

HYUNDAI



Hyundai Building Technologies

Engineering Data



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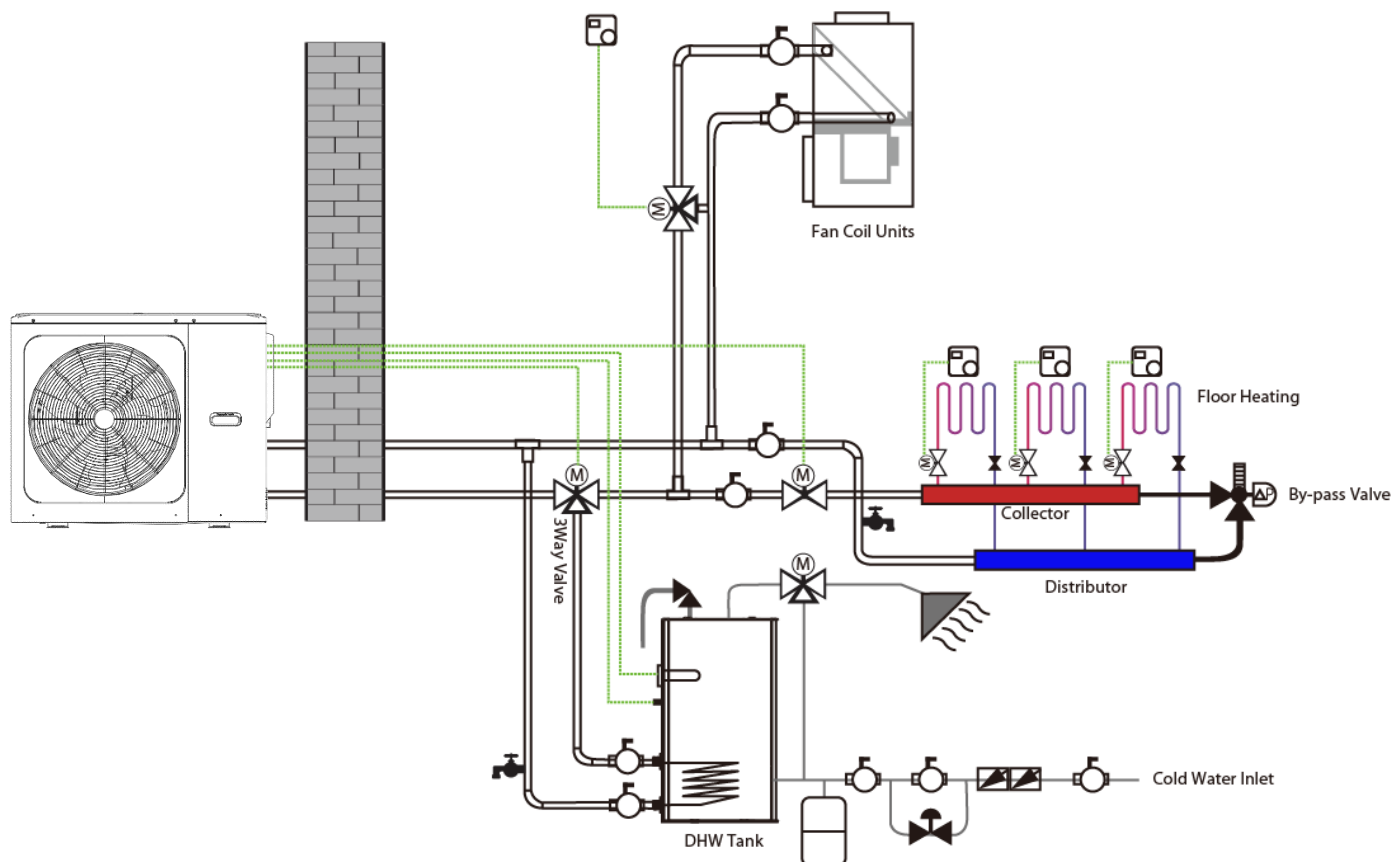
Part 1

General Information

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1 Thermal system

1.1 System Schematic



H Thermal is an integrated air to water heat pump system which is one-stop solution for space heating, space cooling and domestic hot water. The outdoor heat pump system extracts heat from the outdoor air and transfers this heat through refrigerant piping to the plate heat exchanger in the hydronic system. The heated water in the hydronic system circulates to low temperature heat emitters (floor heating loops or low temperature radiators) to provide space heating, and to the domestic hot water tank to provide domestic hot water. The 4-way valve in the outdoor unit can reverse the refrigerant cycle so that the hydronic system can provide chilled water for cooling using fan coil units.

The heating capacity of heat pumps decreases with ambient temperature dropping. H thermal can be equipped with a backup electric heater to provide additional heating capacity for use during extremely cold weather when the heat pump capacity is insufficient. The backup electric heater also serves as a backup in case of heat pump malfunction and for anti-freeze protection of the outside water piping in winter.

1.2 System Configurations

H thermal can be configured to run with the electric heater either enabled or disabled and can also be used in conjunction with an auxiliary heat source such as a boiler.

The chosen configuration affects the size of heat pump that is required. Three typical configurations are described below.

Configuration 1: Heat pump only

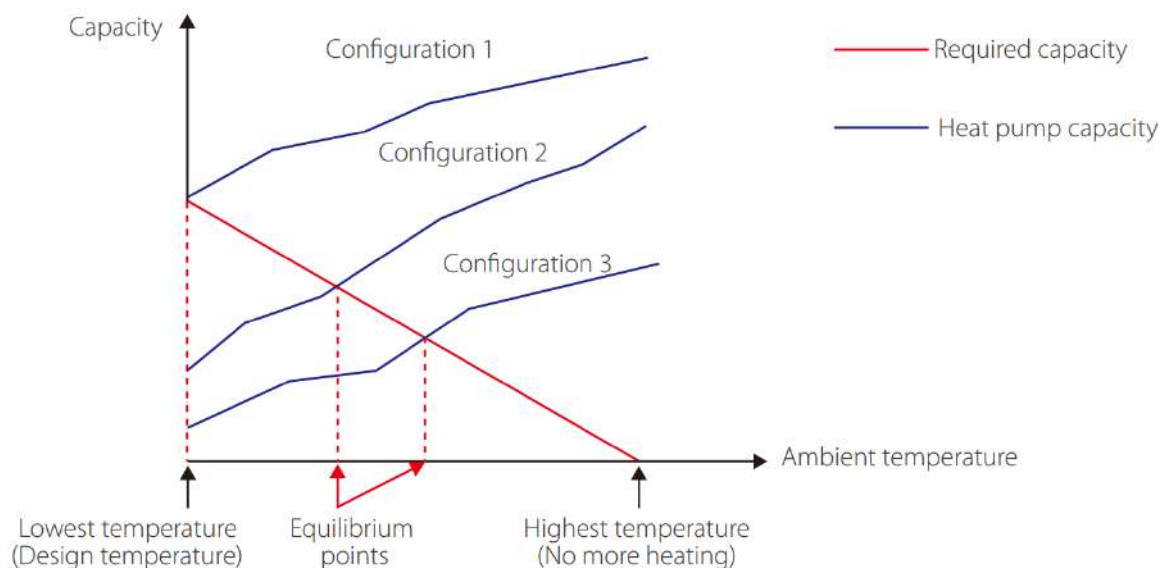
- The heat pump covers the required capacity and no extra heating capacity is necessary.
- Requires selection of larger capacity heat pump and implies higher initial investment.
- Ideal for new construction in projects where energy efficiency is paramount.

