Combi unit

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1. Specifications

Category		Unit	FHNW20X0AB1 [HN20XAHB NK1]	FHNW20X0AY1 [HN20XAHY NK1]
Major	Minor			
Classification	Chassis	-	K5	K5
Power Supply	Case 1	V, Φ, Hz	50 Hz 220-240 V~	50 Hz 220-240 V~
	Running Current by Voltage	A	-	-
Electric Heater	Power Supply	V, Φ, Hz	220-240 V~ 50 Hz / 380-415 V3N~ 50Hz	220-240 V~ 50 Hz / 380-415 V3N~ 50Hz
	Power Input	W	6000 / 9000	6000 / 9000
Current	Current(MAX)	A	2.3	0.6
Cooling Operation Range(Leaving Water)	For Fan Coil Unit(Min ~ Max)	°C	5 ~ 27	5 ~ 27
	For under floor(Min ~ Max)	°C	16 ~ 27	16 ~ 27
Heating Operation Range(Leaving Water)	Space Heating(Min ~ Max)	°C	15 ~75	15 ~75
	Domestic Hot Water(Min ~ Max)	°C	15 ~ 80*	15 ~ 80*
Water Pump (1 Circuit)	Type	-	Canned type for hot water circulation	-
	Model(Maker,Name)	-	OH SUNG, ODM-061P	-
	Motor type	-	BLDC	-
	Steps of Pumping Performance	-	Variable speed 10% to 100%	-
	Power input(Min~Max)	W	17 ~ 152	-
	Max. Head	m	11.0	-
Water Pump (2 Circuit)	Type	-	Canned type for hot water circulation	-
	Model(Maker,Name)	-	OH SUNG, ODM-061P	-
	Motor type	-	BLDC	-
	Steps of Pumping Performance	-	Fixed speed 100% (not connect com.)	-
	Power input	W	152	-
	Max. Head	m	11.0	-
Expansion Tank	Volume(Max)	ℓ	12	12
	Water Pressure(Max)	bar	3	3
	Water Pressure(Pre-charged)	bar	1	1
Buffer Tank	Volume(Max)	ℓ	16	-
	Water Pressure(Max)	bar	3	-
Strainer	Mesh size	mesh	-	-
	Max. particle size	mm	-	-
	Material	-	-	-
Safety Valve(Water cycle)	Pressure Limit(Upper Limit)	bar	3	-
Safety Valve(DHW)	Pressure Limit(Upper Limit)	bar	10	10
3 Way Valve (DHW)	Model (Maker,Name)	-	Sanhua QSF-A02M20	Sanhua QSF-A02M20
	Motor Type	-	2-2 Step motor(DC 12V)	2-2 Step motor(DC 12V)
	Flow coefficient	Kvs	12	12
3 Way Valve (Mix)	Model (Maker,Name)	-	Sanhua QSF-A02M20	-
	Motor Type	-	2-2 Step motor(DC 12V)	-
	Flow coefficient	Kvs	12	-
Flow Sensor	Type	-	-	-
	Model(Maker,Name)	-	-	-
	Measuring Range(Min~Max)	ℓ/min	-	-
Water Pressure Sensor	Model(Maker,Name)	-	-	-
	Measuring Range(Min~Max)	bar(G)	-	-
DHW Tank	Type	-	Internal coil type integrated hot water tank	Internal coil type integrated hot water tank
	Water Volume	L	200	200
	Material	-	Duplex 2205	Duplex 2205
	Internal Thermal Protect limit	℃	85	85
	Pressure Limit(Max.)	MPa (bar)	1 (10)	1 (10)

