■ 1 phase Inverter (5.5 ~ 9 kW)

	Nominal Cap	acity and Nom	ninal Input				
-	-	Outdoor Temp. (°C) DB / WB	Leaving Wate Temp. (°C)		ZHBW056A2 [HM051MRS UA40]	ZHBW076A2 [HM071MRS UA40]	ZHBW096A2 [HM091MRS UA40]
	Cooling	25/24	18	kW	5.50	7.00	9.00
	Cooling	35 / 24	7	kW	5.50	7.00	9.00
Capacity		7.1.0	35	kW	5.50	7.00	9.00
He	Heating	7/6	55	kW	5.50	5.75	6.00
		2 / 1	35	kW	5.00	6.00	7.00
	Caaling	25/24	18	kW	1.17	1.51	1.96
	Cooling	35 / 24	7	kW	1.67	2.19	3.00
Power Input Heating		7.10	35	kW	1.17	1.49	1.96
	Heating	7/6	55	kW	2.04	2.13	2.22
		2 / 1	35	kW	1.39	1.69	2.00
	0 "	05 (0.4	18	W/W	4.70	4.65	4.60
EER	Cooling	35 / 24	7	W/W	3.30	3.20	3.00
		= / 0	35	W/W	4.70	4.70	4.60
COP	Heating	7/6	55	W/W	2.70	2.70	2.70
	2/1		35	W/W	3.60	3.55	3.50
SCOP (Low terr	p. Average Cl	imate)*		1	4.46	4.48	4.55
SCOP (Medium	temp. Average	e Climate)*			3.20	3.20	3.20
Rated Water Flo	w Rate (at LW	/T 35 °C)		LPM	15.8	20.1	25.9
					711514/0504.0	711714/07040	
	Electri	cal Specificat	ions		ZHBW056A2 [HM051MRS UA40]	ZHBW076A2 [HM071MRS UA40]	ZHBW096A2 [HM091MRS UA40]
Power Supply				V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	220-240, 1, 50
Peak Control Ru	unning Current	t		А	13.0	14.0	15.0
Rated Running	Current	Cooling		А	5.1	6.5	8.5
Trated Truining	Current	Heating		А	5.1	6.5	8.5
Circuit breaker				А	16	20	25
Wiring Connecti	ons	Power Supply (included Ear	y Cable th, H07RN-F)	mm² x cores	4.0 x 3C	4.0 x 3C	4.0 x 3C
	Techni	cal Specificati	ons		ZHBW056A2 [HM051MRS UA40]	ZHBW076A2 [HM071MRS UA40]	ZHBW096A2 [HM091MRS UA40]
			Day Max.	dB(A)	63	64	64
Sound Power Le	evel	Heating	Rated	dB(A)	57	57	57
			Low noise	dB(A)	54	55	55
<u>.</u>		Unit	W×H×D	mm	1,242 × 853 × 391	1,242 × 853 × 391	1,242 × 853 × 391
Dimensions		Packed Unit	W×H×D	mm	1,330 × 1017 × 480	1,330 × 1017 × 480	1,330 × 1017 × 480
		Unit	·	kg	94	94	94
Weight		Packed Unit		kg	108	108	108
		Color		-	Dawn Gray	Dawn Gray	Dawn Gray
					,		

Note

Exterior

1. Due to our policy of innovation, some specifications may be changed without notification.

Color of Front Grille

RAL Code of Front Grille

2. 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.

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RAL 7037

Dark dawn gray

RAL 7012

RAL 7037

Dark dawn gray

RAL 7012

RAL 7037

Dark dawn gray

RAL 7012

3. Sound power level is measured in accordance with EN 12102-1 and ISO 9614.

RAL Code

• 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.

7. Rated running currents are based on the declared values under the following conditions.

• Heating : Outdoor Temp. 7°CDB / 6°CWB, Leaving Water Temp. 35℃

Cooling : Outdoor Temp. 35°C(DB) / 24°C(WB), Leaving Water Temp. 18°C

8. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

* DHW 55~80°C Operating is available only when the booster heater is operating.

** This is the power input i accordance with the 80% pump capacity setting at rated water flow rate. When the OH SUNG pump is set as 80% capacity, it's head is similar to that of the GRUNDFOS pump at rated water flow rate.