Configuration 2: Heat pump and backup electric heater

- Heat pump covers the required capacity until the ambient temperature drops below the point at which the heat pump is able to provide sufficient capacity. When the ambient temperature is below this equilibrium point, the backup electric heater supplies the required additional heating capacity.
- Best balance between initial investment and running costs, results in lowest lifecycle cost.
- Ideal for new construction.

Configuration 3: Heat pump with auxiliary heat source

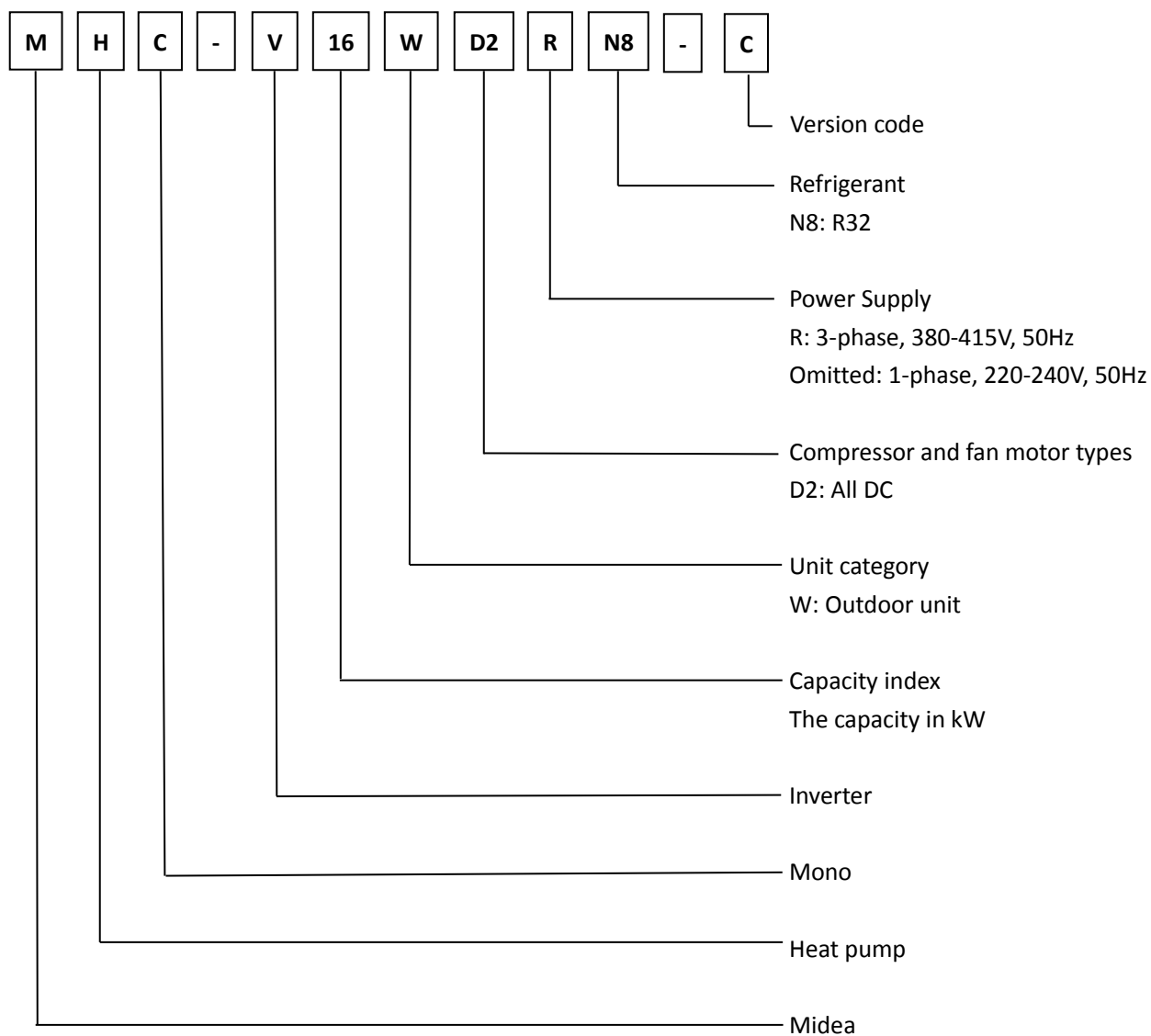
- Heat pump covers the required capacity until the ambient temperature drops below the point at which the heat pump is able to provide sufficient capacity. When the ambient temperature is below this equilibrium point, depending on the system settings, either the auxiliary heat source supplies the required additional heating capacity or the heat pump does not run and the auxiliary heat source covers the required capacity.
- Enables selection of lower capacity heat pump.
- Ideal for refurbishments and upgrades.



