Fi Modem (PWFMDD200)

A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m

Extension Cable for Wi-Fi Modem (PWYREW000)

Cable Length 10m

RS3 SLAVE Controller (PREMTW101)

An additional wired remote controller with built-in temperature sensor that enables controlling THERMA V using two remote controller. Including extension wire(PZCWRC1) and 2 remo cable(PZCWRC2)

Extension Wire for RS3 Controller (PZCWRC1)
Cable length 10m. Included in PREMTW101.

2 Remo Cable (PZCWRC2)

A cable that enables connecting two remote controller on the one indoor unit.

Included in PREMTW101.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended) A magnetic filter that collects metallic particle

caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

2 Way Valve

A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time: less than 90s.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers

NO

- 1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.

MAGNETIC FILTER

3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.

BUFFER TANK

4. In a cold climate region, water drainage from outdoor unit must be frost-proof.



REFERENCED APPLICATION #5 SPACE HEATING AND COOLING WITH 2 REMOTE CONTROLLERS

WIRING DIAGRAM MONOBLOC UNIT N L N 3 WAY VALVE (B) BR WH BL E 10 11 12 : L L1 N RS3 CN_TH4 RS3 SOLAR SLAVE DEW <u>ω</u> AMBIENT EXTERNAL 3rd Party Controller BK WH 26 27 A B MAGNETIC RD 25 THERMOSTAT (Default 230 V AC WH BK 23 24 L1 L2 TB2 & TB3 POWER SUPPLY BL BR 1 21 22 L N 1Ø 220 ~ 240 V AC WIFI MODEM COMMON 3 PHASE HEATER1 HEATER2 POWER Power supply of the 1 Phase Model SUPPLY Main T/B 1(L)2(N) 1Ø 220 ~ 240 V AC TB_HEAT_CONTACT Power supply of the 3 Phase Model POWER Main T/B R S T N **(** SUPPLY 3Ø 380 ~ 415 V AC

DIP SWITCH SETTINGS MAIN PCB (HYDRO) SW1 ON OFF



MODBUS Communication	Master (Link to LG controller)	х		Г	П		П		Г
Type	Slave (Link to 3rd party controller)	0	П	Г	П	П	П	Г	Г
MODBUS	REGINE		х	Г		Г		Г	П
Function	Unified Open Protocol	П	0	Г		Г	П	Г	Г
	Antifreeze is not applied	Г		Г		Г		Г	х
Antifreeze Mode	Antifreeze is applied (Adjustable anti-freeze temp.)	Г	П	Г			П	Г	0
	default setting	х	х	Г		Г		Г	х
				_		_		_	
	DIP SW 2	1	2	3	4	5	6	7	8
Indoor Unit Type Setting for Group	As Master	х							
Control	As Slave	0		Г	П	П	П	Г	Г
Accessory	Heat pump installation (Heating or cooling circuit only)	Г	х	х			П	Г	Г
Installation	Heat pump + DHW tank are installed		х	0					
Information	Heat pump + DHW tank + Solar thermal system are installed		0	х					
Heat Pump Cycle	Heating only				Х				
near rump Cycle	Heating and cooling				0				
Remote Room Air Sensor	Remote room air sensor is not installed	Г				х			Г
(Accessory)	Remote room air sensor is installed	Г		Г		0	П	Г	Г
	Backup heater is not used	Г		Г		Г	х	×	Г
Selecting Backup Heater Capacity	Half capacity is used	Г		Г		Г	0	×	Г
ricanci Casparony	Full capacity is used	П		Г		Г	0	0	Г
Thermostat	Thermostat is not installed			Г		Т		Г	х
Installation	Thermostat is installed	П		Г				Г	0
	default setting	х	х	Х	Х	Х	Х	Х	х

MAIN PCB (CYCLE)



	DIP SW 1	2	3
Low Noise Mode	Always mode : Maintain low noise mode for target temperature	х	
LOW Noise Mode	Partial mode : Escape low noise mode for target temperature	0	
	Max mode		х
Peak Control	Peak control : To limit maximum ourrent (Power saving)		0
	default setting	х	х

NOTE

- The wiring cable size and Circuit breaker selection must comply with installation manual and applicable local regulations.
- Make sure that Earth Leakage Circuit Breaker (ELCB) should be installed for power supply line.



REFERENCED APPLICATION #6 SPACE HEATING WITH 3RD PARTY CONTROLLER (MODBUS)

DWG NO.:

REV. 00

10/09/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump	\mathbb{R}	Motorized 3 Way Valve	$\overrightarrow{\triangleright}$	Check Valve	• <u>○</u> •	RS3 Remote Controller
Θ	Expansion Tank	\mathbb{R}	Motorized 2 Way Valve	\$-	Safety Relief Valve with drain		Remote Room Air Sensor
÷	Air Vent	$^{\wedge}$	Differential Pressure Valve	₩.	Y-type strainer	•.a	Dry Contact
Q	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor	•	Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	1/4	Magnetic Contactor	-0	Thermostat
Yq.	Drain	\bowtie	Pressure Reducing Valve	Ų,	Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessorie	s	
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default

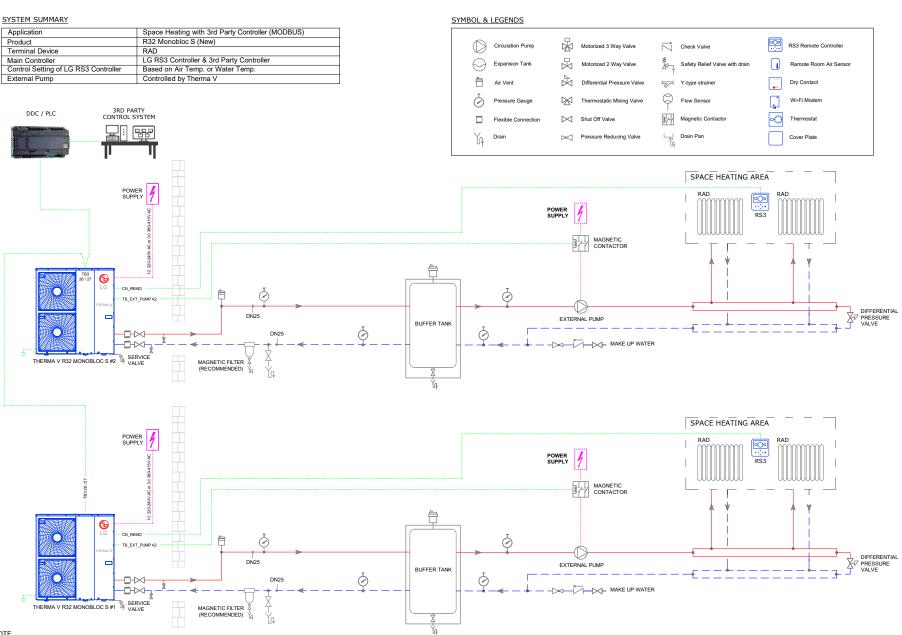
3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Direct Digital Controller	A control device that uses the analogue or digital signals from various devices and then process and control the system based on the program written inside the controllers and has the capability to sends the information to another controller.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORT EIST		Scope	of supply
Full Name	LG Part No.	LG	3rd party
2 Remo Cable	PZCWRC2	0	
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	-		0
Buffer Tank	For IWT, OSHB-40KT	0	0
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	0	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	0	0
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve	-		0
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter	-		0
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor	-	0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger	-		0
Radiator	-		0
Recirculation Pump			0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
0-1 0	-		0
Solar Pump			0
Safety Relief Valve	-		
	-		0
Safety Relief Valve	-		0
Safety Relief Valve Strainer	- - -		
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000)			0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat	-	0	0 0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat Thermostatic Mixing Valve	-	0	0 0 0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat	- - OSHA-MV	0	0 0



REFERENCED APPLICATION #6 SPACE HEATING WITH 3RD PARTY CONTROLLER (MODBUS)

HYDRONIC DIAGRAM



NOTE

- 1. This diagram should be used only for reference purpose. It does not contain all the required equipment and safety components in accordance with actual site conditions. Furthermore, please make sure to take into account the applicable standards and laws for each country. LG Electronics disclaims any direct or indirect responsibility for any consequences arising out of any inaccuracies or consequential changes to this general scheme.
- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobles: supplied with 10m length cable.