Technica	al Specifications (V	,		ZHBW056A2 [HM051MRS UA40]	ZHBW076A2 [HM071MRS UA40]	ZHBW096A2 [HM091MRS UA40]
Operation Range	Cooling	Min. ~ Max.	°C	5~27	5~27	5~27
(Leaving Water Temp.)	Heating	Min. ~ Max.	°C	15 ~ 65	15 ~ 65	15 ~ 65
Leaving water remp.)	DHW *	Min. ~ Max.	°C	15 ~ 80	15 ~ 80	15 ~ 80
	Туре		-	Canned type for hot water circulation		
	Model		-	UPM3K 20-75 CHBL / GRUNDFOS		
	Model Type		-	BLDC		
Water Pump***	Steps of Pumping	Performance	-	Va	riable speed 10% to 10	0%
	Power input (100% Capacity)	Min. / Rated	W	3 / 57	3 / 60	3 / 60
	Water Flow Rate	Min. / Rated	ℓ/min	0 / 15.8	0 / 20.1	0 / 25.9
	Туре		_	Canne	d type for hot water cire	culation
	Model		-		ODM-061P / OH SUN	
	Motor Type		-		BLDC	-
Nater Pump_2***	Steps of Pumping Performance		-	Va	riable speed 10% to 10	0%
	Power input (100% Capacity)	Min. / Rated	W	17 / 91.0 (55**)	17 / 98.0 (60**)	17 / 110.0 (65**)
	Water Flow Rate	Min. / Rated	ℓ/min	0 / 15.8	0 / 20.1	0 / 25.9
	Туре	Mini / Hatoa	-	0 / 10.0	Brazed Plate HEX	07 2010
	Quantity		-	1		1
Heat Exchanger	Number of Plate		EA	52	52	52
leat Exchanger	Water Volume		l	0.7	0.7	0.7
	Volume	Max.	l	8	8	8
Expansion Vessel		Max.	bar	3.2	3.2	3.2
	Water pressure	Pre-charged	bar	1	1	1
	Model		Dui	SIKA VVX20		ļ '
	Measuring range	Min. ~ Max.	ℓ/min	5~80	5~80	5~80
Flow Sensor****	Flow (Trigger	Min. Min.	ℓ/min	5	5	5
	point) Model					
	Measuring range	Min. ~ Max.	 ℓ/min		EBA LGF-080-C20-E-0	
Flow Sensor_2****				5~80	5~80	5~80
	Flow (Trigger point)	Min.	ℓ/min	5	5	5
Water Pressure sensor	Model		-		Sensata OFM(2HMP)
water Fressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20	0 ~ 20	0 ~ 20
	Inlet	•	inch	Male PT 1" acco	ording to ISO 7-1 (taper	ed pipe threads)
Piping Connections	Outlet		inch		ording to ISO 7-1 (taper	
					- · · ·	
	Supply type		-		e supply(externally insta	
Nater strainer	Mesh size		-	30 mesh	30 mesh	30 mesh
	Max. particle size		mm	0.6	0.6	0.6
	Material		-		Stainless Steel	
Relief Valve	Pressure Limit	Upper Limit	bar	3.0	3.0	3.0
			-	F R	elief valve / Flow Sens	or
Devices for Water Circui	t		-		Drain hose	
			-	I P	ressure Sensor / Air ve	ent

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wiring cable size must comply with the applicable local and national codes. 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 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.

5. This product contains Fluorinated greenhouse gases.

6. SCOP is in accordance with EN14825.

7. 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

8. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

* DHW 55~80°C Operating is available only when the booster heater is operating.

** This is the power input i accordance with the 80% pump capacity setting at rated water flow rate. When the OH SUNG pump is set as 80% capacity, it's head is similar to that of the GRUNDFOS pump at rated water flow rate.