2 Product lineup

Model	Power supply(V/Ph/Hz)	Refrigerant	Appearance
MHC-V5WD2N8-C	220-240/1 /50	R32	
MHC-V7WD2N8-C	220-240/1 /50	R32	
MHC-V9WD2N8-C	220-240/1 /50	R32	
MHC-V12WD2N8-C	220-240/1 /50	R32	
MHC-V14WD2N8-C	220-240/1 /50	R32	
MHC-V16WD2N8-C	220-240/1 /50	R32	
MHC-V12WD2RN8-C	380-415/3/50	R32	
MHC-V14WD2RN8-C	380-415/3/50	R32	
MHC-V16WD2RN8-C	380-415/3/50	R32	

3 Nomenclature



4 System Design and Unit Selection

4.1 Selection Procedure

Step 1: Total heat load calculation

Calculate conditioned surface area
Select the heat emitters (type, quantity, water temperature and heat load)

Step 2: System configuration

Decide whether to include AHS and set AHS's switching temperature
Decide whether backup electric heater is enabled or disabled

Step 3: Selection of outdoor units

Determine required total heat load on outdoor units
Set capacity safety factor
Select power supply

Provisionally select H thermal unit capacity based on nominal capacity

Correct capacity of the outdoor units for the following items:
Outdoor air temperature / Outdoor humidity / Water outlet temperature¹ /
Altitude / Anti-freeze fluid

Is corrected H thermal unit capacity $\geq$ Required total heat load on outdoor units²

Yes

H thermal system selection
is complete

No

Select a larger model or enable
backup electric heater operation

Notes:

1. If the required water temperatures of the heat emitters are not all the same, the M thermal's outlet water temperature setting should be set at the highest of the heat emitter required water temperatures. If the water outlet design temperature falls between two temperatures listed in the outdoor unit's capacity table, calculate the corrected capacity by interpolation.
2. If the outdoor unit selection is to be based on total heating load and total cooling load, select Mono units which satisfy not only the total heating load requirements but also the total cooling load requirements.

4.2 Thermal Leaving Water Temperature (LWT) Selection

The recommended design LWT ranges for different types of heat emitter are:

- For floor heating: 30 to 35°C
- For fan coil units: 30 to 45°C
- For low temperature radiators: 40 to 50°C

4.3 Optimizing System Design

To get the most comfort with the lowest energy consumption with H thermal, it is important to take account of the following considerations:

- Choose heat emitters that allow the heat pump system to operate at as low a hot water temperature as possible whilst still providing sufficient heating.
- Make sure the correct weather dependency curve is selected to match the installation environment (building structure, climate) as well as ender user's demands.
- Connecting room thermostats (field supplied) to the hydronic system helps prevent excessive space heating by stopping the outdoor unit and circulator pump when the room temperature is above the thermostat set point.

Part 2

Engineering

Data

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1 Specifications

Model			MHC-V5WD2N8-C	MHC-V7WD2N8-C	MHC-V9WD2N8-C
Power supply(V/Ph/Hz)			220-240/1/50	220-240/1/50	220-240/1/50
Heating A7W35	Capacity	W	6500	8400	10000
	Rated input	W	1226	1663	2128
	COP		5.30	5.05	4.70
Heating A7W45	Capacity	W	6600	8500	10200
	Rated input	W	1650	2237	2795
	COP		4.00	3.80	3.65
Heating A7W55	Capacity	W	6300	8200	9400
	Rated input	W	1969	2603	3032
	COP		3.20	3.15	3.10
Heating A2W35	Capacity	W	5600	7100	8200
	Rated input	W	1333	1797	2158
	COP		4.20	3.95	3.80
Heating A2W45	Capacity	W	6500	7500	8500
	Rated input	W	2063	2459	2881
	COP		3.15	3.05	2.95
Heating A2W55	Capacity	W	6300	7600	8400
	Rated input	W	2250	2815	3170
	COP		2.80	2.70	2.65
Heating A-7W35	Capacity	W	6200	7100	8000
	Rated input	W	1938	2254	2667
	COP		3.20	3.15	3.00
Heating A-7W45	Capacity	W	6100	6800	7400
	Rated input	W	2346	2720	3083
	COP		2.60	2.50	2.40
Heating A-7W55	Capacity	W	5700	6600	7200
	Rated input	W	2651	3143	3512
	COP		2.15	2.10	2.05
Cooling A35W18	Capacity	W	6500	8300	10000
	Rated input	W	1275	1711	2326
	COP		5.10	4.85	4.30
Cooling A35W7	Capacity	W	5500	7400	9000
	Rated input	W	1692	2349	3103
	COP		3.25	3.15	2.90
Seasonal space heating energy efficiency class	Water outlet at 35°C		A+++	A+++	A+++
	Water outlet at 55°C		A++	A++	A++
SCOP	Warmer climate	35°C	6.78	6.94	7.05
		55°C	4.35	4.74	4.91
	Average climate	35°C	5.12	5.18	5.12
		55°C	3.59	3.67	3.71
	Colder climate	35°C	4.41	4.44	4.44
		55°C	2.90	3.02	3.14

SEER	Water outlet at 35℃		5.09	5.19	5.08
	Water outlet at 55℃		7.81	8.09	8.31
Sound power level ²	Heating A7W35	dB	60	63	65
	Heating max	dB	64	66	68
	Heating slince mode 1	dB	58	61	63
	Heating slince mode 2	dB	56	58	60
	Cooling A35W18	dB	60	63	65
	Cooling max	dB	64	66	68
	Cooling slince mode1	dB	58	61	63
	Cooling slince mode2	dB	56	58	60
Compressor	Type		DC twin rotary	DC twin rotary	DC twin rotary
Fan	Type		DC motor	DC motor	DC motor
	Number		1	1	1
	Air flow	m³/h	3900	4500	4500
Air side heat exchanger	Type		Fin coil	Fin coil	Fin coil
Throttle	Type		Electronic expansion valve		
Refrigerant	Type		R32	R32	R32
	Charged volume	kg	1.25	1.25	1.25
Water side heat exchanger	Type		Plate	Plate	Plate
Rated water flow	m³/h		1.12	1.44	1.72
Water flow range	m³/h		0.40~1.25	0.40~1.65	0.40~2.10
Water pump	Type		DC	DC	DC
	Maximum pump head	m	9	9	9
Expansion vessel	Volume	L	5	5	5
	Maximum working pressure	bar	8	8	8
Safety valve	MPa		0.3	0.3	0.3
Flow switch	m³/h		0.36	0.36	0.36
Water side connection			G1"BSP	G1"BSP	G1"BSP
Unit dimension (W×H×D)		mm	865×1040×410	865×1040×410	865×1040×410
Packing dimension (W×H×D)		mm	970×1190×560	970×1190×560	970×1190×560
Net weight		kg	87	87	87
Gross weight		kg	103	103	103
Ambient temperature range	Cooling	℃	-5 ~ 43	-5 ~ 43	-5 ~ 43
	Heating	℃	-25 ~ 35	-25 ~ 35	-25 ~ 35
	DHW	℃	-25 ~ 43	-25 ~ 43	-25 ~ 43
Water setting temperature range	Cooling	℃	5~25	5~25	5~25
	Heating	℃	25~65	25~65	25~65
	DHW	℃	20~60	20~60	20~60