Monobloc : supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended) A magnetic filter that collects metallic particle

recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

DDC (Direct Digital Controller)

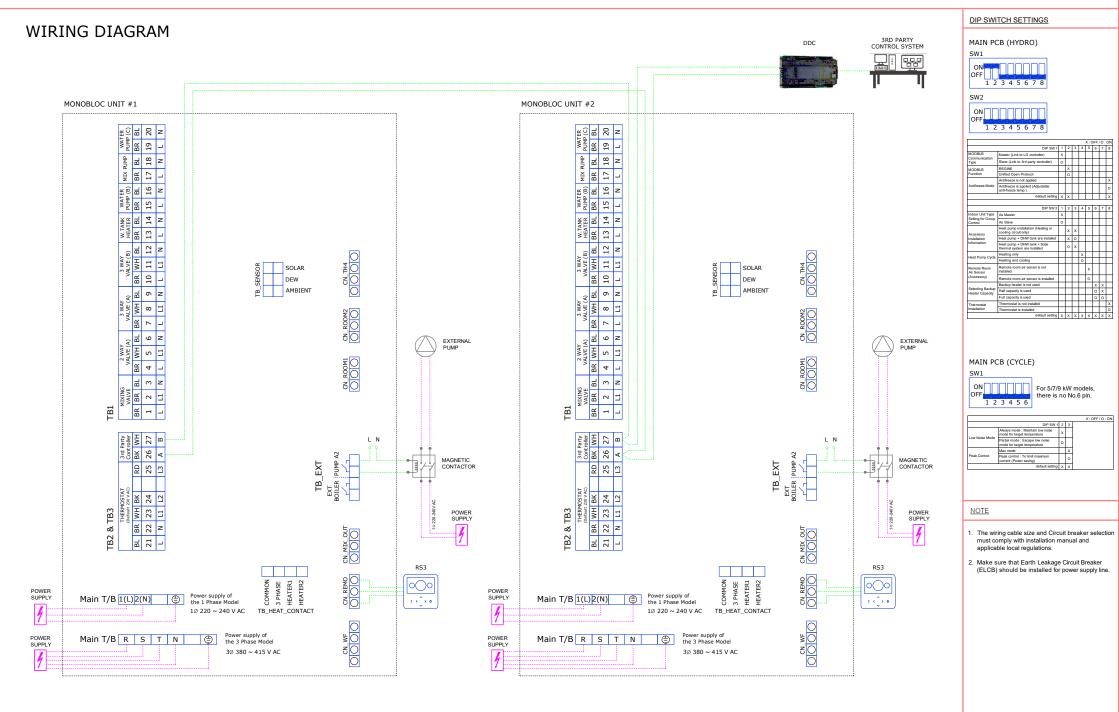
A control device that uses the analogue or digital signals from various devices and then process and control the system based on the program written inside the controllers and has the capability to sends the information to another controller.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.



REFERENCED APPLICATION #6 SPACE HEATING WITH 3RD PARTY CONTROLLER (MODBUS)





REFERENCED APPLICATION #7 SPACE HEATING WITH PARALLEL INSTALLATION (LG BECON)

DWG NO.:

REV. 00

10/09/2021

GENERAL

SYMBOL & LEGENDS

		Circulation Pump	\mathbb{A}	Motorized 3 Way Valve	$\overrightarrow{\square}$	Check Valve	• <u></u> 00•	RS3 Remote Controller
	\bigcirc	Expansion Tank	丛	Motorized 2 Way Valve		Safety Relief Valve with drain		Remote Room Air Sensor
	Ê	Air Vent	Å	Differential Pressure Valve		Y-type strainer	•	Dry Contact
	(S)	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor		Wi-Fi Modem
		Flexible Connection	\bowtie	Shut Off Valve	17	Magnetic Contactor	-0	Thermostat
	Yy	Drain	\bowtie	Pressure Reducing Valve	Ę,	Drain Pan		Cover Plate
ı								

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories						
Full Name	Description	Part No.				
RS3 wired remote controller	Monoploc: supplied with 10m length cable, extendable up to max, 50m using					
AC EZ TOUCH	AC EZ TOUCH A central controller that controls THERMA V using LG AP protocol. Max 64 units, PC access supported					
PI485 Gateway	A gateway device that communicates and controls through the central controller. (converting LG protocol to RS485 protocol) It should be installed onto the outdoor unit.	PMNFP14A1				

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
2 Way Valve for Thermostat	A isolation valve paired with thermostat to allow whether water flows into the water circuit.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORT EIST		Scope	of supply
Full Name	LG Part No.	LG	3rd party
2 Remo Cable	PZCWRC2	0	
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	-		0
Buffer Tank	For IWT, OSHB-40KT	0	0
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	0	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	0	0
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve	-		0
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter	-		0
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor	-	0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger	-		0
Radiator	-		0
Recirculation Pump			0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
0-1 0	-		0
Solar Pump			0
Safety Relief Valve	-		
	-		0
Safety Relief Valve	-		0
Safety Relief Valve Strainer	- - -		
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000)			0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat	-	0	0 0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat Thermostatic Mixing Valve	-	0	0 0 0
Safety Relief Valve Strainer Solar Temperature Sensor (PT-1000) Service Valve Thermostat	- - OSHA-MV	0	0 0

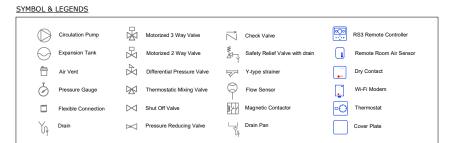


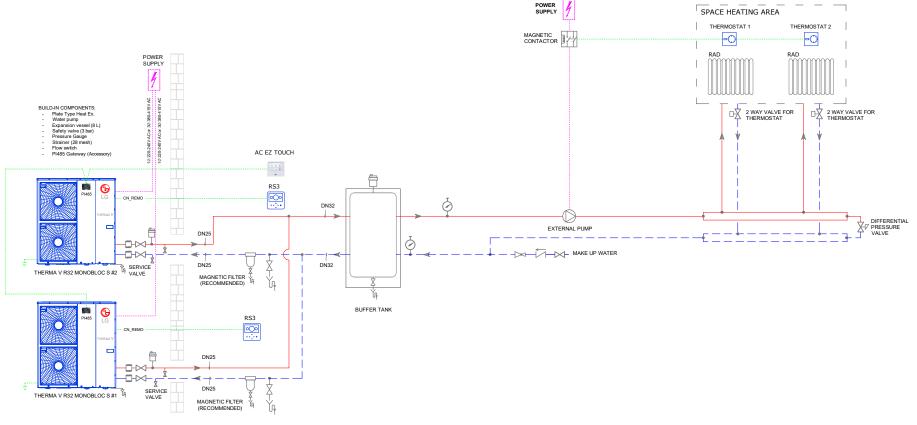
REFERENCED APPLICATION #7 SPACE HEATING WITH PARALLEL INSTALLATION (LG BECON)

HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating with Parallel Installation
Product	R32 Monobloc S (New)
Terminal Device	RAD
Main Controller	LG Central Controller & Thermostat
Control Setting of LG RS3 Controller	Based on Water Temp.
External Pump	Controlled by Thermostat





NOTE

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- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

extendable up to max. 50m using extension cable (PZCWRC1)

AC Ez Touch (PACEZA000)

A central controller that controls THERMA V using LG AP protocol. Max 64 units, PC access supported

PI485 Gateway (PMNFP14A1)

A gateway device that communicates and controls through the central controller. (converting LG protocol to RS485 protocol)
It should be installed onto the outdoor unit.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total extent fetting fetting less.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

Thermostat

A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.