*** In the case of integrated water pump, either water pump or water pump 2 will be applied.

**** In the case of integrated flow sensor, either flow sensor or flow sensor 2 will be applied.

Technic	al Specifications (Refrigerant sic	le)	ZHBW056A2 [HM051MRS UA40]	ZHBW076A2 [HM071MRS UA40]	ZHBW096A2 [HM091MRS UA40]		
Operation Range	Cooling#	Min. ~ Max.	°C DB	5 ~ 48	5~48	5 ~ 48		
(Outdoor Temp.)	Heating	Min. ~ Max.	°C DB	-25 ~ 35	-25 ~ 35	-25 ~ 35		
	Туре	•	-	Hermetic Sealed Scroll				
Compressor	Model		Model × No.	RJB036MAA × 1				
Compressor	Motor Type		-		BLDC			
	Displacement		cm³/Rev.	31.6	31.6	31.6		
	Туре		-	R32	R32	R32		
Refrigerant	GWP (Global Warmir	GWP (Global Warming Potential)		675.0	675.0	675.0		
	Precharged Am	nount	g	1,400	1,400	1,400		
	t-CO2 eq.	t-CO2 eq.		0.945	0.945	0.945		
	Control	Control		E	Electronic Expansion Valve			
Refrigerant Oil	Туре		-	FW68D				
Reingerant Oil	Charged Volum	ne	cc × No.	1,100	1,100	1,100		
	Туре			Fin & Tube	Fin & Tube	Fin & Tube		
	Quantity			1	1	1		
Heat Exchanger		Row	EA	38	38	38		
	Specification	Column	EA	2	2	2		
		FPI	EA	18	18	18		
Fan	Туре		-		Propeller	•		
i ali	Air Flow Rate	Rated	m³/min × No.	60.0 × 1	60.0 × 1	60.0 × 1		
Fan Motor	Туре		-		BLDC			
	Output		W × No.	124 × 1	124 × 1	124 × 1		

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wiring cable size must comply with the applicable local and national codes. 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 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.

4. 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.

5. This product contains Fluorinated greenhouse gases.

6. SCOP is in accordance with EN14825.

7. Rated running currents are based on the declared values under the following conditions.

• Heating : Outdoor Temp. 7°CDB / 6°CWB, Leaving Water Temp. 35 ℃

Cooling : Outdoor Temp. 35°C(DB) / 24°C(WB), Leaving Water Temp. 18°C

8. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

* DHW 55~80°C Operating is available only when the booster heater is operating.

** This is the power input i accordance with the 80% pump capacity setting at rated water flow rate. When the OH SUNG pump is set as 80% capacity, it's head is similar to that of the GRUNDFOS pump at rated water flow rate.

This operation range includes not only the continuous operation range but also operative range.

■ 1 phase Inverter (12 ~ 16 kW)

