

PRODUCT SPECIFICATION

R32 IWT

IDU

HN0916T NB1

ODU

HU051MR U44

HU071MR U44

HU091MR U44



Features

- High energy efficiency (SCOP up to 4.52 / A+++ and water heating efficiency 125%)
- DHW tank (200ℓ) & hydronic component integration
- Integrable buffer tank (40ℓ) & expansion tank for DHW circuit (8ℓ) (optional)
- Excellent performance at low ambient temperature (100% @ -7°C)
- Wide operation range (ambient : -25 ~ 35°C / water side : 15 ~ 65°C)
- R32 refrigerant with low GWP
- R1 scroll compressor
- Black Fin heat exchanger
- LG ThinQ
- KEYMARK/EHPA certification/Eurovent certification

Model Line-up

Category	Unit	Model Name		
		Capacity (kW)		
		5.5	7.0	9.0
1 Phase Model 220 - 240V, 1Ø, 50Hz	Outdoor Unit	HU051MR U44	HU071MR U44	HU091MR U44
	Indoor Unit	HN0916T NB1		

Seasonal Energy

Description		Outdoor Unit	HU051MR U44	HU071MR U44	HU091MR U44		
		Indoor Unit	HN0916T NB1				
Space Heating (according to EN14825)	Average Climate Water Outlet 35°C	SCOP	-	4.52	4.47	4.45	
		Seasonal Space Heating Efficiency (η_s)	%	178	176	175	
		Seasonal Space Heating Eff. Class (A+++ to D scale)	-	A+++	A+++	A+++	
	Average Climate Water Outlet 55°C	SCOP	-	3.01	3.00	3.03	
		Seasonal Space Heating Efficiency (η_s)	%	117	117	118	
		Seasonal Space Heating Eff. Class (A+++ to D scale)	-	A+	A+	A+	
Domestic Hot Water Efficiency acc. EN16147	Average Climate	Declared Load Profile	-	L	L	L	
		Water Heating Efficiency (η_{wh})	%	125	125	125	
		SOP _{DHW}	-	2.89	2.89	2.89	
		Water Heating Efficiency Class	-	A+	A+	A+	
		Warmer Climate	Declared Load Profile	-	L	L	L
			Water Heating Efficiency (η_{wh})	%	156	156	156
	SOP _{DHW}		-	3.61	3.61	3.61	
	Water Heating Efficiency Class		-	-	-	-	
	Colder Climate		Declared Load Profile	-	L	L	L
			Water Heating Efficiency (η_{wh})	%	106	106	106
		SOP _{DHW}	-	2.44	2.44	2.44	
		Water Heating Efficiency Class	-	-	-	-	

Nominal Capacity and Nominal Power Input

Description		OAT (DB)	LWT (DB)	Outdoor Unit	HU051MR U44	HU071MR U44	HU091MR U44
				Indoor Unit	HN0916T NB1		
Nominal Capacity	Heating	7°C	35°C	kW	5.50	7.00	9.00
		7°C	55°C		5.00	5.25	5.50
	Cooling	35°C	18°C	5.50	7.00	9.00	
Nominal Power Input	Heating	7°C	35°C	kW	1.22	1.56	2.05
		7°C	55°C		1.92	2.02	2.12
	Cooling	35°C	18°C	1.20	1.59	2.20	
COP	Heating	7°C	35°C	W/W	4.50	4.50	4.40
		7°C	55°C		2.60	2.60	2.60
EER	Cooling	35°C	18°C	W/W	4.60	4.40	4.10

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R32 IWT

Product Specification (Outdoor Unit)

Technical Specification			Unit	HU051MR U44	HU071MR U44	HU091MR U44
Operation Range (leaving water)	Heating	Min. - Max.	°CDB		-25 - 35	
	Cooling		°C		5 - 48	
Compressor	Quantity		EA		1	
	Type		-		Hermetic Sealed Scroll	
Refrigerant	Type		-		R32	
	GWP (global warming potential)		-		675	
	Precharged Amount		g		1,500	
	t-CO ₂ eq		-		1,013	
Piping Connections	Outer Diameter	Gas	mm (inch)		Ø15.88 (5/8)	
		Liquid	mm (inch)		Ø9.52 (3/8)	
	Length	Standard	m		5	
		Max.	m		50	
	Level Difference	Max.	m		30	
		Chargeless-Pipe Length		m		10
	Additional Charging Volume		g/m		30	
Rated Water Flow Rate (at LWT 35°C)			LPM	15.81	20.12	25.87
Sound Power Level	Heating	Rated	dB(A)		60	
Sound Pressure Level (at 1m)	Heating	Rated	dB(A)		52	
Dimensions	Unit	W x H x D	mm		950 x 834 x 330	
Weight	Unit		kg		60.0	
Power Supply	Voltage, Phase, Frequency		V, Ø, Hz		220 - 240, 1, 50	
	Rated Running Current	Heating	A	5.4	6.9	9.1
		Cooling	A	5.3	7.1	9.8
	Recommended Circuit Breaker		A	16	20	25
Wiring Connections	Power Supply Cable (included earth, H07RN-F)		mm ² x cores		4.0 x 3C	