1. Specifications

Category		Unit	FHNW20X0AB1 [HN20XAHB NK1]	FHNW20X0AY1 [HN20XAHY NK1]
Major	Minor			
DHW Tank Insulation	Material	-	Polyurethane foam	Polyurethane foam
	Thickness	mm	50	50
	Heat Loss	kWh/24h	-	-
Electric Backup Heater	Type	-	Sheath	Sheath
	Power Supply	V, Φ, Hz	220-240 V~ 50 Hz / 380-415 V3N~ 50Hz	220-240 V~ 50 Hz / 380-415 V3N~ 50Hz
	Number of Heating Coil	EA	3	3
	Capacity Combination	kW	3.0 + 3.0 / 3.0 + 3.0 + 3.0	3.0 + 3.0 / 3.0 + 3.0 + 3.0
	Rated Current	A	26 / 13	26 / 13
	Maximum Electrical Power	kW	6 / 9	6 / 9
	Power Supply Cable(H07RN-F)	mm² × cores	4.0 X 3C / 2.5 X 5C	4.0 X 3C / 2.5 X 5C
Heat Exchanger(Water/DHW)	Type	-	Coil Heat Exchanger	Coil Heat Exchanger
	Quantity	EA	1	1
	Number of Plate	Sheet	-	-
	Surface area	m²	1.81	1.81
Heat Exchanger(Refrigerant to Water)	Type	-	-	-
	Quantity	EA	-	-
	Number of Plate	Sheet	-	-
Water Connecting Pipes	Inlet (Heating water from ODU)	-	Straight pipe (Cu 22 x 1.2mm)	Straight pipe (Cu 22 x 1.2mm)
	Outlet (Return water to ODU)	-	Straight pipe (Cu 22 x 1.2mm)	Straight pipe (Cu 22 x 1.2mm)
	Inlet (Return 1 Circuit)	-	Straight pipe (Cu 22 x 1.2mm)	Straight pipe (Cu 22 x 1.2mm)
	Outlet (Heating 1 Circuit)	-	Straight pipe (Cu 22 x 1.2mm)	Straight pipe (Cu 22 x 1.2mm)
	Inlet (Return 2 Circuit)	-	Straight pipe (Cu 22 x 1.2mm)	-
	Outlet (Heating 2 Circuit)	-	Straight pipe (Cu 22 x 1.2mm)	-
DHW Connecting Pipes	Inlet	-	Straight pipe (Cu 22 x 1.2mm)	Straight pipe (Cu 22 x 1.2mm)
	Outlet	-	Straight pipe (Cu 22 x 1.2mm)	Straight pipe (Cu 22 x 1.2mm)
	Re-circulation	-	Straight pipe (Cu 22 x 1.2mm)	Straight pipe (Cu 22 x 1.2mm)
Sound Power Level	Heating(Rated)	dB(A)	42	39
	Net(W x H x D)	mm	600 x 1850 x 600	600 x 1850 x 600
	Shipping(W x H x D)	mm	660 x 2075 x 745	660 x 2075 x 745
Weight	Net	kg	131	111.5
	Shipping	kg	152	131.9
Exterior	Color	-	Essence White	Essence White
	RAL Code	-	RAL 9003	RAL 9003
Connecting Cable	Power and Communication cable(H07RN-F, included earth)	mm² × cores	0.75 X 3C / 0.75 x 2C	0.75 X 3C / 0.75 x 2C

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound power level is measured on the rated condition in accordance with ISO 9614 standard.
   Therefore, these values depend on the ambient conditions and values are normally higher in actual operation.
4. * DHW 65~80°C operating is available only when the booster heater is operating.
5. The RAL Code may not accurately represent the actual color.

2. List of functions

Category	Functions	HN20XAHB NK1	HN20XAHY NK1
Reliability	Self Diagnosis	O	O
Convenience	Auto Restart	O	O
	Child Lock	O	O
	Group Control	X	X
	Sleep Timer	X	X
	Turn On/Off Reservation	O	O
	Schedule	O	O
	Low Noise Operation	O	O
Installation	Electric Backup Heater	O	O
	Domestic Hot Water Tank heater	O (by Electric Backup Heater)	O (by Electric Backup Heater)
Water Product functions	Water Pump Pre-run / Over-run control	O	O
	Water Pump Forced Operation	O	O
	Water Pump Speed Control	O	O
	Water Flow Detection by Flow Sensor	O	O
	Water Flow Control	O	O
	Water Pressure Monitoring	O	O
	Thermostat Interface (230V AC)	O	O
	Thermostat Interface (24V AC)	X	X
	One Point Dry Contact Input (CN-EXT)	O	O
	Digital Output For External Pump	O	O
	Digital inputs for energy saving (Ready for Smart Grid)	O	O
	Communication with LG ESS by Modbus	O	O
	Anti-Condensation on Floor (cooling)	O	O
	Anti-Freezing Control	O	O
	Anti-overheating Of Water Pipe	O	O
	Emergency Operation	O	O
	Weather dependent operation with thermostat	O	O
	Seasonal auto mode (heating and cooling)	O	O
	DHW(Domestic Hot Water) Tank Kit	O(Integrated)	O(Integrated)
	Scheduler (DHW Tank Heater)	O	O
	Timer (DHW Tank Heater)	O	O
	Quick DHW Tank Heating	O	O
	DHW Recirculation	O	O
	Tank Disinfection	O	O
	Electric Heater Capacity Control	O	O
	Solar thermal function	X	X
	Screed Drying Mode	O	O
	Current Flow Rate Monitoring	O	O
	Energy Monitoring	O	O
Special Functions	Wi-Fi Control	O	O
	Modbus connectivity (without gateway)	O	O
	Remote room temperature sensing	Accessory	Accessory
	Outdoor Temperature sensing	Accessory	Accessory
	2nd Circuit (Mixing Circuit)	O	Accessory(3rd party)
	2-Remo control	Accessory	Accessory

Note

1. O : Applied, X : Not applied
   Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.
   Accessory line-ups varies by region, so check your local catalogue or local sales material.
2. Solar thermal system requires the 3rd party accessory, PT-1000 sensor. (field supply)