	Nominal Cap	acity and Non	ninal Input				
-	-	Outdoor Temp. (°C) DB / WB	Leaving Wate Temp. (°C)	r _	ZHBW126A2 [HM121MRS UB40]	ZHBW146A2 [HM141MRS UB40]	ZHBW166A2 [HM161MRS UB40]
			18	kW	12.00	14.00	16.00
	Cooling	35 / 24	7	kW	12.00	14.00	15.00
Capacity		= / 0	35	kW	12.00	14.00	16.00
	Heating	7/6	55	kW	11.00	11.50	12.00
	Ū	2 / 1	35	kW	11.00	12.00	13.80
			18	kW	2.50	2.98	3.48
	Cooling	35 / 24	7	kW	3.75	4,52	5.00
Power Input		= / 0	35	kW	2.45	2.92	3.40
	Heating	7/6	55	kW	3.79	4.04	4.29
	Ū	2 / 1	35	kW	3.06	3.38	3.94
		05/04	18	W/W	4.80	4.70	4.60
EER	Cooling	35 / 24	7	W/W	3.20	3.10	3.00
			35	W/W	4.90	4.80	4.70
COP	Heating	7/6	55	W/W	2.90	2.85	2.80
	Ū	2/1	35	W/W	3.60	3.55	3.50
SCOP (Low terr	np. Average Cli	imate)*			4.67	4.62	4.53
SCOP ((Mediun	1 0	,			3.47	3.46	3.45
Rated Water Flo		. ,		LPM	34.5	40.3	46.0
	· · · ·	,			70000000	711014/4/04/0	711014/40040
	Electri	cal Specificat	ions		ZHBW126A2 [HM121MRS UB40]	ZHBW146A2 [HM141MRS UB40]	ZHBW166A2 [HM161MRS UB40]
Power Supply				V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	220-240, 1, 50
Peak Control R	unning Current			А	23.0	24.0	25.0
Rated Running	Current	Cooling		А	10.6	12.7	14.8
Rateu Running	Current	Heating		А	10.9	13.0	15.1
Circuit breaker				А	40	40	40
Wiring Connecti	ions	Power Suppl (included Ear	y Cable th, H07RN-F)	mm² x cores	6.0 x 3C	6.0 x 3C	6.0 x 3C
	Techni	cal Specificati	ons		ZHBW126A2 [HM121MRS UB40]	ZHBW146A2 [HM141MRS UB40]	ZHBW166A2 [HM161MRS UB40]
			Day Max.	dB(A)	65	66	66
Sound Power L	evel	Heating	Rated	dB(A)	60	61	61
		Low noise	dB(A)	56	57	57	
		Unit W			4 000 4 040 500	1 220 1 010 520	1,320 x 1,019 x 520
Dimensions		Unit	WxHxD	mm	1,320 x 1,019 x 520	1,320 x 1,019 x 520	1,520 × 1,013 × 520
Dimensions		Unit Packed Unit	W x H x D W x H x D	mm mm	1,320 x 1,019 x 520 1,380 x 1,200 x 575	1,320 x 1,019 x 520	1,380 x 1,200 x 575
		•				, ,	
Dimensions Weight		Packed Unit		mm	1,380 x 1,200 x 575	1,380 x 1,200 x 575	1,380 x 1,200 x 575
		Packed Unit Unit		mm kg	1,380 x 1,200 x 575 117.0	1,380 x 1,200 x 575 117.0	1,380 x 1,200 x 575 117.0
Weight		Packed Unit Unit Packed Unit		mm kg kg	1,380 x 1,200 x 575 117.0 134.0	1,380 x 1,200 x 575 117.0 134.0	1,380 x 1,200 x 575 117.0 134.0
		Packed Unit Unit Packed Unit Color	WxHxD	mm kg kg -	1,380 x 1,200 x 575 117.0 134.0 Dawn Gray	1,380 x 1,200 x 575 117.0 134.0 Dawn Gray	1,380 x 1,200 x 575 117.0 134.0 Dawn Gray

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wiring cable size must comply with the applicable local and national codes. 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 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.

5. This product contains Fluorinated greenhouse gases.

6. SCOP is in accordance with EN14825.

7. Rated running currents are based on the declared values under the following conditions.

• Heating : Outdoor Temp. 7°CDB / 6°CWB, Leaving Water Temp. 35 ℃

Cooling : Outdoor Temp. 35°C(DB) / 24°C(WB), Leaving Water Temp. 18°C

8. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

* DHW 55~80°C Operating is available only when the booster heater is operating.

** This is the power input i accordance with the 80% pump capacity setting at rated water flow rate. When the OH SUNG pump is set as 80% capacity, it's head is similar to that of the GRUNDFOS pump at rated water flow rate.