2 Way Valve for Thermostat

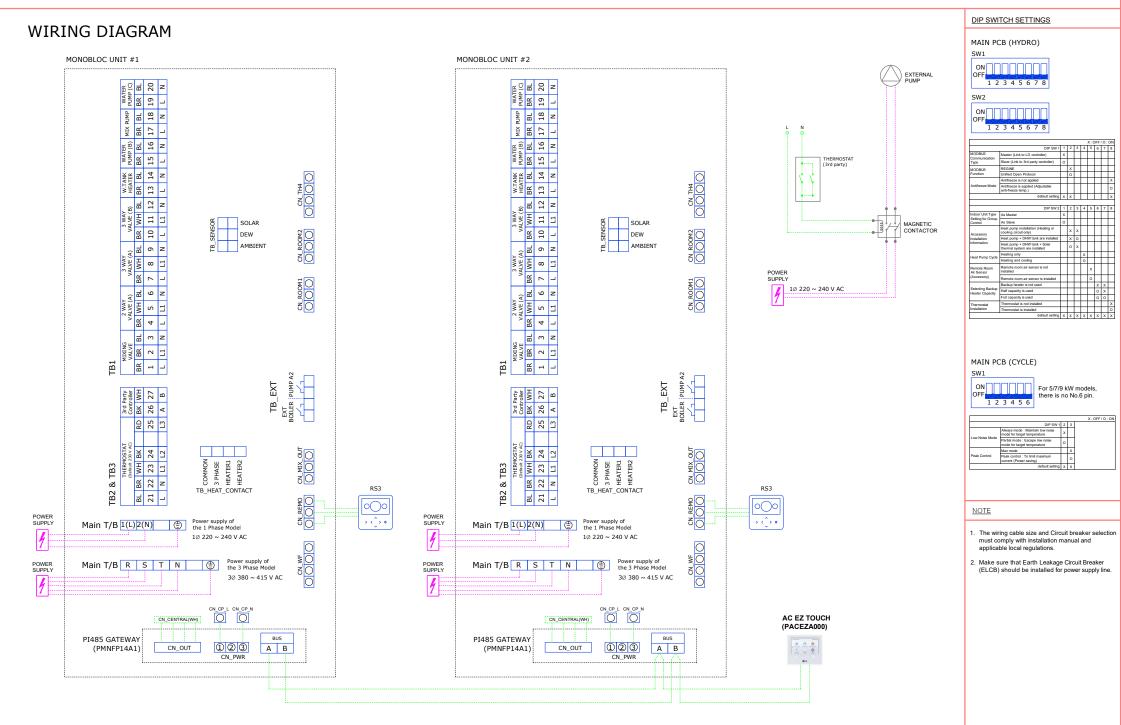
A isolation valve paired with thermostat to allow whether water flows into the water circuit.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.



REFERENCED APPLICATION #7 SPACE HEATING WITH PARALLEL INSTALLATION (LG BECON)





REFERENCED APPLICATION #8 SPACE HEATING AND DHW WITH RECIRCULATION PUMP

DWG NO.:

REV. 00

10/09/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump	显	Motorized 3 Way Valve	Ž	Check Valve	000	RS3 Remote Controller
Θ	Expansion Tank	\bowtie	Motorized 2 Way Valve	1	Safety Relief Valve with drain		Remote Room Air Sensor
Ê	Air Vent	\bowtie	Differential Pressure Valve		Y-type strainer	●. □	Dry Contact
⊙ T	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor	•	Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	17	Magnetic Contactor	-0	Thermostat
Yq	Drain	\bowtie	Pressure Reducing Valve	Ę,	Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories							
Full Name	Full Name Description						
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default					
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200					
Extension Cable for Wi-Fi Modem	Cable Length 10m	PWYREW000					
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V					
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil: OSHW-200F(200L) / 300F(300L, w/ recir. port) / 500F(500L, w/ recir. port) Double coil: OSHW-300FD(300L, w/ recir. port)	Single coil w/ recir. port OSHW-300F/500F					
DHW Tank Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0					
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")					

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Recirculation Pump	An external water pump that circulates the water inside DHW circuit. Controlled by THERMA V with 230V power.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

Full Name	LG Part No.		of supply
	PZCWRC2	LG O	3rd party
2 Remo Cable 2way Valve	PZCWRC2	0	
3way Valve	OSHA-3V	0	0
Air Vent Valve	USHA-3V	U	0
Buffer Tank	For IWT, OSHB-40KT	0	0
	For 3rd party Back-up Heater,		- 0
Back-up Heater Temperature Sensor	PRSTAT5K10	0	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	0	0
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve	-		0
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter	-		0
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor	-	0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger	-		0
Radiator	-		0
Recirculation Pump	-		0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
Solar Pump	-		0
Safety Relief Valve	-		0
Strainer	-		0
Solar Temperature Sensor (PT-1000)	-		0
Service Valve	-		0
Thermostat	-		0
Thermostatic Mixing Valve	OSHA-MV OSHA-MV1	0	0
Under Floor Heating Coil	-		0
Wi-Fi Modem	PWFMDD200	0	
Water Temperature Sensor	_		0



REFERENCED APPLICATION #8 SPACE HEATING AND DHW WITH RECIRCULATION PUMP

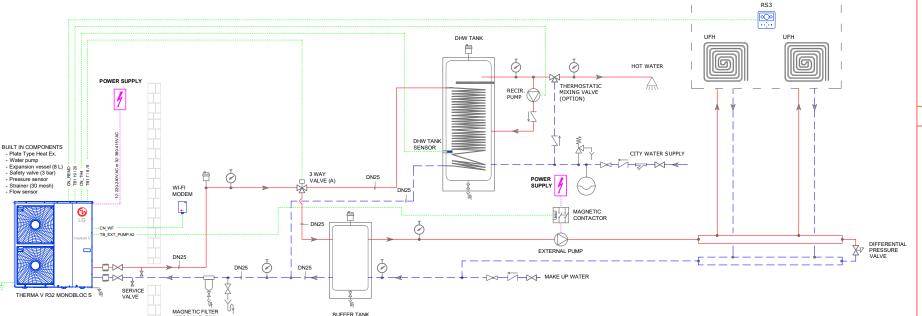
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & DHW
Product	R32 Monobloc S (New)
Terminal Device	UFH
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS Circulation Pump Expansion Tank Motorized 3 Way Valve Expansion Tank Motorized 2 Way Valve Expansion Tank Differential Pressure Valve V-4-ype strainer Dry Contact Flow Sensor Flow Sensor Thermostatic Mixing Valve Magnetic Contactor Thermostat Drain Pressure Reducing Valve Pressure Reducing Valve Pressure Reducing Valve Drain Pan Cover Plate

SPACE HEATING AREA



NOTE

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- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

extendable up to max. 50m using extension cable (PZCWRC1)

Wi-Fi Modem (PWFMDD200)

A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m

Extension Cable for Wi-Fi Modem (PWYREW000)

Cable Length 10m

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.

Domestic Hot Water Tank (OSHW-300F/500F) A insulated stainless steel hot water tank with 2.4kW electric heating (230V) and recirculation

2.4kW electric heating (230V) and recirculation port.

Single Coil: OSHW-300F(300L) / 500F(500L)

DHW Tank Sensor (PHRSTA0)

A temperature sensor for DHW tank. Cable length 12m.

Thermostatic Mixing Valve (OSHA-MV, OSHA-MV1)

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Recirculation Pump

An external water pump that circulates the water inside DHW circuit.

Controlled by THERMA V with 230V power.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat nump system.

Buffer Tank

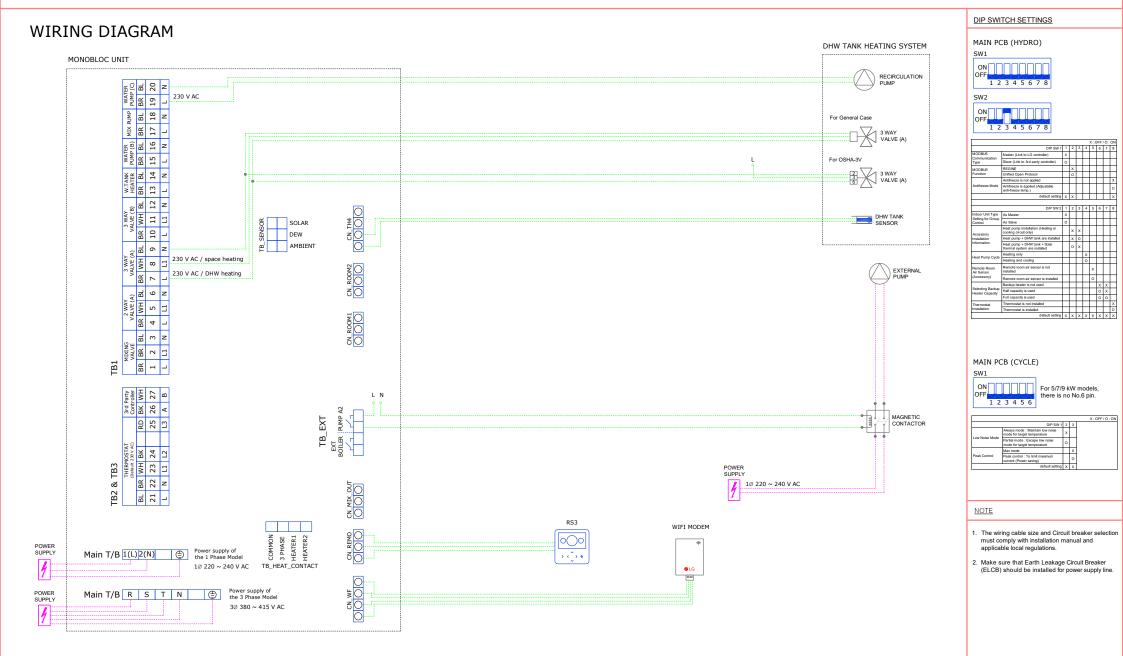
A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.



