

# 1. Specifications

## 3Φ Models

Performance specifications					FHBW078B0 [HM073HF UB40]	FHBW098B0 [HM093HF UB40]
-	-	Outdoor temp. (°CDB)	Leaving water temp. (°C)	-		
Capacity	Heating	7	35	kW	7.0	9.0
			55	kW	4.5	5.5
		2	35	kW	7.0	8.0
			55	kW	7.0	8.0
	-7	35	kW	7.0	9.0	
		55	kW	7.0	8.0	
Cooling	35	18	kW	5.0	5.5	
		7	kW	5.0	5.5	
Power input	Heating	7	35	kW	1.40	1.91
			55	kW	1.34	1.67
		2	35	kW	1.84	2.16
			55	kW	2.50	3.33
	-7	35	kW	2.92	3.64	
		55	kW	2.92	3.64	
Cooling	35	18	kW	1.14	1.31	
		7	kW	1.79	2.12	
COP	Heating	7	35	W/W	5.0	4.7
			55	W/W	3.35	3.3
		2	35	W/W	3.8	3.7
			55	W/W	2.8	2.7
	-7	35	W/W	2.4	2.2	
		55	W/W	2.4	2.2	
EER	Cooling	35 / 24	18	W/W	4.4	4.2
			7	W/W	2.8	2.6
Seasonal space heating eff. class			35	-	A+++	A+++
Seasonal space heating efficiency (η <sub>S</sub> )			55	-	A+++	A+++
SCOP(average climate)			35	-	207	205
Water Heating Efficiency (profile L)			55	-	151	151
Water Heating Efficiency (profile L)			35	W/W	5.24	5.20
Water Heating Efficiency (profile L)			55	W/W	3.86	3.86
Water Heating Efficiency (profile L)				%	-	-
Water flow rate		Rated(at ΔT 5°C)		ℓ /min	20.1	25.9
Operation range (outdoor temperature)		Cooling#	Min.~Max.	°C(DB)	5~48	5~48
Operation range (outdoor temperature)		Heating	Min.~Max.	°C(DB)	-28 ~ 35	-28 ~ 35

Electrical specifications			FHBW078B0 [HM073HF UB40]	FHBW098B0 [HM093HF UB40]
Power supply	Case 1	V, Ø, Hz	380-415, 3, 50	380-415, 3, 50
	Limit range of voltage	V	342~457	342~457
Running current	Heating(Rated)	A	2.8	3.6
	Cooling(Rated)	A	2.2	2.4
Peak control running current	Heating	A	7	8
	Cooling	A	7	8
Recommended circuit breaker(ELCB)		A	16	16
Standby power consumption		W	10	10
Connecting cable	Power supply cable (included Earth, H07RN-F)	mm <sup>2</sup> x cores	2.5 x 5C	2.5 x 5C
	Communication cable (H07RN-F)	mm <sup>2</sup> x cores	0.75 x 2C	0.75 x 2C

Technical specifications			FHBW078B0 [HM073HF UB40]	FHBW098B0 [HM093HF UB40]
Refrigerant	Type	-	R290	R290
	Precharged amount	kg	0.9	0.9
	GWP	-	3	3
	t-CO <sub>2</sub> eq.	-	0.0027	0.0027
	Control type	-	Electronic expansion valve	Electronic expansion valve
Compressor	Type	-	Hermetic motor compressor	Hermetic motor compressor
	Model x No.	-	PRJA032MAA x 1	PRJA032MAA x 1
	Piston displacement	cm <sup>3</sup> /rev	31.6	31.6
Refrigerant oil	Motor type	-	BLDC	BLDC
	Type	-	PZ68S	PZ68S
Fan	Charged volume	cc x No.	1100	1100
	Type	-	Propeller	Propeller
Fan motor	Air flow rate (rated)	m <sup>3</sup> /min	62 x 1	68 x 1
	Type	-	BLDC	BLDC
Heat exchanger	Output	W x No.	124 x 1	124 x 1
	Rows x columns x FPI	-	46 x 2 x 18	46 x 2 x 18
	No.	EA	1	1
Fin type		-	Corrugate	Corrugate