Technic	al Specifications (V	,		ZHBW126A2 [HM121MRS UB40]	ZHBW146A2 [HM141MRS UB40]	ZHBW166A2 [HM161MRS UB40]	
Operation Range	Cooling	Min. ~ Max.	°C	5~27	5 ~ 27	5 ~ 27	
(Leaving Water Temp.)	Heating	Min. ~ Max.	°C	15 ~ 65	15 ~ 65	15 ~ 65	
Leaving water remp.)	DHW *	Min. ~ Max.	°C	15 ~ 80	15 ~ 80	15 ~ 80	
	Туре		-		d type for hot water circ		
	Model		-	UPML	UPML 20-105 CHBL / GRUNDFOS		
	Motor Type		-	BLDC			
Nater Pump***	Steps of Pumping Performance		-	Va	riable speed 10% to 10	0%	
	Power input (100% Capacity)	Min. / Rated	W	3.5 / 125	3.5 / 135	3.5 / 140	
	Water Flow Rate	Min. / Rated	ℓ/min	0 / 34.5	0 / 40.3	0 / 46.0	
	Туре	1	-	Canne	d type for hot water circ	culation	
	Model		-		ODM-061P / OH SUNG		
	Motor Type		-		BLDC		
Water Pump 2***	Steps of Pumping Performance		-	Va	riable speed 10% to 10	0%	
	Power input (100% Capacity)	Min. / Rated	W	17 / 130	17 / 140	17 / 145	
	Water Flow Rate	Min. / Rated	ℓ/min	0 / 34.5	0 / 40.3	0 / 46.0	
	Туре	Mini / Hatoa	-	0,0110	Brazed Plate HEX	07 1010	
	Quantity		-	1	1	1	
Heat Exchanger	Number of Plate		EA	76	76	76	
leat Excitatiget	Water Volume		l	1.0	1.0	1.0	
	Volume	Max.	l	8	8	8	
Expansion Vessel		Max.	bar	3.2	3.2	3.2	
	Water pressure	Pre-charged	bar	<u> </u>	1	1	
	Model		-	SIKA VVX20			
	Measuring range	Min. ~ Max.	 ℓ/min	5~80	5~80	5~80	
Flow Sensor****	Flow (Trigger	WIIII. WIAX.	2/11111		0.00		
	point)	Min.	ℓ/min	10	10	10	
	Model		_	SEBA LGF-080-C20-E-C0.5V		5//	
Flow Sensor_2****	Measuring range	Min. ~ Max.	ℓ/min	5~80	5~80	5~80	
	Flow (Trigger point)		ℓ/min				
	(00 1)	Min.	ℓ/min	5	5	5	
Water Pressure sensor	Model		-		Sensata OFM(2HMP))	
	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20	0 ~ 20	0 ~ 20	
	Inlet		inch	Male PT 1" acco	ording to ISO 7-1 (taper	ed pipe threads)	
Piping Connections	Outlet		inch	Male PT 1" acco	ording to ISO 7-1 (taper	ed pipe threads)	
	Supply type		_		supply(externally insta		
	Mesh size		_	30 mesh	30 mesh	30 mesh	
Vater strainer	Max. particle size		mm	0.6	0.6	0.6	
	Material		-	0.0	Stainless Steel	0.0	
Relief Valve	Pressure Limit	Upper Limit	bar	3.0	3.0	3.0	
			Dar		elief valve / Flow Sens		
Devices for Water Circuit				r r	Drain hose	01	
Jevices for water Circuit			-		ressure Sensor / Air ve	nt	
			-	I P	ressure Sensor / All ve	III	

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wiring cable size must comply with the applicable local and national codes. 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 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.

Low noise : This mode lowers noise by limiting the compressor HZ. and tan 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.

5. This product contains Fluorinated greenhouse gases.

5. This product contains Fluorinated greenhouse ga

6. SCOP is in accordance with EN14825.

7. 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

8. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

* DHW 55~80°C Operating is available only when the booster heater is operating.

** This is the power input i accordance with the 80% pump capacity setting at rated water flow rate. When the OH SUNG pump is set as 80% capacity, it's head is similar to that of the GRUNDFOS pump at rated water flow rate.