REFERENCED APPLICATION #8 SPACE HEATING AND DHW WITH RECIRCULATION PUMP





REFERENCED APPLICATION #9 SPACE HEATING AND DHW WITH BOOSTER HEATER

DWG NO.:

REV. 00

10/09/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve	Ž	Check Valve	(O) (O) (O)	RS3 Remote Controller
\odot	Expansion Tank	尽	Motorized 2 Way Valve	≸ ¬	Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent	\bowtie	Differential Pressure Valve	₩.	Y-type strainer	•.0	Dry Contact
\odot	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor	•	Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	17	Magnetic Contactor	-0	Thermostat
Yy	Drain	\bowtie	Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessorie	s	
Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
Extension Cable for Wi-Fi Modem	Cable Length 10m	PWYREW000
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Single coil : OSHW-200F/300F/500F
DHW Booster Heater	An electric heater for DHW heating integrated with DHW tank (2.4kW, 230V) Controlled by THERMA V with 230V power.	Integrated with DHW Tank
DHW Tank Kit	A set of electrical devices for controlling of electric booster heater up to 32A Including Circuit Breaker, Magnetic Contactor and DHW Temp. sensor (PHRSTA0)	PHLTB (Monobloc)
DHW Tank Temperature Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0, Included in DHW Tank Kit (PHLTB)
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

ACCESSORY LIST		Scope	of supply
Full Name	LG Part No.	LG	3rd party
2 Remo Cable	PZCWRC2	0	,
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	-		0
Buffer Tank	For IWT, OSHB-40KT	0	0
Back-up Heater Temperature Sensor	For 3rd party Back-up Heater, PRSTAT5K10	0	
Back Up Heater	HA031M E1 (1Ø, 3kW, Monobloc) HA061M E1 (1Ø, 6kW, Monobloc) HA063M E1 (3Ø, 6kW, Monobloc) HA061C E1 (1Ø, 6kW, Hydrosplit) HA063C E1 (3Ø, 6kW, Hydrosplit)	0	0
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve	-		0
DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	_
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	For IWT, OSHE-12KT (DHW Circuit)		0
Expansion Tank	FOR IVV I, USHE-12K I (DHVV CIRCUIT)	0	0
Flexible Connection	-		0
Fan Coil Unit Flow Sensor	-		0
Heat Meter	-		0
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor	-	0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger	-		0
Radiator	-		0
Recirculation Pump	- DODETAG		0
Remote Room Air Temperature Sensor	PQRSTA0 Default, PREMTW101 for	0	1
Standard III Remote Controller Solar Pump	2 Remo control	0	0
Safety Relief Valve	-		0
	-		0
Strainer Solar Temperature Sensor (PT-1000)	-		0
	-		0
Service Valve	-		0
Thermostat	- OSHA-MV		
Thermostatic Mixing Valve	OSHA-MV1	0	0
Under Floor Heating Coil Wi-Fi Modem	PWFMDD200	0	



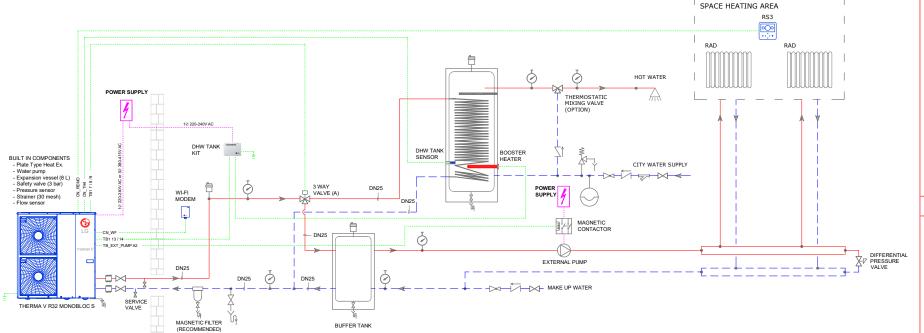
REFERENCED APPLICATION #9 SPACE HEATING AND DHW WITH BOOSTER HEATER

HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & DHW
Product	R32 Monobloc S (New)
Terminal Device	UFH
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS RS3 Remote Controller Circulation Pump Motorized 3 Way Valve Check Valve Safety Relief Valve with drain Remote Room Air Sensor Differential Pressure Valve Y-type strainer Thermostatic Mixing Valve Wi-Fi Modem Shut Off Valve Magnetic Contactor Pressure Reducing Valve Cover Plate



NOTE

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- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

extendable up to max. 50m using extension cable (PZCWRC1)

Wi-Fi Modem (PWFMDD200)

A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m

Extension Cable for Wi-Fi Modem (PWYREW000)

Cable Length 10m

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.

Domestic Hot Water Tank (OSHW-200F/300F/500F)

A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L)/300F(300L)/500F(500L)

DHW Booster Heater (Integrated with DHW Tank)

An electric heater for DHW heating integrated with DHW tank (2.4kW, 230V)
Controlled by THERMA V with 230V power.

DHW Tank Kit (PHLTB)

A set of electrical devices for controlling of electric booster heater up to 32A Including Circuit Breaker, Magnetic Contactor and DHW Temp. sensor (PHRSTA0)

DHW Tank Sensor (PHRSTA0)

A temperature sensor for DHW tank. Cable length 12m. Included in DHW Tank Kit (PHLTB)

Thermostatic Mixing Valve (OSHA-MV, OSHA-MV1)

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

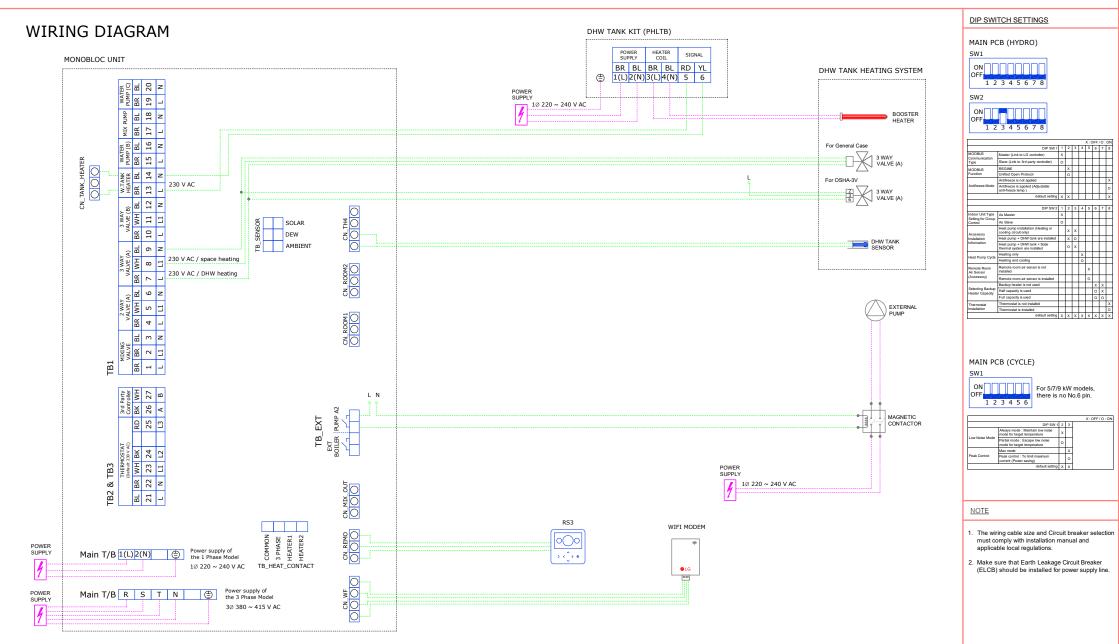
A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and