Note:

1. The above data test reference standard EN14511; EN14825; EN50564; EN12102; (EU) No:811/2013; (EU)No:813/2013; OJ 2014/C 207/02.
2. Sound power test condition: EN12102-1

Model			MHC-V12WD2N8-C	MHC-V14WD2N8-C	MHC-V16WD2N8-C
Power supply(V/Ph/Hz)			220-240/1/50	220-240/1/50	220-240/1/50
Heating A7W35	Capacity	W	12200	14100	16000
	Rated input	W	2490	3000	3556
	COP		4.90	4.70	4.50
Heating A7W45	Capacity	W	12500	14500	16200
	Rated input	W	3378	4085	4696
	COP		3.70	3.55	3.45
Heating A7W55	Capacity	W	12000	14000	16000
	Rated input	W	4000	4746	5614
	COP		3.00	2.95	2.85
Heating A2W35	Capacity	W	12300	13000	14500
	Rated input	W	3417	3714	4462
	COP		3.60	3.50	3.25
Heating A2W45	Capacity	W	12000	13000	14300
	Rated input	W	4138	4643	5296
	COP		2.90	2.80	2.70
Heating A2W55	Capacity	W	12000	13000	13500
	Rated input	W	5106	5603	5870
	COP		2.35	2.32	2.30
Heating A-7W35	Capacity	W	11600	12500	13500
	Rated input	W	4070	4464	5000
	COP		2.85	2.80	2.70
Heating A-7W45	Capacity	W	11500	12500	13500
	Rated input	W	4792	5435	6000
	COP		2.40	2.30	2.25
Heating A-7W55	Capacity	W	10800	11700	12800
	Rated input	W	5143	5625	6244
	COP		2.10	2.08	2.05
Cooling A35W18	Capacity	W	12200	13900	15400
	Rated input	W	2652	3159	3667
	COP		4.60	4.40	4.20
Cooling A35W7	Capacity	W	11600	13400	14000
	Rated input	W	3742	4573	4828
	COP		3.10	2.93	2.90
Seasonal space heating energy efficiency class	Water outlet at 35°C		A+++	A+++	A+++
	Water outlet at 55°C		A++	A++	A++
SCOP	Warmer climate	35°C	6.63	6.59	6.46
		55°C	4.55	4.63	4.72
	Average climate	35°C	5.08	4.89	4.84
		55°C	3.62	3.62	3.59
	Colder climate	35°C	4.30	4.36	4.35
		55°C	3.23	3.24	3.18
SEER	Water outlet at 35°C		5.07	5.09	5.11
	Water outlet at 55°C		7.79	7.59	7.49

Sound power level ²	Heating A7W35		dB	70	72	72
	Heating max		dB	74	74	74
	Heating slince mode 1		dB	66	67	67
	Heating slince mode 2		dB	64	64	64
	Cooling A35W18		dB	69	71	71
	Cooling max		dB	74	74	74
	Cooling slince mode1		dB	66	67	67
	Cooling slince mode2		dB	63	64	64
Compressor	Type			DC twin rotary	DC twin rotary	DC twin rotary
Fan	Type			DC motor	DC motor	DC motor
	Number			1	1	1
	Air flow	m³/h	5200	5200	5200	
Air side heat exchanger	Type			Fin coil	Fin coil	Fin coil
Throttle	Type			Electronic expansion valve		
Refrigerant	Type			R32	R32	R32
	Charged volume	kg	1.8	1.8	1.8	
Water side heat exchanger	Type			Plate	Plate	Plate
Rated water flow	m³/h			2.10	2.43	2.75
Water flow range	m³/h			0.70~2.50	0.70~2.75	0.70~3.00
Water pump	Type			DC	DC	DC
	Maximum pump head	m	9	9	9	
Expansion vessel	Volume	L	5	5	5	
	Maximum working pressure	bar	8	8	8	
Safety valve	MPa			0.3	0.3	0.3
Flow switch	m³/h			0.6	0.6	0.6
Water side connection				G5/4"BSP	G5/4"BSP	G5/4"BSP
Unit dimension (W×H×D)			mm	865×1040×410	865×1040×410	865×1040×410
Packing dimension (W×H×D)			mm	970×1190×560	970×1190×560	970×1190×560
Net weight			kg	106	106	106
Gross weight			kg	122	122	122
Ambient temperature range	Cooling	°C	-5 ~ 43	-5 ~ 43	-5 ~ 43	
	Heating	°C	-25 ~ 35	-25 ~ 35	-25 ~ 35	
	DHW	°C	-25 ~ 43	-25 ~ 43	-25 ~ 43	
Water setting temperature range	Cooling	°C	5~25	5~25	5~25	
	Heating	°C	25~65	25~65	25~65	
	DHW	°C	20~60	20~60	20~60	

Note:

1. The above data test reference standard EN14511; EN14825; EN50564; EN12102; (EU) No:811/2013; (EU)No:813/2013; OJ 2014/C 207/02.
2. Sound power test condition: EN12102-1

Model			MHC-V12WD2RN8-C	MHC-V14WD2RN8-C	MHC-V16WD2RN8-C
Power supply(V/Ph/Hz)			380-415/3/50	380-415/3/50	380-415/3/50
Heating A7W35	Capacity	W	12200	14100	16000
	Rated input	W	2490	3000	3556
	COP		4.90	4.70	4.50
Heating A7W45	Capacity	W	12500	14500	16200
	Rated input	W	3378	4085	4696
	COP		3.70	3.55	3.45
Heating A7W55	Capacity	W	12000	14000	16000
	Rated input	W	4000	4746	5614
	COP		3.00	2.95	2.85
Heating A2W35	Capacity	W	12300	13000	14500
	Rated input	W	3417	3714	4462
	COP		3.60	3.50	3.25
Heating A2W45	Capacity	W	12000	13000	14300
	Rated input	W	4138	4643	5296
	COP		2.90	2.80	2.70
Heating A2W55	Capacity	W	12000	13000	13500
	Rated input	W	5106	5603	5870
	COP		2.35	2.32	2.30
Heating A-7W35	Capacity	W	11600	12500	13500
	Rated input	W	4070	4464	5000
	COP		2.85	2.80	2.70
Heating A-7W45	Capacity	W	11500	12500	13500
	Rated input	W	4792	5435	6000
	COP		2.40	2.30	2.25
Heating A-7W55	Capacity	W	10800	11700	12800
	Rated input	W	5143	5625	6244
	COP		2.10	2.08	2.05
Cooling A35W18	Capacity	W	12200	13900	15400
	Rated input	W	2652	3159	3667
	COP		4.60	4.40	4.20
Cooling A35W7	Capacity	W	11600	13400	14000
	Rated input	W	3742	4573	4828
	COP		3.10	2.93	2.90
Seasonal space heating energy efficiency class	Water outlet at 35°C		A+++	A+++	A+++
	Water outlet at 55°C		A++	A++	A++
SCOP	Warmer climate	35°C	6.64	6.59	6.46
		55°C	4.55	4.64	4.72
	Average climate	35°C	5.08	4.89	4.84
		55°C	3.62	3.62	3.59
	Colder climate	35°C	4.30	4.36	4.35
		55°C	3.23	3.24	3.18
SEER	Water outlet at 35°C		5.11	5.12	5.14
	Water outlet at 55°C		7.86	7.65	7.54