*** In the case of integrated water pump, either water pump or water pump 2 will be applied.

**** In the case of integrated flow sensor, either flow sensor or flow sensor 2 will be applied.

Technic	al Specifications (F	Refrigerant sid	le)	ZHBW126A2 [HM121MRS UB40]	ZHBW146A2 [HM141MRS UB40]	ZHBW166A2 [HM161MRS UB40]	
Operation Range	Cooling [#]	Min. ~ Max.	°C DB	5 ~ 48	5 ~ 48	5 ~ 48	
(Outdoor Temp.)	Heating	Min. ~ Max.	°C DB	-25 ~ 35	-25 ~ 35	-25 ~ 35	
	Туре		-		Hermetic Sealed Scro	l	
Comprosor	Model		Model × No.	RJB036MAA × 1			
Compressor	Motor Type		-		BLDC		
	Displacement		cm³/Rev.	31.6	31.6	31.6	
	Туре		-	R32	R32	R32	
Refrigerant	GWP (Global Warmin	GWP (Global Warming Potential)		675.0	675.0	675.0	
	Precharged Am	ount	g	1,600	1,600	1,600	
	t-CO2 eq.		-	1,080	1,080	1,080	
	Control		-	E	lectronic Expansion Va	lve	
Refrigerant Oil	Туре		-	FW68D			
Reingerant Oli	Charged Volum	e	cc × No.	1,100	1,100	1,100	
	Туре			Fin & Tube	Fin & Tube	Fin & Tube	
	Quantity			1	1	1	
Heat Exchanger		Row	EA	46	46	46	
	Specification	Column	EA	2	2	2	
		FPI	EA	18	18	18	
Fan	Туре	•	-		Propeller	•	
i all	Air Flow Rate	Rated	m³/min × No.	100.0 x 1	100.0 x 1	100 <u>.</u> 0 x 1	
Fan Motor	Туре		-	BLDC	BLDC	BLDC	
	Output		W × No.	250 x 1	250 x 1	250 x 1	

Note

1. Due to our policy of innovation, some specifications may be changed without notification.

2. Wiring cable size must comply with the applicable local and national codes. 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 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.

4. 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.

5. This product contains Fluorinated greenhouse gases.

 $\ensuremath{\mathsf{6.SCOP}}$ is in accordance with EN14825.

7. Rated running currents are based on the declared values under the following conditions.

- Heating : Outdoor Temp. 7°CDB / 6°CWB, Leaving Water Temp. 35 $^\circ \!\!\! \mathbb{C}$

Cooling : Outdoor Temp. 35°C(DB) / 24°C(WB), Leaving Water Temp. 18°C

8. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

* DHW 55~80°C Operating is available only when the booster heater is operating.

** This is the power input i accordance with the 80% pump capacity setting at rated water flow rate. When the OH SUNG pump is set as 80% capacity, it's head is similar to that of the GRUNDFOS pump at rated water flow rate.

This operation range includes not only the continuous operation range but also operative range.

■ 3 phase Inverter (12 ~ 16 kW)

	Nominal Capa	acity and Non	ninal Input				
-	-	Outdoor Temp (°C) DB / WB	Leaving Water Temp (°C)	-	ZHBW128A2 [HM123MRS UB40]	ZHBW148A2 [HM143MRS UB40]	ZHBW168A2 [HM163MRS UB40]
	Casling	25/24	18	kW	12.00	14.00	16.00
	Cooling	35 / 24	7	kW	12.00	14.00	15.00
Capacity		7/0	35	kW	12.00	14.00	16.00
	Heating	7/6	55	kW	11.00	11.50	12.00
		2 / 1	35	kW	11.00	12.00	13.80
	Caaling	35 / 24	18	kW	2.50	2.98	3.48
	Cooling		7	kW	3.75	4.52	5.00
Power Input		7/6	35	kW	2.45	2.92	3.40
	Heating		55	kW	3.79	4.04	4.29
		2 / 1	35	kW	3.06	3.38	3.94
	Caaling	05/04	18	W/W	4.80	4.70	4.60
EER	Cooling	35 / 24	7	W/W	3.20	3.10	3.00
		7/6	35	W/W	4.90	4.80	4.70
COP	Heating	7/6	55	W/W	2.90	2.85	2.80
		2 / 1	35	W/W	3.60	3.55	3.50
SCOP (Low tem	p. Average Cli	mate)*			4.67	4.62	4.53
SCOP ((Medium	i temp. Averag	e Climate)*			3.47	3.46	3.45
Rated Water Flo	w Rate (at LW	T 35 °C)		LPM	34.5	40.3	46.0

Elect	rical Specifications	ZHBW128A2 [HM123MRS UB40]	ZHBW148A2 [HM143MRS UB40]	ZHBW168A2 [HM163MRS UB40]	
Power Supply	Power Supply			380-415, 3, 50	380-415, 3, 50
Peak Control Running Curre	A	8.0	9.0	10.0	
Rated Running Current	Cooling	A	3.5	4.2	4.9
Rated Running Current	Heating	A	3.6	4.3	5.0
Circuit breaker		A	16	16	16
Wiring Connections Power Supply Cable (included Earth, H07RN-F)		mm² x cores	4.0 x 5C	4.0 x 5C	4.0 x 5C