Note

- Due to our policy of innovation some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national codes. 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.
- Sound power level is measured on the rated condition in the reverberation rooms by ISO 9614 standard. Therefore, these values can be increased owing to ambient conditions during operation. Sound pressure level is converted values from sound power level as per distance.
- Performances are based on the following conditions (It is according to EN14511):
Interconnected pipe length is standard length and difference of elevation (outdoor ~ indoor unit) is 0m.
- This product contains fluorinated greenhouse gases.

Product Specification (Indoor Unit)

Description			Unit	HN0916T NB1
Operation Range (leaving water)	Heating	Min. - Max.	°C	15 - 65
	Cooling	Min. - Max.	°C	5 - 27 (16-27) ¹⁾
	DHW ¹⁾	Min. - Max.	°C	15 - 80
Flow Sensor	Measuring Range	Min. - Max.	ℓ/min	5 - 80
Safety Valve	Heating Circuit		bar	3
	DHW Circuit		bar	10
Expansion Vessel (heating circuit)	Volume		ℓ	12
Piping Connections	Refrigerant Circuit	Gas (outer diameter)	mm (inch)	Ø 15.88 (5/8)
		Liquid (outer diameter)	mm (inch)	Ø 9.52 (3/8)
	Water Circuit	Inlet	inch	G1" (Ø 22 mm) internal thread
		Outlet	inch	G1" (Ø 22 mm) internal thread
	DHW Tank Water Circuit	Cold Water Inlet	inch	G3/4" (Ø 19.75 mm) internal
		Hot Water Outlet	inch	G3/4" (Ø 19.75 mm) internal
		Re-circulation	inch	G3/4" (Ø 19.75 mm) internal
Domestic Hot Water Tank	Water Volume	Rated	ℓ	200
	Internal Thermal Protect Limit		°C	85
Sound Power Level			dB(A)	43
Dimensions (W x H x D)			mm	602 x 1,810 x 680
Weight (without water)			kg	140
Power Supply			V, Ø, Hz	220 - 240, 1, 50
Electric Heater	Capacity		kW	10 : 2 / 4 30 : 6
	Power Supply		V, Ø, Hz	220 - 240, 1, 50 / 380 - 415, 3, 50

1) DHW 58 - 80°C operating is available only when the electric heater is operating.

2) When fan coil unit not used.

Accessory Parts (Optional Accessory)

Buffer Tank for Space Heating



As an optional accessory, the installer can install a standard 40ℓ buffer tank for space heating. Fitting seamlessly into the main casing, it can be attached on the backside of the IWT unit.

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

Expansion Vessel for DHW



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

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

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Performance Table for Heating Operation

Maximum Heating Capacity (Including Defrost Effect)

HU051MR U44 + HN0916T NB1

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

HU071MR U44 + HN0916T NB1

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

HU091MR U44 + HN0916T NB1

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

Note

- DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
- Direct interpolation is permissible. Do not extrapolate.
- Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.
- The shaded areas are not guaranteed continuous operation.

Performance Table for Cooling Operation

Maximum Cooling Capacity

HU051MR U44 + HN0916T NB1

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

HU071MR U44 + HN0916T NB1

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

HU091MR U44 + HN0916T NB1

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

Note

- DB : Dry Bulb Temperature (°C), LWT : Leaving Water Temperature (°C), LPM : Liters Per Minute (ℓ/min), TC : Total Capacity (kW)
- Direct interpolation is permissible. Do not extrapolate.
- Measuring procedure follows EN-14511.
 - Rated values are based on standard conditions and it can be found on specifications.
 - Above table values may not be matched according to installation condition. Except for rated value, the performance is not guaranteed.
 - In accordance with the test standard (or nations), the rating will vary slightly.