REFERENCED APPLICATION #9 SPACE HEATING AND DHW WITH BOOSTER HEATER





REFERENCED APPLICATION #10 SPACE HEATING, COOLING, AND DHW WITH THERMOSTAT

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GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve	$\overrightarrow{\square}$	Check Valve	000	RS3 Remote Controller
Θ	Expansion Tank	尽	Motorized 2 Way Valve	1	Safety Relief Valve with drain		Remote Room Air Sensor
Ê	Air Vent	\bowtie	Differential Pressure Valve	\tau	Y-type strainer	•.0	Dry Contact
Q	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor		Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	1/4	Magnetic Contactor	-0	Thermostat
Yq.	Drain	\bowtie	Pressure Reducing Valve	Y	Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories				
Full Name	Description	Part No.		
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default		
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V		
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Single coil : OSHW-200F/300F/500F		
DHW Tank Temperature Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0		
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")		

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss. Controlled by THERMA V with 230V power.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time: less than 90s.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
2 Way Valve for Thermostat	A isolation valve paired with thermostat to allow whether water flows into the water circuit.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

Full Name	LG Part No.		of supply
		LG	3rd party
2 Remo Cable	PZCWRC2	0	_
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	- Familiary COLID ACKT		0
Buffer Tank	For IWT, OSHB-40KT For 3rd party Back-up Heater,	0	0
Back-up Heater Temperature Sensor Back Up Heater	PRSTATSK10 HA031M E1 (10, 3kW, Monobloc) HA061M E1 (10, 6kW, Monobloc) HA063M E1 (30, 6kW, Monobloc) HA061C E1 (10, 6kW, Hydrosplit)	0	0
	HA063C E1 (3Ø, 6kW, Hydrosplit)		
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	0
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	- DIAN/D514/000		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter	-		0
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor		0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger			0
Radiator	-		0
Recirculation Pump	-		0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
Solar Pump	-		0
Safety Relief Valve	-		0
Strainer	-		0
Solar Temperature Sensor (PT-1000)	-		0
Service Valve	-		0
Thermostat	-		0
Thermostatic Mixing Valve	OSHA-MV	0	0
Under Floor Heating Coil	OSHA-MV1	-	0
Wi-Fi Modem	PWFMDD200	0	
			0



REFERENCED APPLICATION #10 SPACE HEATING, COOLING, AND DHW WITH THERMOSTAT

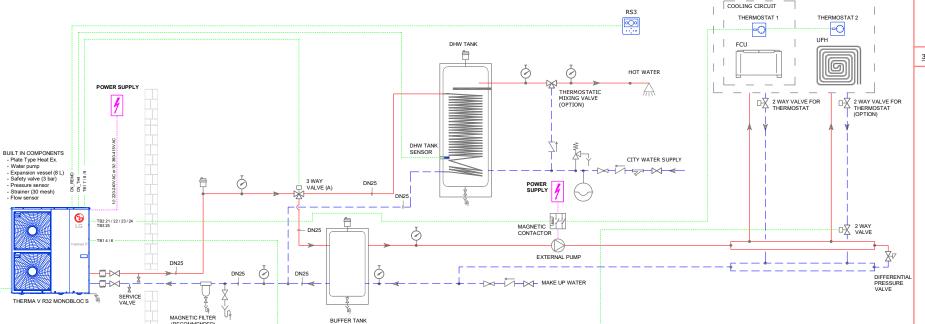
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating, Cooling, and DHW with Thermostat
Product	R32 Monobloc S (New)
Terminal Device	UFH(H) + FCU(H&C)
Main Controller	Thermostat
Control Setting of LG RS3 Controller	Based on Water Temp.
External Pump	Controlled by Thermostat

SYMBOL & LEGENDS Circulation Pump Expansion Tank Motorized 2 Way Valve Safety Relief Valve with drain Remote Controller Safety Relief Valve with drain Remote Room Air Sensor Safety Relief Valve with drain Remote Room Air Sensor Pressure Gauge Thermostatic Mixing Valve Flexible Connection Shut Off Valve Pressure Reducing Valve

SPACE HEATING AREA



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- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.

Domestic Hot Water Tank (OSHW-200F/300F/500F)

A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L)

DHW Tank Sensor (PHRSTA0)

A temperature sensor for DHW tank. Cable length

Thermostatic Mixing Valve (OSHA-MV, OSHA-MV1)

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

2 Way Valve

A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode.

Controlled by THERMA V with 230V power.

Required operating time: less than 90s.

Thermostat

A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.

2 Way Valve for Thermostat

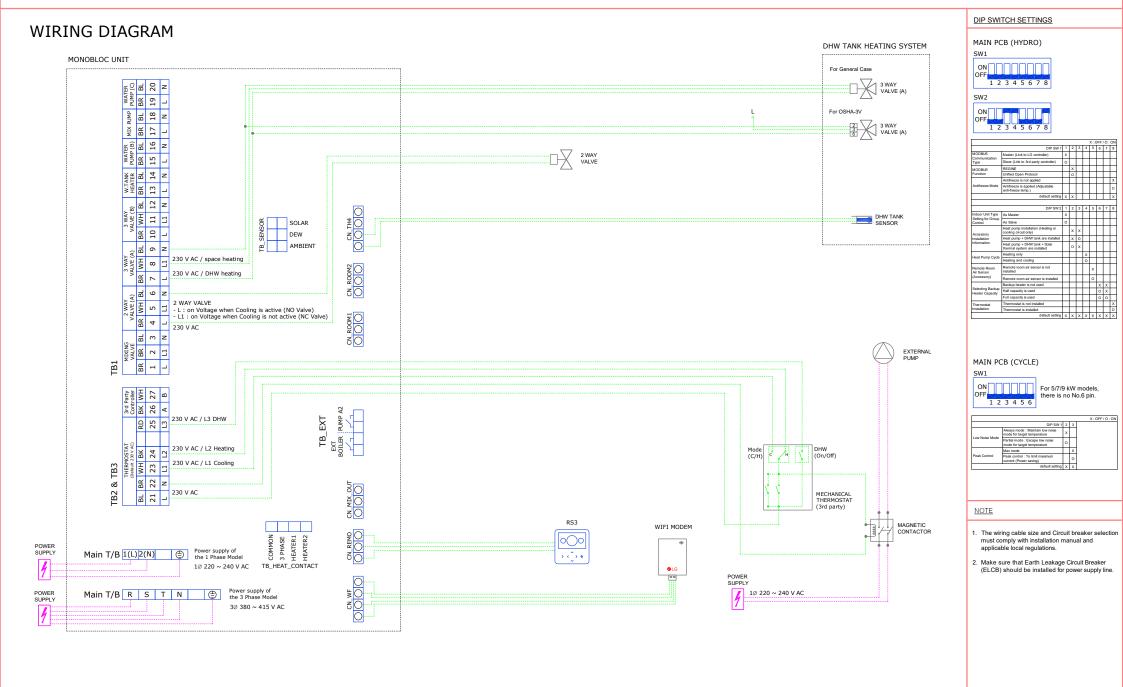
A isolation valve paired with thermostat to allow whether water flows into the water circuit.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers



REFERENCED APPLICATION #10 SPACE HEATING, COOLING, AND DHW WITH THERMOSTAT





REFERENCED APPLICATION #11 SPACE HEATING AND DHW WITH EXTERNAL BOILER

DWG NO.:

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GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve	Ž	Check Valve	000	RS3 Remote Controller
Θ	Expansion Tank	\mathbb{Z}	Motorized 2 Way Valve	1	Safety Relief Valve with drain		Remote Room Air Sensor
Ê	Air Vent	\nearrow	Differential Pressure Valve	₩.	Y-type strainer	•••	Dry Contact
Q	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor	•	Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve		Magnetic Contactor	-0	Thermostat
Yq	Drain	\bowtie	Pressure Reducing Valve	Ų,	Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