Sound power level ²	Heating A7W35	dB	70	72	72
	Heating max	dB	74	74	74
	Heating slince mode 1	dB	66	67	67
	Heating slince mode 2	dB	64	64	64
	Cooling A35W18	dB	69	71	71
	Cooling max	dB	74	74	74
	Cooling slince mode1	dB	66	67	67
	Cooling slince mode2	dB	64	64	64
Compressor	Type		DC twin rotary	DC twin rotary	DC twin rotary
Fan	Type		DC motor	DC motor	DC motor
	Number		1	1	1
	Air flow	m ³ /h	5200	5200	5200
Air side heat exchanger	Type		Fin coil	Fin coil	Fin coil
Throttle	Type		Electronic expansion valve		
Refrigerant	Type		R32	R32	R32
	Charged volume	kg	1.8	1.8	1.8
Water side heat exchanger	Type		Plate	Plate	Plate
Rated water flow	m ³ /h		2.10	2.43	2.75
Water flow range	m ³ /h		0.70~2.50	0.70~2.75	0.70~3.00
Water pump	Type		DC	DC	DC
	Maximum pump head	m	9	9	9
Expansion vessel	Volume	L	5	5	5
	Maximum working pressure	bar	8	8	8
Safety valve	MPa		0.3	0.3	0.3
Flow switch	m ³ /h		0.6	0.6	0.6
Water side connection			G5/4"BSP	G5/4"BSP	G5/4"BSP
Unit dimension (W×H×D)		mm	865×1040×410	865×1040×410	865×1040×410
Packing dimension (W×H×D)		mm	970×1190×560	970×1190×560	970×1190×560
Net weight		kg	120	120	120
Gross weight		kg	136	136	136
Ambient temperature range	Cooling	°C	-5 ~ 43	-5 ~ 43	-5 ~ 43
	Heating	°C	-25 ~ 35	-25 ~ 35	-25 ~ 35
	DHW	°C	-25 ~ 43	-25 ~ 43	-25 ~ 43
Water setting temperature range	Cooling	°C	5~25	5~25	5~25
	Heating	°C	25~65	25~65	25~65
	DHW	°C	20~60	20~60	20~60

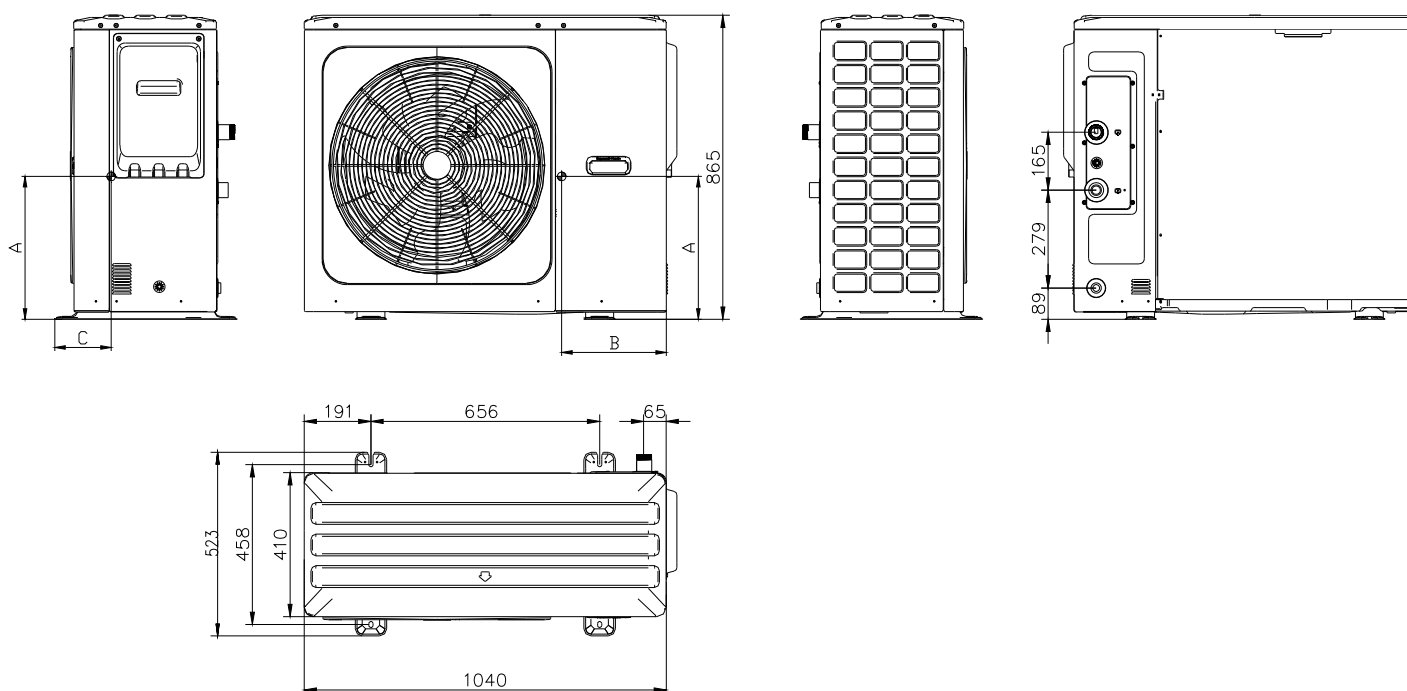
Note:

1. The above data test reference standard EN14511; EN14825; EN50564; EN12102; (EU) No:811/2013; (EU)No:813/2013; OJ 2014/C 207/02.
2. Sound power test condition: EN12102-1