3. Accessory Compatibility List

Category	Accessory Name	Model Name	Descriptions	FHNW20X0AB1 [HN20XAHB NK1]	FHNW20X0AY1 [HN20XAHY NK1]
Remote Controller	Wired - RS3 (Standard III)	PREMTW101	White	X	X
	Deluxe heating	PREMTW200	White	O	O
Dry Contact	Simple	PDRYCB000	1 input port, AC 220 - 240V	O	O
	Thermostat	PDRYCB320	8 input port, For 3rd Party Thermostat (Analog Input)	O	O
Integration Device	Remote Temperature sensor	PQRSTA0	Room temperature sensor, NTC 10kΩ, include casing	O	O
	Group Control wire	PZCWRCG3	Cable Assembly for group control (Y-type cable : 0.25m,cable : 9.6m)	X	X
ETC	Extension wire	PZCWRC1	Extension wire for IDU-wired remote controller (9.6m)	O	O
	2-Remo Control wire	PZCWRC2	Y-type cable to connect additional Remote Controller as slave	O	O
	Wi-Fi Modem	PWFMDD200	Device to use ThinQ app include connection cable	O	O
	Wi-Fi Extension cable	PWYREW000	USB Extension cable : 10 m	O	O
	Meter Interface	PENKTH000	Interface to connect 3rd-party heat and/or watt meter to indoor unit by S0 or Modbus	O	O
Special Kit	Solar-Thermal kit	PHLLA*	Limit Temperature : 96 ℃	X	X
	IDU Drain Pan	PHDPB	For Hydro Unit	X	X
		PHDPC	For Hydro Unit	X	X
	Buffer Tank	SB006SAAN0	60 L	O	O
		SB010SAAN0	100 L	O	O
	DHW tanks (Single Coil)	SD020SASN0	200 L	X	X
		SD025SASN0	250 L	X	X
		SD030SASN0	300 L	X	X
	DHW tanks (Double Coil)	SD030SSSN0	300L	X	X
	DHW tanks (single Coil)with buffer	ST030SASN0	300 L	X	X
	DHW Heater kit	PHLTA	For Hydro Unit and Control Unit(except for HN1639 NK3)	X	X
		PHLTB	For Hydro unit and Monobloc	X	X
		PHLTC	For Hydro Unit (HN1639 NK3)	X	X
	Wall mounted out-door air temp. sensor	PHATS0	For measuring outside temperature	O	O
	Thermistor for Water Tank (Buffer Tank, DHW Tank)	PHRSTA0	Included in DHW Tank kit	O	O
	Thermostatic Mixing valve	OSHA-MV	3/4" DN20	X	X
		OSHA-MV1	1" DN25	X	X
	3way valve	OSHA-3V	Diverting valve between space heating and DHW heating	X	X
	Thermistor for 2nd Circuit	PRSTAT5K10	NTC 5kΩ sensor needed to control mixing circuit or if 3rd party backup heater is used	X	O
	Backup Heater	HA031M E1	1Ø, 3kW (For Monobloc)	X	X
		HA061M E1	1Ø, 6kW (For Monobloc)	X	X
		HA063M E1	3Ø, 6kW (For Monobloc)	X	X
		HA031M E2	1Ø, 3kW (For Monobloc)	X	X
		HA061M E2	1Ø, 6kW (For Monobloc)	X	X
		HA063M E2	3Ø, 6kW (For Monobloc)	X	X
		HA061B E1	1Ø, 6kW (For Hydrosplit, HN1600MB NK0)	X	X
		HA061C E1	1Ø, 6kW (For Hydrosplit, HN1600MC NK1)	X	X
		HA063B E1	3Ø, 6kW (For Hydrosplit, HN1600MB NK0)	X	X
		HA063C E1	3Ø, 6kW (For Hydrosplit, HN1600MC NK1)	X	X
	Cover plate	PDC-HK10	For Combi Unit and Hydro Unit Type indoor units	X	X