Techn	cal Specificati	ons	ZHBW128A2 [HM123MRS UB40]	ZHBW148A2 [HM143MRS UB40]	ZHBW168A2 [HM163MRS UB40]	
		Day Max.	dB(A)	65	66	66
Sound Power Level	Heating	Rated	dB(A)	60	61	61
		Low noise	dB(A)	56	57	57
Dimensions	Unit	W×H×D	mm	1,320 x 1,019 x 520	1,320 x 1,019 x 520	1,320 x 1,019 x 520
Dimensions	Packed Unit	W×H×D	mm	1,380 x 1,200 x 575	1,380 x 1,200 x 575	1,380 x 1,200 x 575
Weight	Unit		kg	117.0	117.0	117.0
weight	Packed Unit	Packed Unit		134.0	134.0	134.0
	Color	Color		Dawn Gray	Dawn Gray	Dawn Gray
Enterior	RAL Code		-	RAL 7037	RAL 7037	RAL 7037
Exterior	Color of Front Grille		-	Dark dawn gray	Dark dawn gray	Dark dawn gray
	RAL Code of	Front Grille	-	RAL 7012	RAL 7012	RAL 7012

Note

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2. 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.

3. 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.

4. 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.

5. This product contains Fluorinated greenhouse gases.

6. SCOP is in accordance with EN14825.

7. Rated running currents are based on the declared values under the following conditions.

+ Heating : Outdoor Temp. 7°CDB / 6°CWB, Leaving Water Temp. 35 $^\circ \!\!\! C$

Cooling : Outdoor Temp. 35°C(DB) / 24°C(WB), Leaving Water Temp. 18°C

8. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

* DHW 55~80°C Operating is available only when the booster heater is operating.

** This is the power input i accordance with the 80% pump capacity setting at rated water flow rate. When the OH SUNG pump is set as 80% capacity, it's head is similar to that of the GRUNDFOS pump at rated water flow rate.

Technical	Specifications (Wat	er side)		ZHBW128A2 [HM123MRS UB40]	ZHBW148A2 [HM143MRS UB40]	ZHBW168A2 [HM163MRS UB40]	
Operation Range	Cooling	Min. ~ Max.	°C	5 ~ 27	5 ~ 27	5 ~ 27	
(Leaving Water Temp.)	Heating	Min. ~ Max.	°C	15 ~ 65	15 ~ 65	15 ~ 65	
(Leaving Water Temp.)	DHW *	Min. ~ Max.	°C	15 ~ 80	15 ~ 80	15 ~ 80	
	Туре		-	Canned type for hot water circulation			
	Model		-	UPML 20-105 CHBL / GRUNDFOS			
M/- (+ + + +	Motor Type		-	BLDC			
Water Pump***	Steps of Pumping I	Performance	-	Varial	ble speed 10% to 10	00%	
	Power input (100% Capacity)	Min. / Rated	W	3.5 / 125	3.5 / 135	3.5 / 140	
	Water Flow Rate	Min. / Rated	ℓ/min	0 / 34.5	0 / 40.3	0 / 46.0	
	Туре		-	Canned ty	pe for hot water cir	culation	
	Model		-	Ó	DM-061P / OH SUN	١G	
	Motor Type		-		BLDC		
Water Pump_2***	Steps of Pumping I	Performance	-	Varia	able speed 10% to '	100%	
	Power input (100% Capacity)	Min. / Rated	W	17 / 130	17 / 140	17 / 145	
	Water Flow Rate	Min. / Rated	ℓ/min	0 / 34.5	0 / 40.3	0 / 46.0	
	Туре		-		Brazed Plate HEX		
	Quantity		-	1	1	1	
Heat Exchanger	Number of Plate		EA	76	76	76	
heat Exchanger	Water Volume		l	1.0	1.0	1.0	
	Volume	Max.	l.	8	8	8	
Expansion Vessel		Max.	bar	3.2	3.2	3.2	
	Water pressure	Pre-charged	bar	1	1	1	
	Model		-	SIKA VVX20			
EL O ANAL	Measuring range	Min. ~ Max.	ℓ/min	5~80	5~80	5~80	
Flow Sensor****	Flow (Trigger	Min.	ℓ/min	10	10	10	
	Model		_	SEBA LGF-080-C20-E-C0.5V			
Flow Sensor_2****	Measuring range	Min. ~ Max.	0.6	5 00		5~80	
—			ℓ/min	5~80	5~80		
	Flow (Trigger point) Min.	ℓ/min	10	10	10	
	Model		-	5	Sensata OFM(2HMF	P)	
Water Pressure sensor	Measuring range	Min. ~ Max.	bar(G)	0 ~ 20	0~20	0~20	
Piping Connections	Inlet		inch	Male PT 1" accor	ding to ISO 7-1 (tap	ered pipe threads)	
Piping Connections	Outlet		inch	Male PT 1" accor	ding to ISO 7-1 (tap	ered pipe threads)	
	Supply type		-	Lo	ose supply(external	ly installed)	
	Mesh size		-	30 mesh	30 mesh	30 mesh	
Water strainer	Max. particle size		mm	0.6	0.6	0.6	
	Material		-	Stainless Steel	Stainless Steel	Stainless Steel	
Relief Valve	Pressure Limit	Upper Limit	bar	3.0	3.0	3.0	
	1		-		lief valve / Flow Ser		
Devices for Water Circui	t		-	1.0	Drain hose	1	
	-		-	Pre	essure Sensor / Air v	vent	