2 Electrical characteristics

System	Outdoor unit				Power current			Compressor		Fan	
	Voltage (V)	Hz	Min. (V)	Max. (V)	MCA (A)	TOCA (A)	MFA (A)	MSC (A)	RLA (A)	kW	FLA (A)
MHC-V5WD2N8-C	220~240	50	198	264	13	18	25	-	10.5	0.17	1.5
MHC-V7WD2N8-C	220~240	50	198	264	14.5	18	25	-	10.5	0.17	1.5
MHC-V9WD2N8-C	220~240	50	198	264	16	18	25	-	10.5	0.17	1.5
MHC-V12WD2N8-C	220~240	50	198	264	25	30	40	-	17	0.17	1.5
MHC-V14WD2N8-C	220~240	50	198	264	26.5	30	40	-	17	0.17	1.5
MHC-V16WD2N8-C	220~240	50	198	264	28	30	40	-	17	0.17	1.5
MHC-V12WD2RN8-C	220~240	50	342	456	9.5	14	16	-	16	0.17	0.7
MHC-V14WD2RN8-C	220~240	50	342	456	10.5	14	16	-	16	0.17	0.7
MHC-V16WD2RN8-C	220~240	50	342	456	11.5	14	16	-	16	0.17	0.7

3 Dimensions and Center of Gravity

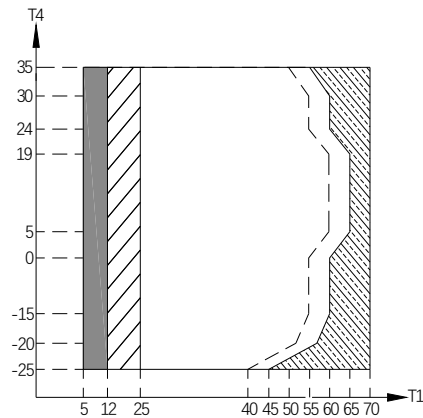


Unit: mm

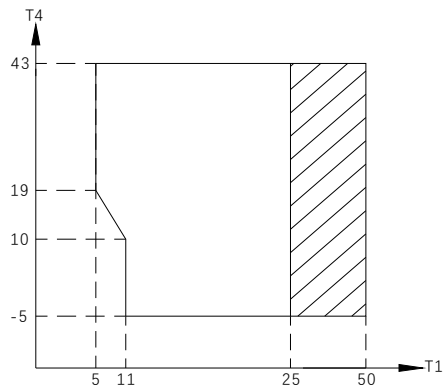
Model	A	B	C
MHC-V5WD2N8-C MHC-V7WD2N8-C MHC-V9WD2N8-C	350	355	285
MHC-V12WD2N8-C MHC-V14WD2N8-C MHC-V16WD2N8-C	540	390	255
MHC-V12WD2RN8-C MHC-V14WD2RN8-C MHC-V16WD2RN8-C	500	400	275

4 Operating Limits

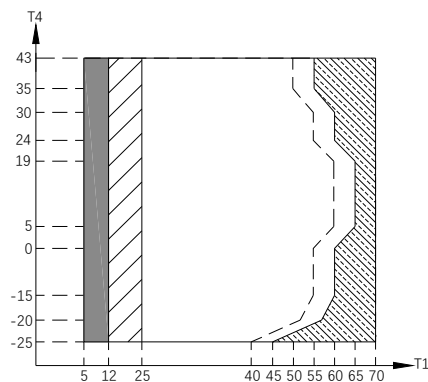
Heating operating limits



Cooling operating limits



Domestic hot water operating limits



Abbreviations:

T4: Outdoor temperature(°C)

T1: Leaving water temperature (°C)

IBH: Backup electric heater

AHS: Additional heat source

Notes:

■ If IBH/AHS setting is valid, only IBH/AHS turns on;

If IBH/AHS setting is invalid, only heat pump turns on, limitation and protection may occur.

▨ Heat pump turns off, only IBH/AHS turns on.

(IBH can heat the water temperature up to 65 °C, AHS can heat the water temperature up to 70 °C)