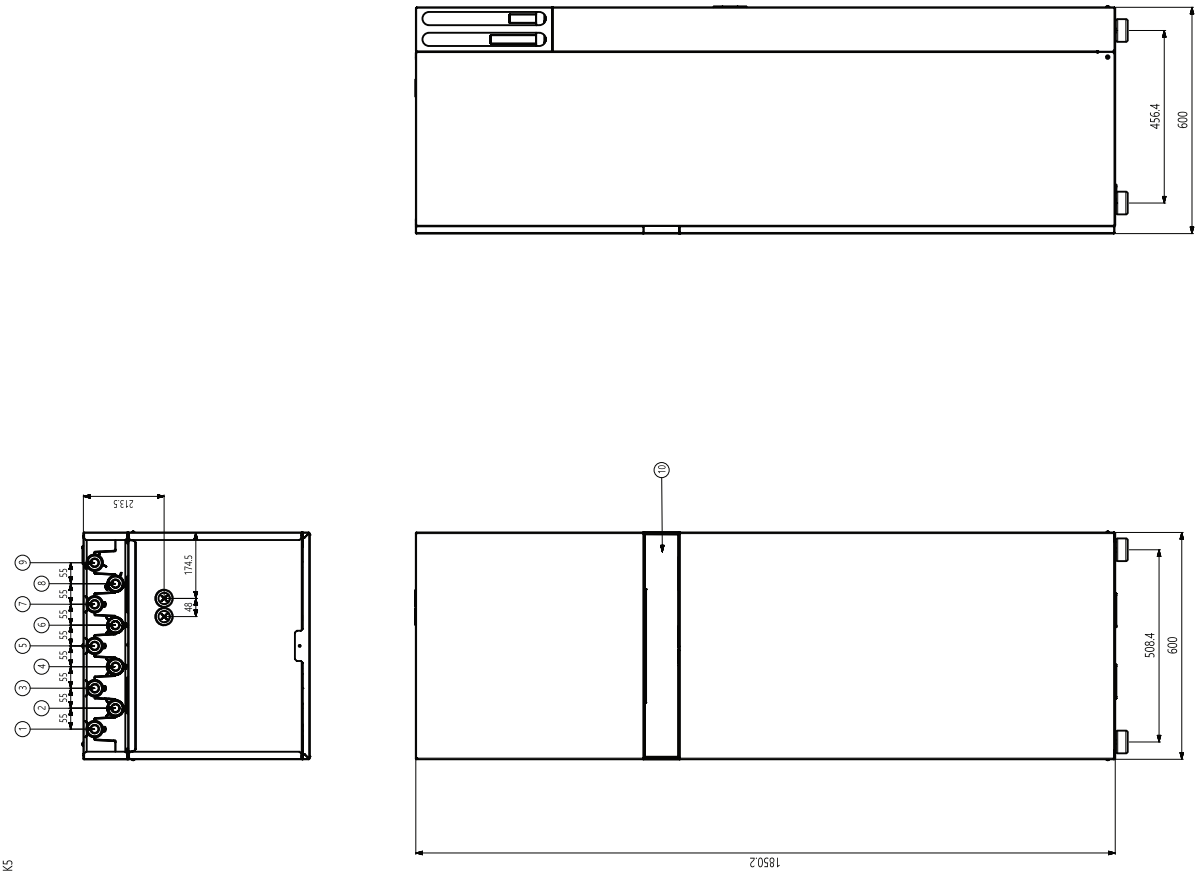
Note

1. O: Possible, X: Impossible, - : Not applicable, Embedded : Included with product.
2. Some advanced functions controlled by individual controller cannot be operated.
3. If there is a difference in development time between the product and the remote controller, some functions cannot be operated.
4. Meter interface cannot be connected at the same time with 3rd-party controller.
5. * : It includes double-sensor for solar tank. The collector sensor (PT1000) needs to be supplied locally.
6. If you need more detail, please refer to the control(***BECON***) PDB or the manual of product. (http://partner.lge.com > Select Your Region : Home> Doc.Library> Product > Control(BECON)).

4. Dimensions

■ External : FHNW20X0AB1[HN20XAHB.NK1]

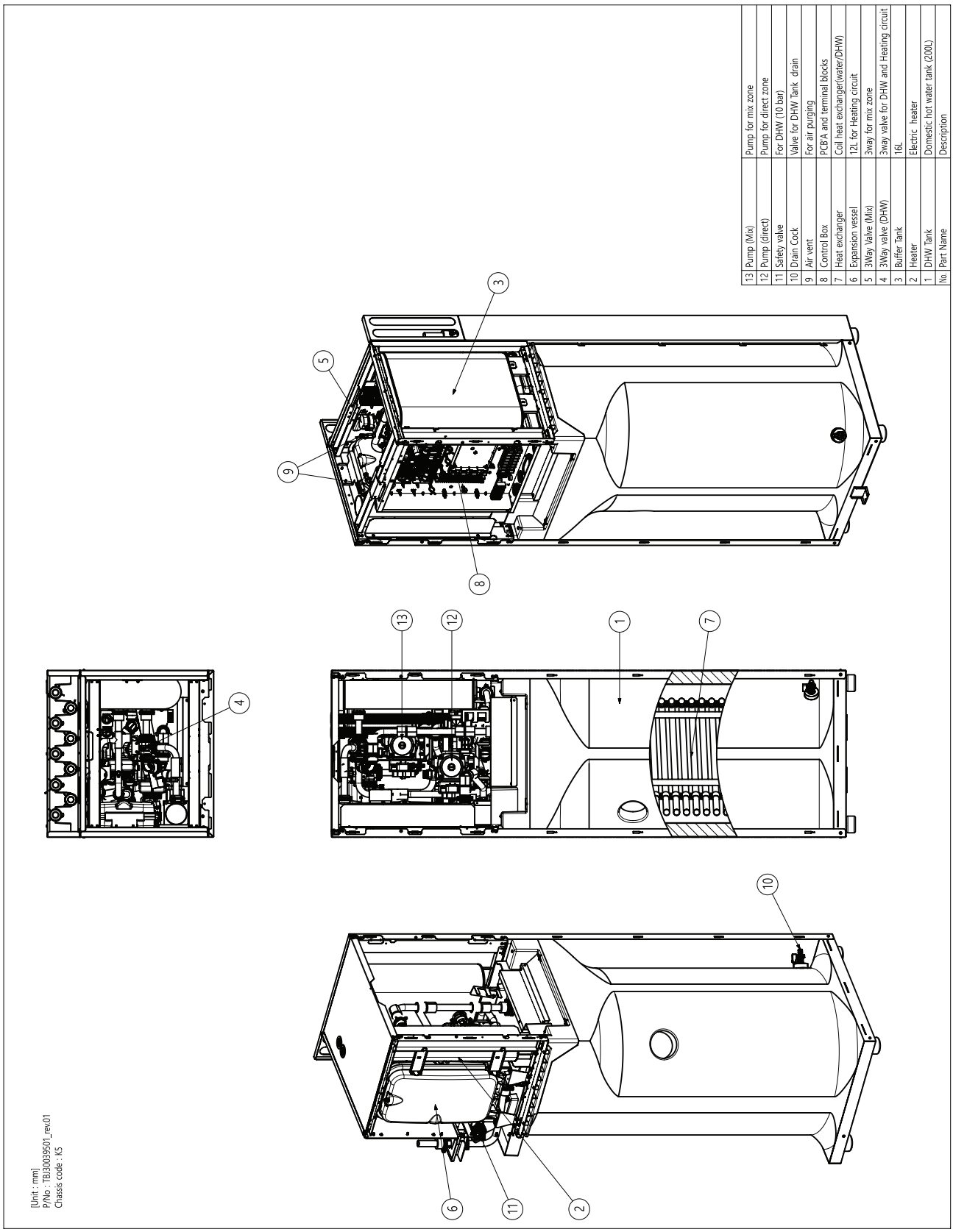
No.	Part Name	Description
10	Control Panel	Human Machine Interface
9	Inlet (Return 1 Circuit)	Straight pipe (Cu 22 x 1.2mm)
8	Outlet (Heating 1 Circuit)	
7	Inlet (Domestic hot water)	
6	Outlet (Domestic hot water)	
5	Inlet (Return 2 Circuit)	
4	Outlet (Heating 2 Circuit)	
3	Outlet (Return water to ODU)	
2	Inlet (Heating water from ODU)	
1	DHW Re-circulation	