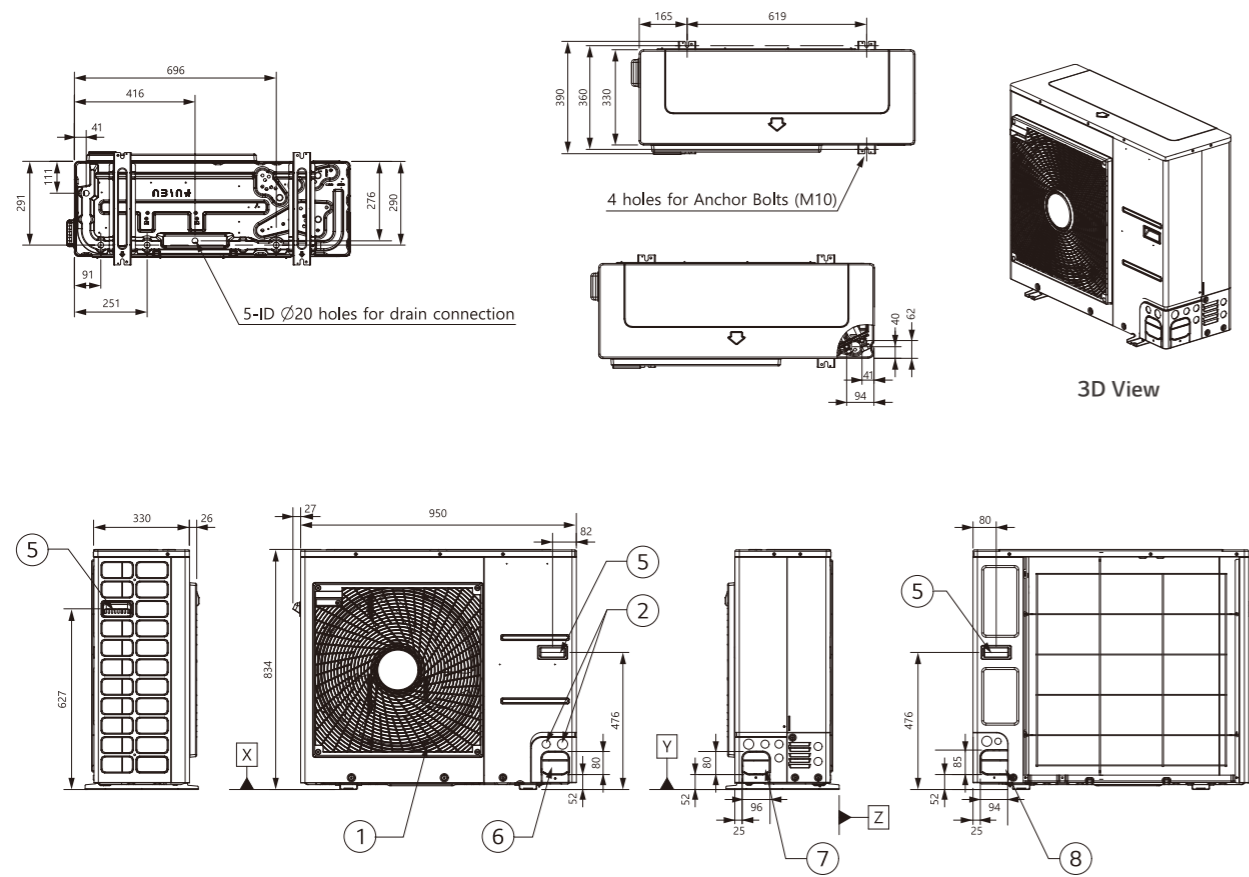
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Drawings

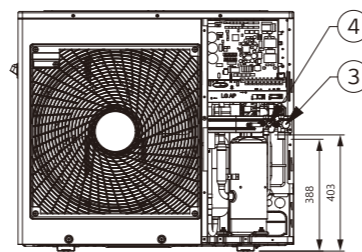
Category	Unit	Model Name		
		Capacity (kW)		
		5.5	7.0	9.0
1 Phase Model 220 - 240V, 1Ø, 50Hz	Outdoor Unit	HU051MR U44	HU071MR U44	HU091MR U44
	Indoor Unit	HN0916T NB1		

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[Unit : mm]