▨ Operation range by heat pump with possible limitation and protection

- - - Maximum inlet water temperature line for heat pump operation

5 Capacity Tables

5.1 Heating Capacity Tables (Test standard: EN14511)

MHC-V5WD2N8-C

Part load: Maximum

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	3.92	1.59	2.46	3.89	1.69	2.30	3.86	1.80	2.14	3.83	1.92	1.99	3.60	2.05	1.76	/	/	/	/	/	/	/	/	/	/	/	/	
-20	4.76	1.73	2.75	4.72	1.84	2.56	4.68	1.97	2.38	4.62	2.10	2.20	4.57	2.24	2.04	4.51	2.39	1.89	2.93	1.68	1.74	/	/	/	/	/	/	
-15	5.70	1.85	3.08	5.65	1.98	2.85	5.59	2.12	2.64	5.53	2.27	2.44	5.45	2.42	2.25	5.37	2.58	2.08	5.18	2.68	1.93	3.31	1.86	1.78	/	/	/	
-10	6.77	1.95	3.47	6.70	2.09	3.20	6.63	2.26	2.94	6.54	2.42	2.70	6.44	2.60	2.48	6.33	2.78	2.28	5.98	2.82	2.12	5.51	2.80	1.97	/	/	/	
-7	6.83	1.82	3.75	6.76	1.98	3.42	6.67	2.13	3.13	6.57	2.30	2.86	6.47	2.47	2.62	6.36	2.65	2.40	6.31	2.80	2.25	5.91	2.84	2.08	/	/	/	
-5	7.36	1.82	4.04	7.06	1.95	3.62	6.96	2.12	3.29	6.86	2.29	3.00	6.75	2.46	2.74	6.61	2.64	2.50	6.13	2.59	2.37	5.71	2.61	2.19	/	/	/	
-2	7.35	1.70	4.32	7.26	1.87	3.89	7.16	2.03	3.52	7.05	2.21	3.19	6.92	2.39	2.89	6.78	2.58	2.63	6.42	2.60	2.47	5.95	2.61	2.28	/	/	/	
0	7.48	1.65	4.54	7.39	1.82	4.07	7.28	1.99	3.66	7.16	2.17	3.30	7.03	2.35	2.99	6.88	2.54	2.71	6.50	2.56	2.54	6.01	2.58	2.33	/	/	/	
2	7.51	1.55	4.86	7.40	1.71	4.32	7.29	1.89	3.86	7.16	2.07	3.46	7.03	2.25	3.12	6.87	2.44	2.81	6.64	2.48	2.68	6.13	2.55	2.40	/	/	/	
5	8.39	1.45	5.79	8.31	1.63	5.10	8.22	1.83	4.50	8.07	2.02	4.00	7.90	2.21	3.58	7.72	2.40	3.21	7.65	2.67	2.86	7.04	2.60	2.71	5.09	2.17	2.35	
7	8.74	1.38	6.33	8.61	1.57	5.49	8.47	1.76	4.82	8.31	1.96	4.25	8.14	2.15	3.78	7.81	2.31	3.38	7.87	2.53	3.11	7.23	2.56	2.82	5.17	2.13	2.43	
10	9.00	1.24	7.28	8.86	1.43	6.20	8.71	1.63	5.36	8.54	1.82	4.68	8.35	2.03	4.12	7.77	2.21	3.51	7.87	2.36	3.34	7.34	2.45	3.00	5.33	2.07	2.57	
12	9.26	1.17	7.91	9.09	1.35	6.73	8.94	1.55	5.75	8.76	1.76	4.99	8.56	1.96	4.36	7.83	2.07	3.79	7.71	2.22	3.47	7.29	2.32	3.14	5.38	2.01	2.68	
15	9.29	1.00	9.30	9.14	1.19	7.65	8.97	1.40	6.43	8.78	1.60	5.50	8.34	1.75	4.76	7.76	1.87	4.16	7.53	2.06	3.65	7.03	2.10	3.35	5.51	1.94	2.84	
20	8.66	0.82	10.6	8.50	0.95	8.94	8.44	1.16	7.27	8.09	1.32	6.13	7.82	1.45	5.38	7.50	1.66	4.51	6.89	1.71	4.03	5.57	1.47	3.80	/	/	/	
25	8.78	0.73	12.0	8.52	0.83	10.2	8.34	1.04	8.00	7.62	1.15	6.63	7.21	1.25	5.78	7.21	1.50	4.80	6.32	1.50	4.20	6.10	1.51	4.05	/	/	/	
30	/	/	/	/	9.61	0.87	11.1	9.16	1.01	9.06	8.69	1.17	7.40	8.28	1.29	6.43	7.53	1.48	5.08	6.83	1.43	4.77	7.03	1.50	4.69	/	/	/
35	/	/	/	/	/	/	/	9.93	0.98	10.1	9.30	1.16	8.02	8.88	1.27	6.97	7.83	1.38	5.67	7.64	1.50	5.11	/	/	/	/	/	/

Part load: 130%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	3.92	1.59	2.46	3.89	1.69	2.30	3.86	1.80	2.14	3.83	1.92	1.99	3.60	2.05	1.76	/	/	/	/	/	/	/	/	/	/	/	/
-20	4.76	1.73	2.75	4.72	1.84	2.56	4.68	1.97	2.38	4.62	2.10	2.20	4.57	2.24	2.04	4.51	2.39	1.89	2.93	1.68	1.74	/	/	/	/	/	/
-15	5.70	1.85	3.08	5.65	1.98	2.85	5.59	2.12	2.64	5.53	2.27	2.44	5.45	2.42	2.25	5.37	2.58	2.08	5.18	2.68	1.93	3.31	1.86	1.78	/	/	/
-10	6.77	1.95	3.47	6.70	2.09	3.20	6.63	2.26	2.94	6.54	2.42	2.70	6.44	2.60	2.48	6.33	2.78	2.28	5.98	2.82	2.12	5.51	2.80	1.97	/	/	/
-7	6.83	1.82	3.75	6.76	1.98	3.42	6.67	2.13	3.13	6.57	2.30	2.86	6.47	2.47	2.62	6.36	2.65	2.40	6.31	2.80	2.25	5.91	2.84	2.08	/	/	/
-5	7.36	1.82	4.04	7.06	1.95	3.62	6.96	2.12	3.29	6.86	2.29	3.00	6.75	2.46	2.74	6.61	2.64	2.50	6.13	2.59	2.37	5.71	2.61	2.19	/	/	/
-2	7.35	1.70	4.32	7.26	1.87	3.89	7.16	2.03	3.52	7.05	2.21	3.19	6.92	2.39	2.89	6.78	2.58	2.63	6.42	2.60	2.47	5.95	2.61	2.28	/	/	/
0	7.48	1.65	4.54	7.39	1.82	4.07	7.28	1.99	3.66	7.16	2.17	3.30	7.03	2.35	2.99	6.88	2.54	2.71	6.50	2.56	2.54	6.01	2.58	2.33	/	/	/
2	7.51	1.55	4.86	7.40	1.71	4.32	7.29	1.89	3.86	7.16	2.07	3.46	7.03	2.25	3.12	6.87	2.44	2.81	6.64	2.48	2.68	6.13	2.55	2.40	/	/	/
5	8.39	1.45	5.79	8.31	1.63	5.10	8.22	1.83	4.50	8.07	2.02	4.00	7.90	2.21	3.58	7.72	2.40	3.21	7.65	2.67	2.86	7.04	2.60	2.71	5.09	2.17	2.35
7	8.59	1.35	6.38	8.53	1.56	5.46	8.47	1.76	4.82	8.31	1.96	4.25	8.14	2.15	3.78	7.81	2.31	3.38	7.87	2.53	3.11	7.23	2.56	2.82	5.17	2.13	2.43
10	8.50	1.15	7.37	8.55	1.38	6.20	8.55	1.59	5.37	8.54	1.82	4.68	8.35	2.03	4.12	7.77	2.21	3.51	7.87	2.36	3.34	7.34	2.45	3.00	5.33	2.07	2.57
12	8.46	1.04	8.12	8.59	1.27	6.75	8.48	1.46	5.80	8.59	1.72	5.00	8.56	1.96	4.36	7.76	2.05	3.79	7.71	2.22	3.47	7.29	2.32	3.14	5.38	2.01	2.68
15	8.60	0.90	9.56	8.82	1.14	7.72	8.61	1.33	6.48	8.64	1.57	5.51	8.34	1.75	4.76	7.68	1.84	4.17	7.53	2.06	3.65	7.03	2.10	3.35	5.51	1.94	2.84
20	8.39	0.77	10.9	8.50	0.95	8.94	8.44	1.16	7.27	8.09	1.32	6.13	7.82	1.45	5.38	7.50	1.66	4.51	6.89	1.71	4.03	5.57	1.47	3.80	/	/	/
25	8.48	0.71	12.0	8.31	0.81	10.3	8.34	1.04	8.00	7.62	1.15	6.63	7.21	1.25	5.78	7.21	1.50	4.80	6.32	1.50	4.20	6.10	1.51	4.05	/	/	/
30	/	/	/	8.45	0.75	11.3	8.20	0.88	9.35	8.24	1.12	7.37	8.11	1.24	6.56	7.16	1.40	5.13	6.60	1.38	4.79	7.03	1.50	4.69	/	/	/
35	/	/	/	/	/	/	8.19	0.79	10.4	7.82	0.88	8.93	7.75	1.08	7.16	6.73	1.16	5.82	6.60	1.25	5.26	/	/	/	/	/	/