[Unit : mm]
P/No : TBJ3003950I_rev.01
Chassis code : KS

4. Dimensions

■ Internal : FHNW20X0AB1 [HN20XAHB.NK1]

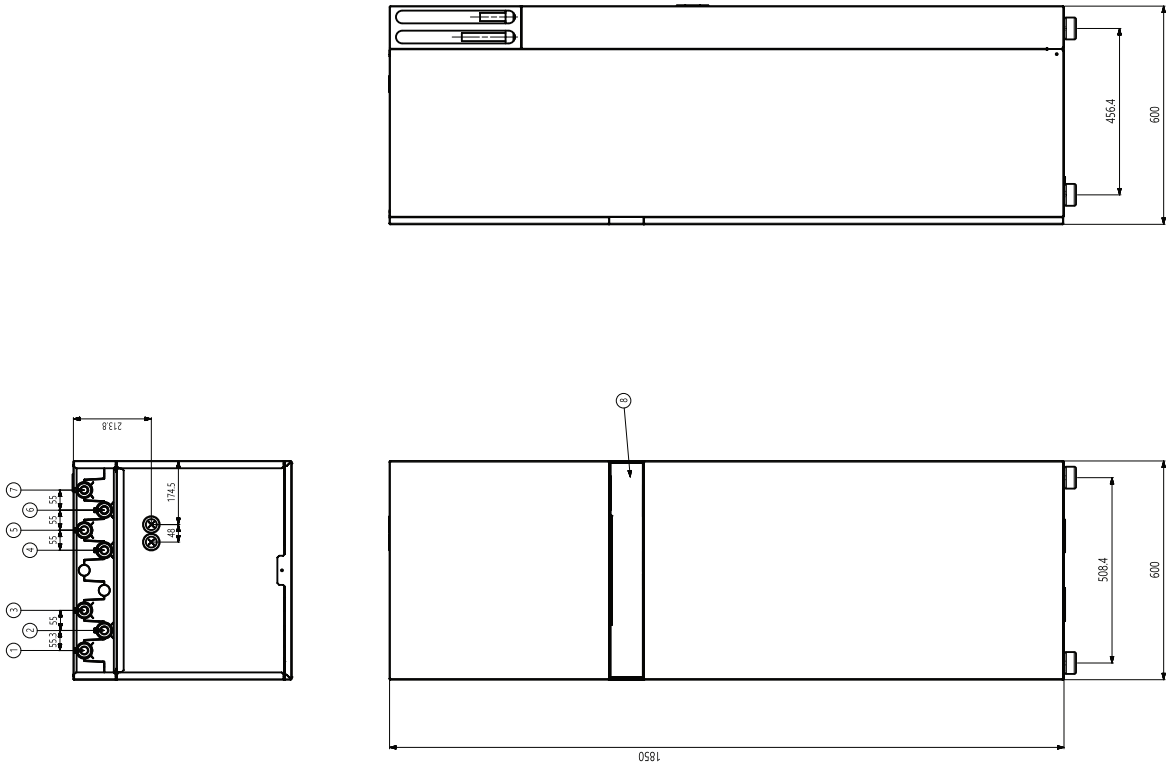


No.	Part Name	Description
1	DHW Tank	Domestic hot water tank (200L)
2	Heater	Electric heater
3	Buffer Tank	16L
4	3Way valve (DHW)	3way valve for DHW and Heating circuit
5	3Way Valve (Mix)	3way for mix zone
6	Expansion vessel	12L for Heating circuit
7	Heat exchanger	Coil heat exchanger(water/DHW)
8	Control Box	PCB'A and terminal blocks
9	Air vent	For air purging
10	Drain Cock	Valve for DHW Tank drain
11	Safety valve	For DHW (10 bar)
12	Pump (direct)	Pump for direct zone
13	Pump (Mix)	Pump for mix zone