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Technical specifications			FHBW078B0 [HM073HF UB40]	FHBW098B0 [HM093HF UB40]	
Water pump**	Type	-	Canned type for hot water circulation	Canned type for hot water circulation	
	Model (maker, name)	-	OH SUNG, ODM-061P	OH SUNG, ODM-061P	
	Motor type	-	BLDC	BLDC	
	Steps of pumping performance	-	Variable speed 10% to 100%	Variable speed 10% to 100%	
	Power input	Min.~Max.	W	17 ~ 152	17 ~ 152
		Rated	W	110	110
Max. head	m		11	11	
Water pump 2**	Type	-	Canned type for hot water circulation	Canned type for hot water circulation	
	Model (maker, name)	-	GRUNDFOS, UPM3K 20-75CHBL	GRUNDFOS, UPM3K 20-75CHBL	
	Motor type	-	BLDC	BLDC	
	Steps of pumping performance	-	Variable speed 10% to 100%	Variable speed 10% to 100%	
	Power input	Min.~Max.	W	3 ~ 60	3 ~ 60
		Rated	W	60	60
Max. head	m		7.5	7.5	
Heat exchanger (refrigerant to water)	Type	-	Brazed plate HEX	Brazed plate HEX	
	No.	-	1	1	
	Number of plate	EA	54	54	
	Water volume	ℓ	0.7	0.7	
Water strainer	Supply type	-	Loose supply (externally installed)	Loose supply (externally installed)	
	Mesh size	mesh	30	30	
	Max. particle size	mm	0.6	0.6	
	Material	-	Stainless steel	Stainless steel	
Safety valve (water cycle)	Pressure limit	Upper limit	bar	3.0	3.0
Flow sensor	Type	-	Vortex	Vortex	
	Model(maker,name)	-	SIKA VVXC9SNBUC00242P	SIKA VVXC9SNBUC00242P	
	Measuring range	Min. ~ Max.	ℓ /min	5 ~ 80	5 ~ 80
		Trigger point	ℓ /min	5	5
Water pressure sensor	Model (maker, name)	-	Sensata OFM(2HMP)	Sensata OFM(2HMP)	
	Measuring range	Min. ~ Max.	bar	0 ~ 20	0 ~ 20
Sound pressure level	Heating(rated, @5m)		dB(A)	27	28
Sound power level	Heating	Low noise	dB(A)	48	48
		Rated	dB(A)	49	50
		Daytime max.	dB(A)	58	60
Water connecting pipes	Inlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
	Outlet	inch	Male PT 1" according to ISO 7-1 (tapered pipe threads)	Male PT 1" according to ISO 7-1 (tapered pipe threads)	
Dimensions	Net(W x H x D)	mm	1,320 x 1,019 x 520	1,320 x 1,019 x 520	
	Shipping(W x H x D)	mm	1,380 x 1,180 x 625	1,380 x 1,180 x 625	
Weight	Net	kg	130.0	130.0	
	Shipping	kg	147.0	147.0	
Exterior	Color of chassis	-	Dawn gray	Dawn gray	
	RAL Code of chassis	-	RAL 7037	RAL 7037	

**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 in accordance with EN 12102-1 and ISO 9614.
  - Rated : This mode is measured on the rated condition in the semi-anechoic rooms. Therefore, these values may vary depending on operation conditions.
  - Daytime max : This mode is measured based on max. fan RPM and max. compressor Hz. that can be reached under outdoor air temperature 2°C.
  - Low noise : This mode lowers noise by limiting the compressor Hz. and fan RPM, and thus the performance may be limited.
- Performances are accordance with EN14511 and reflect ErP testing conditions. The values indicated above are the declared values at rated conditions acc. ErP regulation. For max. capacities, please refer to Performance Data.
- This product contains Fluorinated greenhouse gases.
- SCOP is in accordance with EN14825.
- Rated running currents are based on the declared values under the following conditions.
  - Heating : Outdoor Temp. 7°CDB / 6°CWB, Leaving Water Temp. 35°C
  - Cooling : Outdoor Temp. 35°C(DB) / 24°C(WB), Leaving Water Temp. 18°C
- All installation sites must be equipped with an earth leakage circuit breaker (ELCB).
  - \* DHW 65~80°C Operating is available only when the booster heater is operating.
  - \*\* In the case of integrated water pump, either water pump or water pump 2 will be applied.
  - # This operation range includes not only the continuous operation range but also operative range.