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3. 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

Performances are accordance with EN 14511 and reflect EP 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.

6. SCOP is in accordance with EN14825.

7. Rated running currents are based on the declared values under the following conditions.

- Heating : Outdoor Temp. 7°CDB / 6°CWB, Leaving Water Temp. 35℃
- Cooling : Outdoor Temp. 35°C(DB) / 24°C(WB), Leaving Water Temp. 18°C

8. All installation sites must be equipped with an earth leakage circuit breaker (ELCB).

* DHW 55~80°C Operating is available only when the booster heater is operating.

** This is the power input i accordance with the 80% pump capacity setting at rated water flow rate. When the OH SUNG pump is set as 80% capacity, it's head is similar to that of the GRUNDFOS pump at rated water flow rate.

*** In the case of integrated water pump, either water pump or water pump 2 will be applied.

**** In the case of integrated flow sensor, either flow sensor or flow sensor 2 will be applied.

	al Specifications (F				ZHBW148A2 [HM143MRS UB40]	ZHBW168A2 [HM163MRS UB40]	
Operation Range	Cooling [#]	Min. ~ Max.	°C DB	5 ~ 48	5 ~ 48	5 ~ 48	
(Outdoor Temp.)	Heating	Min. ~ Max.	°C DB	-25 ~ 35	-25 ~ 35	-25 ~ 35	
	Туре		-	Hermetic Sealed Scroll			
Compressor	Model		Model × No.		RJB036MAA × 1		
Compressor	Motor Type		-	BLDC	BLDC	BLDC	
	Displacement		cm³/Rev.	31.6	31.6	31.6	
	Туре		-	R32	R32	R32	
Refrigerant		(Global Warming Potential)		675.0	675.0	675.0	
Reingerant	Precharged Am	ount	g	1,600	1,600	1,600	
	t-CO2 eq.		-	1,080	1,080	1,080	
	Control		-	Electronic Expansion Valve			
Refrigerant Oil	Туре		-	FW68D	FW68D	FW68D	
Reingerant On	Charged Volum	е	cc × No.	1,100	1,100	1,100	
	Туре			Fin & Tube	Fin & Tube	Fin & Tube	
	Quantity			1	1	1	
Heat Exchanger		Row	EA	46	46	46	
	Specification	Column	EA	2	2	2	
		FPI	EA	18	18	18	
Fan	Туре		-	Propeller	Propeller	Propeller	
i un	Air Flow Rate	Rated	m³/min × No.	100.0 x 1	100.0 x 1	100.0 x 1	
Fan Motor	Туре		-	BLDC	BLDC	BLDC	
	Output		W × No.	250 x 1	250 x 1	250 x 1	

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 Performances are accordance with EN14511 and reflect ErP testing conditions. The values indicated above are the declared values at rated conditions.

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7. 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

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