4. Dimensions

■ External : FHNW20X0AY1[HN20XAHY.NK1]

No.	Part Name	Description
8	Control Panel	Human Machine Interface
7	Inlet (Return Circuit)	Straight pipe (Cu 22 x 1.2mm)
6	Outlet (Heating Circuit)	
5	Inlet (Domestic hot water)	
4	Outlet (Domestic hot water)	
3	Outlet (Return water to ODU)	
2	Inlet (Heating water from ODU)	
1	Re-circulation	

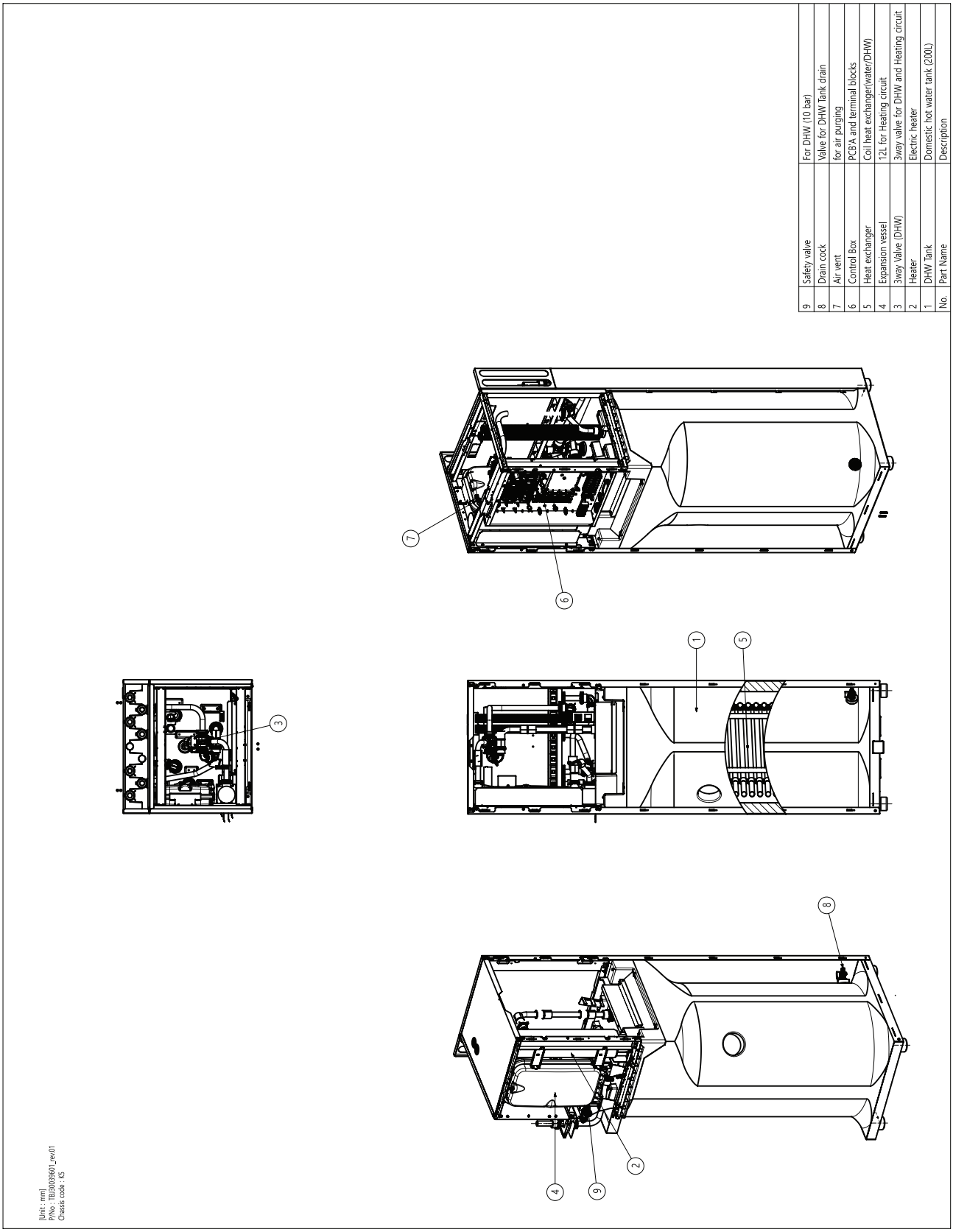


[Unit : mm]
P/No : TB3B003901_rev.01
Chassis code : K5

4. Dimensions

■ Internal : FHNW20X0AY1 [HN20XAHY.NK1]