Full Name	Description	Part No.
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200
Extension Cable for Wi-Fi Modem	Cable Length 10m	PWYREW000
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Single coil : OSHW-200F/300F/500F
DHW Tank Temperature Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
External Boiler	An external boiler supplied by a 3rd party that operates alternatively interlocking with THERMA V. The external boiler should have a intergrated or dedicated circulation pump. Controlled by THERMA V with voltage free contact switch.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

Full Name	LG Part No.		of supply
		LG	3rd party
2 Remo Cable	PZCWRC2	0	_
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	- Familiary COLID ACKT		0
Buffer Tank	For IWT, OSHB-40KT For 3rd party Back-up Heater,	0	0
Back-up Heater Temperature Sensor Back Up Heater	PRSTATSK10 HA031M E1 (10, 3kW, Monobloc) HA061M E1 (10, 6kW, Monobloc) HA063M E1 (30, 6kW, Monobloc) HA061C E1 (10, 6kW, Hydrosplit)	0	0
	HA063C E1 (3Ø, 6kW, Hydrosplit)		
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	0
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	- DIAN/D514/000		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter	-		0
Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L) OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	0
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor		0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger			0
Radiator	-		0
Recirculation Pump	-		0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
Solar Pump	-		0
Safety Relief Valve	-		0
Strainer	-		0
Solar Temperature Sensor (PT-1000)	-		0
Service Valve	-		0
Thermostat	-		0
Thermostatic Mixing Valve	OSHA-MV	0	0
Under Floor Heating Coil	OSHA-MV1	-	0
Wi-Fi Modem	PWFMDD200	0	
			0



REFERENCED APPLICATION #11 SPACE HEATING AND DHW WITH EXTERNAL BOILER

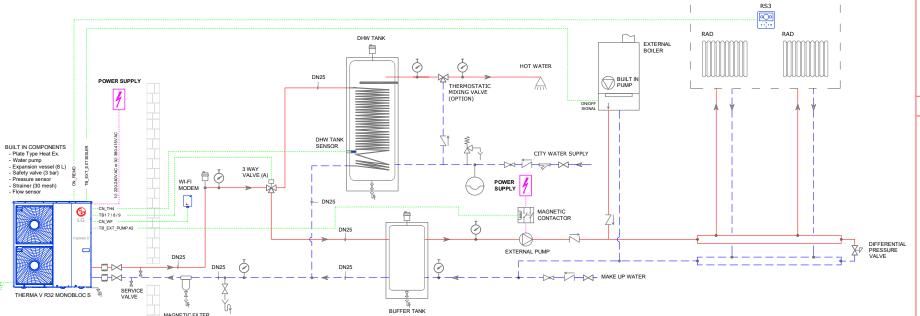
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & DHW with External Boiler
Product	R32 Monobloc S (New)
Terminal Device	RAD
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS RS3 Remote Controller Circulation Pump Motorized 3 Way Valve Check Valve Safety Relief Valve with drain Remote Room Air Sensor Differential Pressure Valve Y-type strainer Thermostatic Mixing Valve Wi-Fi Modem Shut Off Valve Magnetic Contactor Pressure Reducing Valve Cover Plate

SPACE HEATING AREA



NOT

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- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

extendable up to max. 50m using extension cable (PZCWRC1)

Wi-Fi Modem (PWFMDD200)

A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m

Extension Cable for Wi-Fi Modem (PWYREW000)

Cable Length 10m

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.

Domestic Hot Water Tank (OSHW-200F/300F/500F)

À insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L)

DHW Tank Sensor (PHRSTA0)

A temperature sensor for DHW tank. Cable length

Thermostatic Mixing Valve (OSHA-MV, OSHA-MV1)

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

External Boiler

An external boiler supplied by a 3rd party that operates alternatively interlocking with THERMA V The external boiler should have a intergrated or dedicated circulation pump.

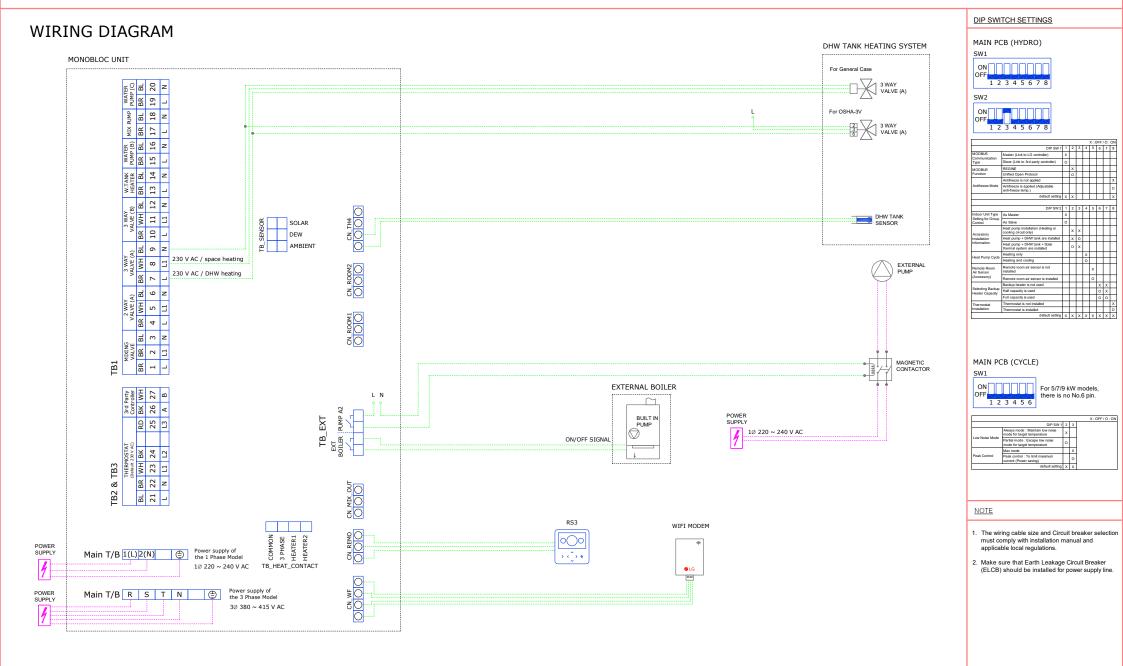
Controlled by THERMA V with voltage free contact switch.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.



REFERENCED APPLICATION #11 SPACE HEATING AND DHW WITH EXTERNAL BOILER





REFERENCED APPLICATION #12 SPACE HEATING AND DHW WITH BACK-UP HEATER

DWG NO.:

REV. 00

10/09/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve	Ž	Check Valve	(O) (O) (O)	RS3 Remote Controller
\odot	Expansion Tank	尽	Motorized 2 Way Valve	≸ ¬	Safety Relief Valve with drain		Remote Room Air Sensor
	Air Vent	\bowtie	Differential Pressure Valve	₩.	Y-type strainer	•.0	Dry Contact
\odot	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor	•	Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	17	Magnetic Contactor	-0	Thermostat
Yy	Drain	\bowtie	Pressure Reducing Valve		Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories					
Full Name	Description	Part No.			
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default			
Wi-Fi Modem	A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m	PWFMDD200			
Extension Cable for Wi-Fi Modem	Cable Length 10m	PWYREW000			
3 Way Valve (A)	Valve (A) A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.				
Domestic Hot Water Tank A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil: OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil: OSHW-300FD(300L)		Single coil : OSHW-200F/300F/500F			
DHW Tank Temperature Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0			
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")			
Backup Heater	An electric heater for supplementing insufficient capacity in case of extremely low ambient temperature or emergency operation. Controlled by THERMA V with 230V power.	Optional for Monobloc HA031M.E1 (3kW, 1Ø) HA061M.E1 (6kW, 1Ø) HA063M.E1 (6kW, 3Ø)			

3rd party accessories	
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss. Controlled by THERMA V with 230V power.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