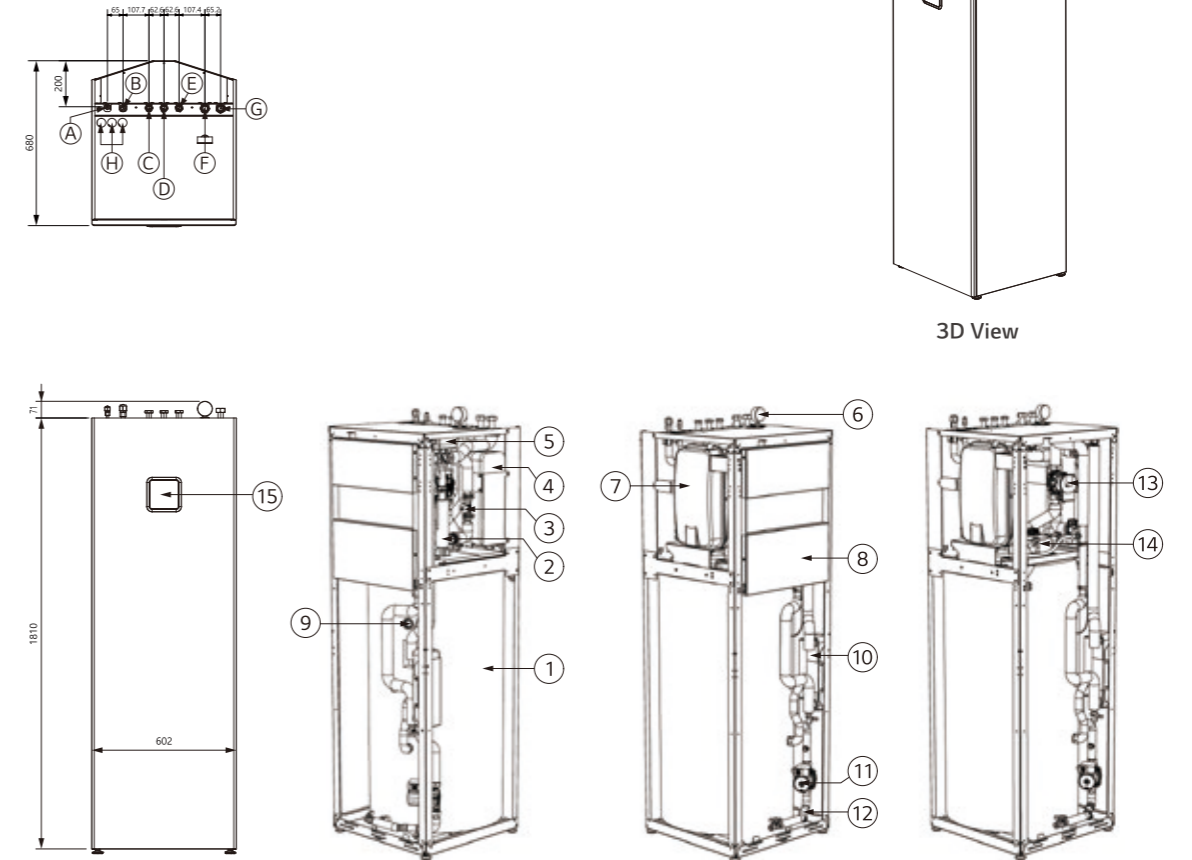
No.	Part Name	Description
1	Air Outlet	-
2	Power and Communication Cable Hole	-
3	Gas Pipe Connection	Flare joint
4	Liquid Pipe Connection	Flare joint
5	Handle	-
6	Pipe Routing Hole (front)	-
7	Pipe Routing Hole (side)	-
8	Pipe Routing Hole (back)	-



Piping Connection Port

HN0916T NB1

[Unit : mm]



No.	Part Name	Description	No.	Description
1	DHW Tank	Domestic Hot Water Tank (200L)	A	G5/8" Refrigerant Gas Pipe
2	Heater	Electric Back up Heater (6kW)	B	G3/8" Refrigerant liquid Pipe
3	Flow Sensor	SIKA VVXC9SNBUC00252P	C	G3/4" Domestic hot water outlet
4	Heat Exchanger	Plate-heat-exchanger (refrigerant / water)	D	G3/4" Domestic cold water inlet
5	3 Way Valve	3 Way valve (DHW / heating)	E	G3/4" DHW Re-circulation
6	Pressure Gauge	Pressure gauge	F	G1" Heating circuit inlet
7	Expansion Vessel (12L)	Expansion vessel for Heating	G	G1" Heating circuit outlet
8	Control Box	PCB and terminal blocks	H	Cable lead throughs
9	Magnesium Anode	To prevent corrosion		
10	Heat Exchanger	Plate-heat-exchanger (water / DHW)		
11	Water Pump	DHW Tank Charging Pump		
12	DHW Strainer	DHW Strainer		
13	Water Pump	Main circulation pump		
14	Bracket	For DHW Expansion vessel (accessory)		
15	Remote Controller	Built-in remote controller		