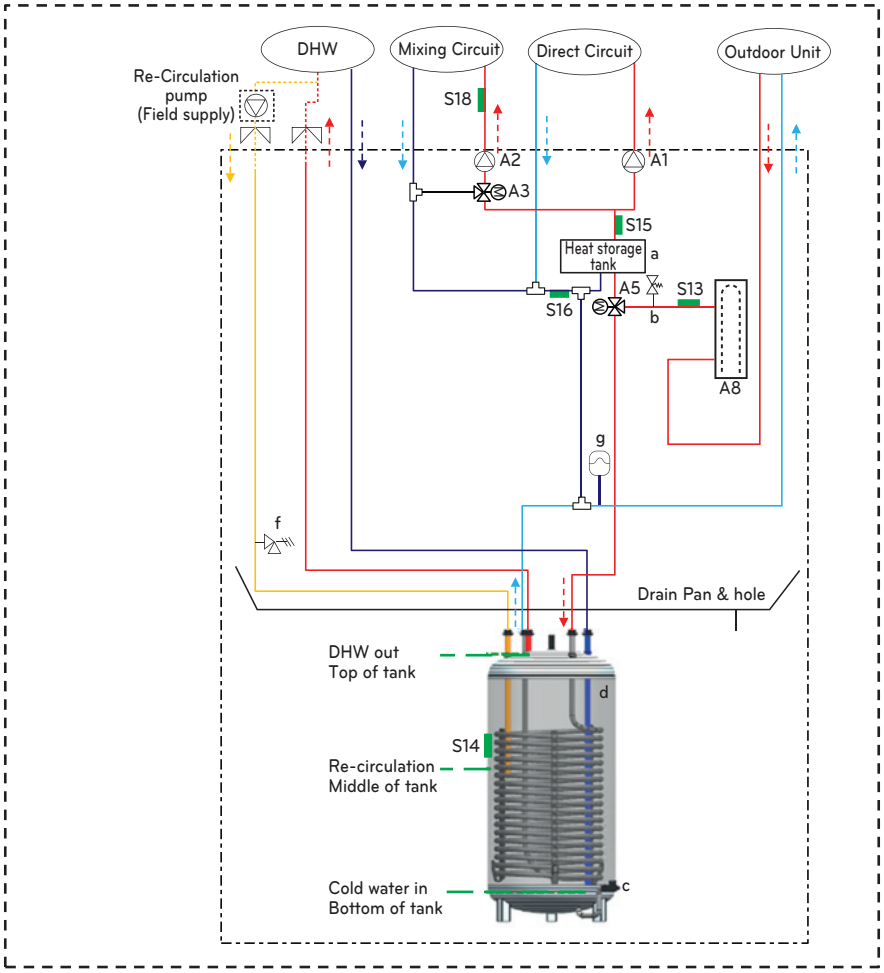
No.	Part Name	Description
1	DHW Tank	Domestic hot water tank (200L)
2	Heater	Electric heater
3	3way Valve (DHW)	3way valve for DHW and Heating circuit
4	Expansion vessel	12L for Heating circuit
5	Heat exchanger	Coil heat exchanger(water/DHW)
6	Control Box	PCB'A and terminal blocks
7	Air vent	for air purging
8	Drain cock	Valve for DHW Tank drain
9	Safety valve	For DHW (10 bar)



[Unit : mm]
P/No : TBJ3003901_rev.01
Chassis code : K5

5. Piping Diagram

■ FHNW20X0AB1 [HN20XAHB NK1]

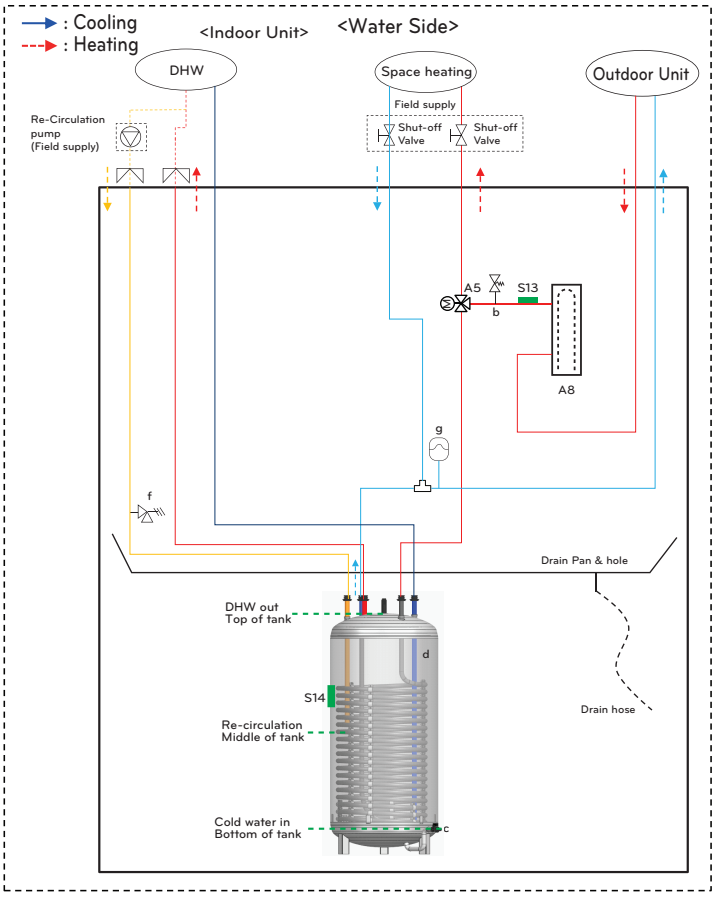


Description

Category	Symbol	Meaning
Water Side	A1	Secondary pump
	A2	Mix pump
	A3	3Way Valve (Mix)
	A5	3Way Valve
	A8	Electric backup heater
	S13	Electric backup heater outlet temp. sensor
	S14	DHW tank water temp. sensor
	S15	Buffer tank outlet water temp. sensor
	S16	Buffer tank inlet water temp. sensor
	S18	Mixing circuit outlet water temp. sensor
	a	Heat storage tank (Buffer tank, 16L)
	b	Air vent
	c	Drain valve
	d	DHW Tank (200L)
	f	Safety valve(DHW tank, 10bar)
	g	Expansion Tank(12L)