Full Name	LG Part No.		of supply
		LG	3rd party
2 Remo Cable	PZCWRC2	0	_
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	- Familiary COLID ACKT		0
Buffer Tank	For IWT, OSHB-40KT For 3rd party Back-up Heater,	0	0
Back-up Heater Temperature Sensor Back Up Heater	PRSTATSK10 HA031M E1 (10, 3kW, Monobloc) HA061M E1 (10, 6kW, Monobloc) HA063M E1 (30, 6kW, Monobloc) HA061C E1 (10, 6kW, Hydrosplit)	0	0
	HA063C E1 (3Ø, 6kW, Hydrosplit)		
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	0
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L)	0	0
Domestic Flot Water Fank	OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor		0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger			0
Radiator	-		0
Recirculation Pump	-		0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
Solar Pump	-		0
Safety Relief Valve	-		0
Strainer	-		0
Solar Temperature Sensor (PT-1000)	-		0
Service Valve	-		0
Thermostat	-		0
Thermostatic Mixing Valve	OSHA-MV	0	0
Under Floor Heating Coil	OSHA-MV1 -		0
Wi-Fi Modem	PWFMDD200	0	
Water Temperature Sensor	-		0



REFERENCED APPLICATION #12 SPACE HEATING AND DHW WITH BACK-UP HEATER

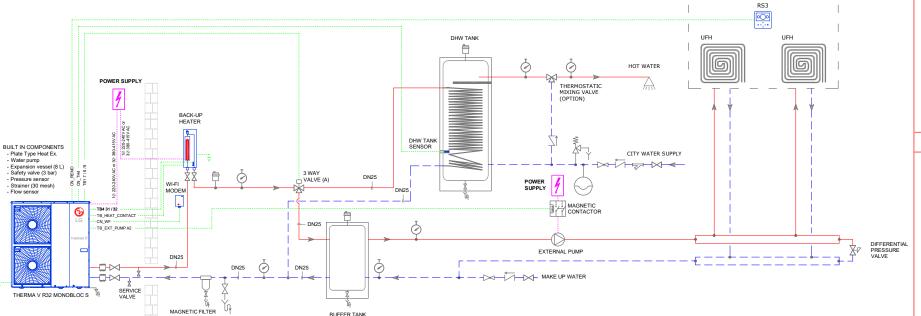
HYDRONIC DIAGRAM

SYSTEM SUMMARY

Application	Space Heating & DHW with Back-up Heater
Product	R32 Monobloc S (New)
Terminal Device	UFH
Main Controller	LG RS3 Controller
Control Setting of LG RS3 Controller	Based on Air Temp. or Water Temp.
External Pump	Controlled by THERMA V

SYMBOL & LEGENDS RS3 Remote Controller Circulation Pump Motorized 3 Way Valve Check Valve Safety Relief Valve with drain Remote Room Air Sensor Differential Pressure Valve Y-type strainer Thermostatic Mixing Valve Wi-Fi Modem Shut Off Valve Magnetic Contactor Pressure Reducing Valve Cover Plate

SPACE HEATING AREA



NOTE

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- 2. It is essential to ensure the minimum amount of water contained in the heating or cooling system.
- 3. Must fit the insulations on the entire water piping including valves and connections. If necessary, electrical heat tracing system can be installed or the heating system can also be filled with antifreeze (glycol) to prevent any frost damage.
- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

extendable up to max. 50m using extension cable (PZCWRC1)

Wi-Fi Modem (PWFMDD200)

A control device that enables wireless communication with internet router. Including USB cable 0.6m and extension cable 0.5m

Extension Cable for Wi-Fi Modem (PWYREW000)

Cable Length 10m

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.

Domestic Hot Water Tank (OSHW-200F/300F/500F)

A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L)

DHW Tank Sensor (PHRSTA0)

A temperature sensor for DHW tank. Cable length

Thermostatic Mixing Valve (OSHA-MV, OSHA-MV1)

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

Back Up Heater (HA031M.E1, HA061M.E1, HA063M.E1)

An electric heater for supplementing insufficient capacity in case of extremely low ambient temperature or emergency operation. Controlled by THERMA V with 230V power.

3RD PARTY ACCESSORIES

External Pump

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

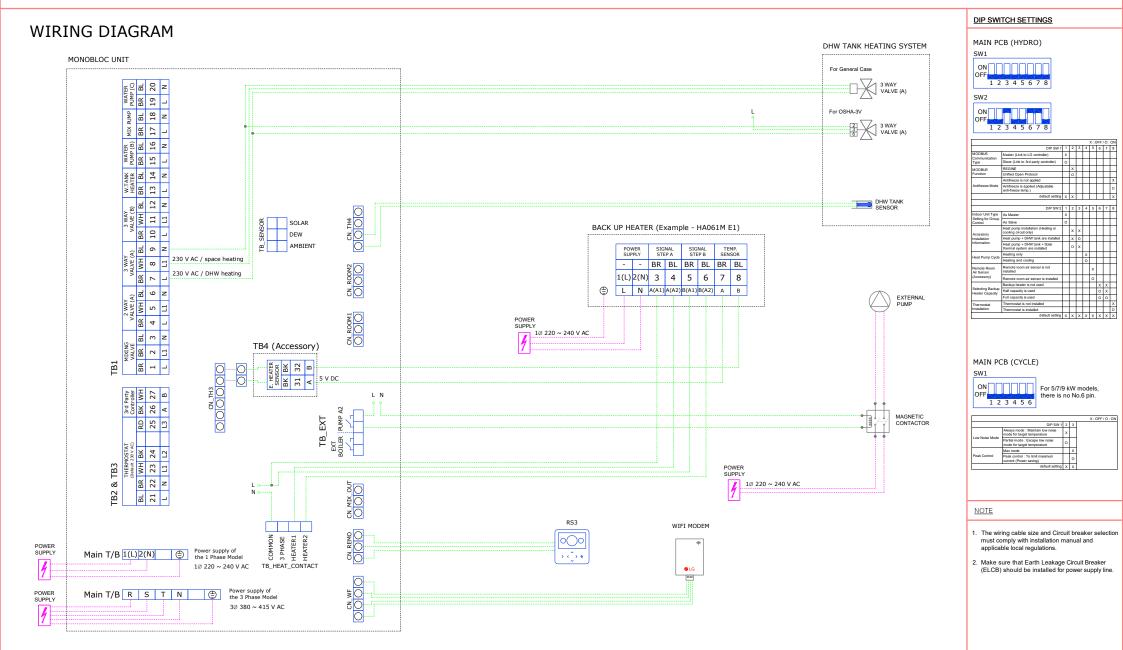
A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers.



REFERENCED APPLICATION #12 SPACE HEATING AND DHW WITH BACK-UP HEATER





REFERENCED APPLICATION #13 SPACE HEATING, COOLING, AND DHW WITH SOLAR PANEL AND THERMOSTAT

DWG NO.:

REV. 00

10/09/2021

GENERAL

SYMBOL & LEGENDS

	Circulation Pump		Motorized 3 Way Valve	$\overrightarrow{\square}$	Check Valve	000	RS3 Remote Controller
Θ	Expansion Tank	尽	Motorized 2 Way Valve	1	Safety Relief Valve with drain		Remote Room Air Sensor
Ê	Air Vent	\bowtie	Differential Pressure Valve	\tau	Y-type strainer	•.0	Dry Contact
Q	Pressure Gauge		Thermostatic Mixing Valve	9	Flow Sensor		Wi-Fi Modem
	Flexible Connection	\bowtie	Shut Off Valve	1/4	Magnetic Contactor	-0	Thermostat
Yq.	Drain	\bowtie	Pressure Reducing Valve	Y	Drain Pan		Cover Plate

SCOPE OF SUPPLY FOR REQUIRED ACCESSORIES IN APPLICATION

LG supplied accessories						
Full Name	Full Name Description					
RS3 wired remote controller	A wired remote controller with built-in temperature sensor. Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)	Supplied as a default				
3 Way Valve (A)	A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.	OSHA-3V				
Domestic Hot Water Tank	A insulated stainless steel hot water tank with 2.4kW electric heating (230V). Single Coil : OSHW-200F(200L) / 300F(300L) / 500F(500L) Double coil : OSHW-300FD(300L)	Double coil : OSHW-300FD				
DHW Tank Temperature Sensor	A temperature sensor for DHW tank. Cable length 12m.	PHRSTA0				
Thermostatic Mixing Valve	A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.	OSHA-MV (3/4") OSHA-MV1 (1")				

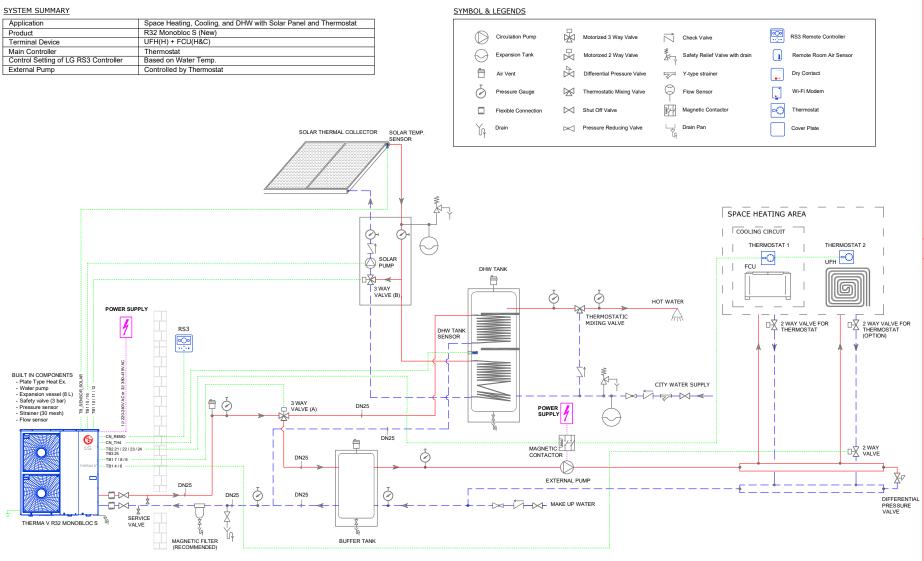
Full Name	Description
External Pump	An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss. Controlled by THERMA V with 230V power.
Magnetic Filter	A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.
Buffer Tank	A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.
2 Way Valve	A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time: less than 90s.
Solar Pump	An external water pump that circulates the water inside solar thermal system. Controlled by THERMA V with 230V power.
Solar Temperature Sensor	A temperature sensor (PT-1000) for solar thermal system.
3 Way Valve (B)	A motorized 3-way diverting valve determining flow direction to either DHW tank or bypass (recirculation). Controlled by THERMA V with 230V power. Required operating time: less than 90s.
Thermostat	A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.
2 Way Valve for Thermostat	A isolation valve paired with thermostat to allow whether water flows into the water circuit.
Differential Pressure Valve	A self pressure regulating valve that provides constant differential pressure between supply and return headers.

Full Name	LG Part No.		of supply
		LG	3rd party
2 Remo Cable	PZCWRC2	0	_
2way Valve	-		0
3way Valve	OSHA-3V	0	0
Air Vent Valve	- Familiary COLID ACKT		0
Buffer Tank	For IWT, OSHB-40KT For 3rd party Back-up Heater,	0	0
Back-up Heater Temperature Sensor Back Up Heater	PRSTATSK10 HA031M E1 (10, 3kW, Monobloc) HA061M E1 (10, 6kW, Monobloc) HA063M E1 (30, 6kW, Monobloc) HA061C E1 (10, 6kW, Hydrosplit)	0	0
	HA063C E1 (3Ø, 6kW, Hydrosplit)		
Circuit Breaker	-	0	0
Check Valve	-		0
Cover Plate	PDC-HK10	0	
DHW Booster Heater	Integrated with DHW Tank	0	0
Dry Contact	PDRYCB000 PDRYCB320	0	
Direct Digital Controller	-		0
Differential Pressure Valve DHW Tank Kit	PHLTA (Hydrosplit, 1Ø Split) PHLTC (3Ø, Split) PHLTB (Monobloc)	0	0
DHW Tank Temperature Sensor	PHRSTA0, included in DHW Tank Kit	0	
Drain Pan	PHDPC	0	
Drain Valve	-		0
External Boiler	-		0
Energy Meter	-		0
Extension Cable for Wi-Fi Modem	PWYREW000	0	0
Extension Wire for RS3 Controller	PZCWRC1	0	
External Pump	-		0
Expansion Tank	For IWT, OSHE-12KT (DHW Circuit)	0	0
Flexible Connection	-		0
Fan Coil Unit	-		0
Flow Sensor	-		0
Heat Meter Domestic Hot Water Tank	OSHW-200F (Single Coil, 200L) OSHW-300F (Single Coil, 300L)	0	0
Domestic Flot Water Fank	OSHW-500F (Single Coil, 500L) OSHW-300FD (Double Coil, 300L)	0	
Isolation Valve	-		0
LG Central Controller	PACEZA000 (AC Ez Touch) PACS5A000 (AC Smart 5) PACP5A000 (ACP 5)	0	
Magnetic Contactor		0	0
Magnetic Filter	-		0
Meter Interface	PENKTH000	0	
Mixing Pump	-		0
Mixing Zone Temperature Sensor	PRSTAT5K10	0	
Mixing Valve	-		0
PI485 Gateway	PMNFP14A1	0	
Pressure Gauge	-		0
Plate Heat Exchanger			0
Radiator	-		0
Recirculation Pump	-		0
Remote Room Air Temperature Sensor	PQRSTA0	0	
Standard III Remote Controller	Default, PREMTW101 for 2 Remo control	0	
Solar Pump	-		0
Safety Relief Valve	-		0
Strainer	-		0
Solar Temperature Sensor (PT-1000)	-		0
Service Valve	-		0
Thermostat	-		0
Thermostatic Mixing Valve	OSHA-MV	0	0
Under Floor Heating Coil	OSHA-MV1 -		0
Wi-Fi Modem	PWFMDD200	0	
Water Temperature Sensor	-		0



REFERENCED APPLICATION #13 SPACE HEATING, COOLING, AND DHW WITH SOLAR PANEL AND THERMOSTAT

HYDRONIC DIAGRAM



NOTE

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- 4. In a cold climate region, water drainage from outdoor unit must be frost-proof.

ACCESSORIES LG

RS3 Controller (Default)

A wired remote controller with built-in temperature sensor.

Monobloc: supplied with 10m length cable,

Monobloc: supplied with 10m length cable, extendable up to max. 50m using extension cable (PZCWRC1)

3 Way Valve (A) (OSHA-3V)

A motorized 3-way diverting valve determining flow direction to either space heating or DHW tank. Controlled by THERMA V with 230V power. Operating time 3s.

Domestic Hot Water Tank (OSHW-300FD)

A insulated stainless steel hot water tank with 2.4kW electric heating (230V).

Double coil: OSHW-300FD(300L)

DHW Tank Sensor (PHRSTA0)

A temperature sensor for DHW tank. Cable length 12m.

Thermostatic Mixing Valve (OSHA-MV,

A mixing valve that blends hot water with cold water to ensure constant, safe shower and bath outlet temperatures, preventing scalding.

3RD PARTY ACCESSORIES

External Pumn

An external water pump that circulates the water inside piping when water circuit is segregated or pump discharge head is insufficient to overcome total system friction loss.

Magnetic Filter (Recommended)

A magnetic filter that collects metallic particle caused by corrosion or erosion. It is strongly recommended to install the magnetic filter to protect heat pump system.

Buffer Tank

A water tank containing certain amount of water that secures the required minimum water volume for the system or stores heat energy which is needed for defrosting and reducing start up load.

2 Way Valve

A motorized isolation valve that blocks the water flow into underfloor coil in order to prevent water condensation during cooling mode. Controlled by THERMA V with 230V power. Required operating time: less than 90s.

Solar Pumr

An external water pump that circulates the water inside solar thermal system.

Controlled by THERMA V with 230V power.

Solar Temperature Sensor (PT-1000)

A temperature sensor for solar thermal system

3 Way Valve (B)

A motorized 3-way diverting valve determining flow direction to either DHW tank or bypass (recirculation). Controlled by THERMA V with 230V power.

Required operating time : less than 90s.

Thermostat

A control device that senses the temperature of a room and performs actions so that the room's temperature is maintained near a desired setpoint. Thermostat must be connected with Therma V, Valve, Pump, and FCU where applicable.

2 Way Valve for Thermostat

A isolation valve paired with thermostat to allow whether water flows into the water circuit.

Differential Pressure Valve

A self pressure regulating valve that provides constant differential pressure between supply and return headers



REFERENCED APPLICATION #13 SPACE HEATING, COOLING, AND DHW WITH SOLAR PANEL AND THERMOSTAT