5. Piping Diagram

■ FHNW20X0AY1 [HN20XAHY NK1]

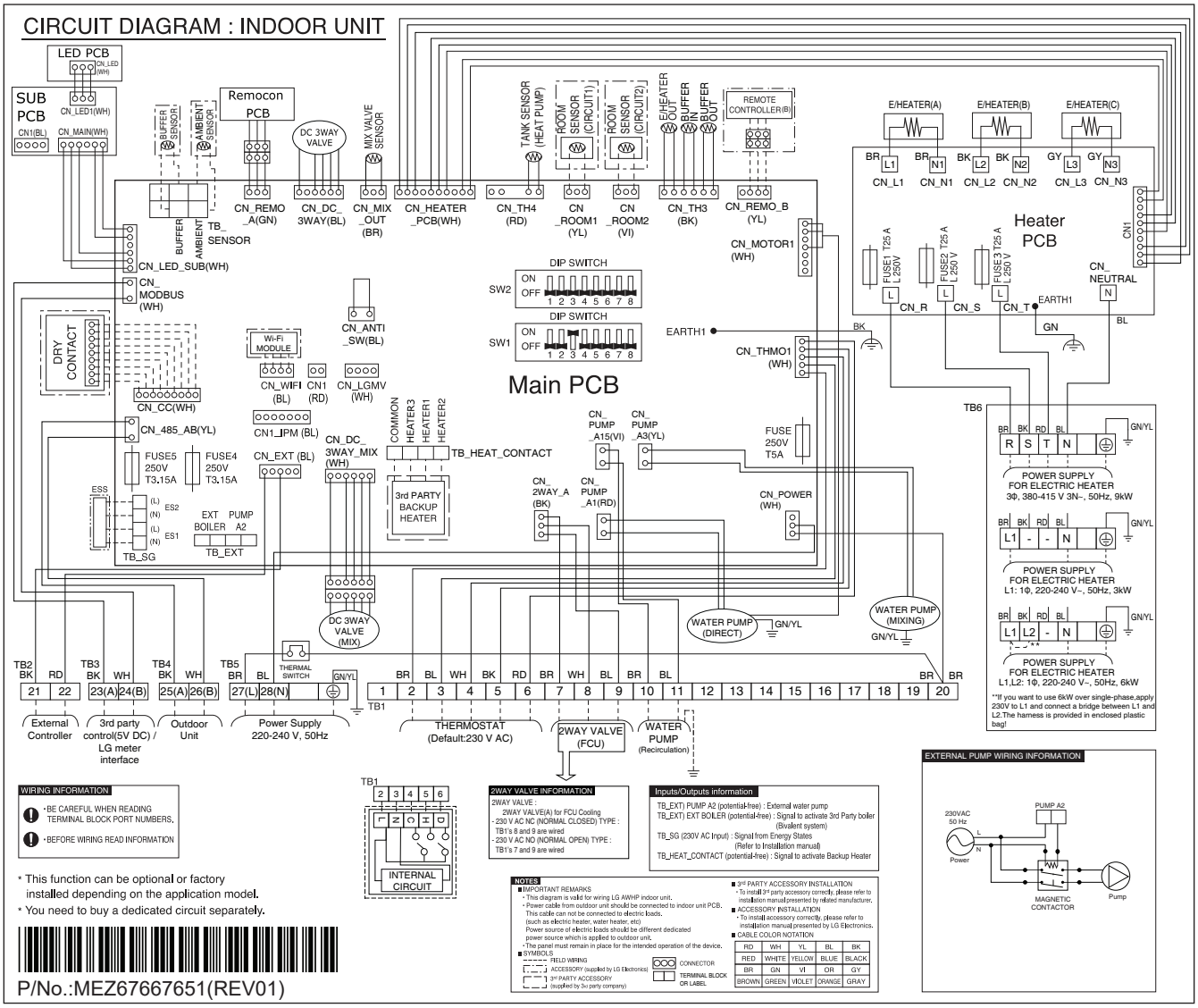


Description

Category	Symbol	Meaning
Water Side	A5	3Way Valve
	A8	Electric backup heater
	S13	Electric backup heater outlet temp. sensor
	S14	DHW tank water temp. sensor
	b	Air vent
	c	Drain valve
	f	Safety valve(DHW tank, 10bar)
	g	Expansion Tank(12L)

6. Wiring Diagram

■ FHNW20X0AB1 [HN20XAHB NK1]



6. Wiring Diagram

■ FHNW20X0AY1 [HN20XAHY NK1]