Part load: 100%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	3.92	1.59	2.46	3.89	1.69	2.30	3.86	1.80	2.14	3.83	1.92	1.99	3.60	2.05	1.76	/	/	/	/	/	/	/	/	/	/	/	/	
-20	4.76	1.73	2.75	4.72	1.84	2.56	4.68	1.97	2.38	4.63	2.10	2.20	4.57	2.24	2.04	4.51	2.39	1.89	2.93	1.68	1.74	/	/	/	/	/	/	
-15	5.70	1.85	3.08	5.65	1.98	2.85	5.59	2.12	2.64	5.53	2.27	2.44	5.45	2.42	2.25	5.37	2.58	2.08	5.18	2.68	1.93	3.31	1.86	1.78	/	/	/	
-10	6.47	1.84	3.51	6.53	2.03	3.21	6.24	2.10	2.97	6.20	2.28	2.72	6.13	2.45	2.50	6.00	2.61	2.30	5.62	2.63	2.14	5.51	2.80	1.97	/	/	/	
-7	6.54	1.73	3.79	6.55	1.90	3.45	6.26	1.97	3.17	6.33	2.20	2.88	6.10	2.35	2.60	6.03	2.49	2.42	5.70	2.65	2.15	5.91	2.84	2.08	/	/	/	
-5	6.69	1.61	4.15	6.58	1.79	3.67	6.32	1.89	3.35	6.67	2.22	3.01	6.30	2.27	2.77	6.12	2.42	2.53	6.13	2.59	2.37	5.71	2.61	2.19	/	/	/	
-2	6.57	1.47	4.47	6.49	1.62	4.00	6.11	1.68	3.64	6.64	2.06	3.22	6.40	2.18	2.93	6.34	2.38	2.66	6.26	2.52	2.48	5.95	2.61	2.28	/	/	/	
0	6.50	1.37	4.76	6.50	1.54	4.21	5.94	1.56	3.80	6.56	1.95	3.36	6.41	2.12	3.02	6.36	2.32	2.74	6.17	2.41	2.56	6.01	2.58	2.33	/	/	/	
2	6.62	1.31	5.07	6.58	1.48	4.44	5.60	1.33	4.20	6.58	1.87	3.52	6.50	2.06	3.15	6.37	2.24	2.85	6.30	2.25	2.80	6.13	2.55	2.40	/	/	/	
5	6.56	1.08	6.10	6.54	1.23	5.31	6.51	1.40	4.65	6.59	1.61	4.10	6.50	1.78	3.65	6.31	1.94	3.26	6.56	2.18	3.01	6.52	2.40	2.72	5.09	2.17	2.35	
7	6.58	0.98	6.71	6.53	1.14	5.73	6.50	1.23	5.30	6.54	1.50	4.35	6.60	1.65	4.00	6.22	1.81	3.43	6.40	2.00	3.20	6.34	2.24	2.83	5.17	2.13	2.43	
10	6.52	0.84	7.78	6.55	1.01	6.49	6.55	1.18	5.53	6.63	1.39	4.78	6.62	1.58	4.14	6.02	1.70	3.55	6.28	1.86	3.38	6.05	2.00	3.02	5.33	2.07	2.57	
12	6.48	0.75	8.68	6.58	0.93	7.09	6.50	1.09	5.98	6.58	1.29	5.12	6.61	1.49	4.44	5.95	1.55	3.85	6.02	1.72	3.51	6.08	1.93	3.15	5.38	2.01	2.68	
15	6.59	0.66	10.0	6.56	0.81	8.12	6.60	0.98	7.74	6.48	1.14	5.68	6.43	1.32	4.86	5.88	1.39	4.23	5.91	1.60	3.69	5.92	1.76	3.36	5.51	1.94	2.84	
20	6.43	0.56	11.5	6.57	0.71	9.25	6.50	0.85	7.67	6.46	1.02	6.32	6.42	1.17	5.48	6.08	1.33	4.57	5.69	1.39	4.08	5.57	1.47	3.80	/	/	/	
25	6.51	0.52	12.6	6.37	0.60	10.7	6.66	0.77	8.67	6.09	0.87	6.99	6.12	1.03	5.94	6.11	1.25	4.89	5.35	1.26	4.25	6.10	1.51	4.05	/	/	/	
30	/	/	/	/	6.48	0.56	11.6	6.29	0.66	9.52	6.31	0.77	8.20	6.21	0.92	6.73	5.48	1.02	5.38	5.05	1.02	4.95	7.03	1.50	4.69	/	/	/
35	/	/	/	/	/	/	6.27	0.58	10.8	5.99	0.63	9.55	5.93	0.74	8.00	5.15	0.84	6.14	5.05	0.91	5.52	/	/	/	/	/	/	/

Part load: 90%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	3.47	1.39	2.49	3.44	1.48	2.32	3.41	1.58	2.16	3.43	1.71	2.01	3.39	1.81	1.87	/	/	/	/	/	/	/	/	/	/	/	/	
-20	4.21	1.51	2.79	4.17	1.61	2.60	4.13	1.72	2.41	4.15	1.86	2.23	4.10	1.98	2.07	4.04	2.12	1.91	2.60	1.41	1.84	/	/	/	/	/	/	
-15	5.05	1.60	3.15	5.00	1.72	2.90	4.94	1.84	2.68	4.96	2.01	2.47	4.89	2.14	2.28	4.81	2.29	2.10	4.64	2.37	1.96	3.00	1.60	1.88	/	/	/	
-10	5.72	1.59	3.60	5.78	1.76	3.28	5.60	1.85	3.02	5.48	1.98	2.77	5.41	2.13	2.54	5.30	2.28	2.33	4.97	2.29	2.17	4.87	2.43	2.00	/	/	/	
-7	5.78	1.48	3.90	5.88	1.67	3.53	5.52	1.71	3.23	5.60	1.91	2.93	5.48	2.04	2.68	5.41	2.21	2.45	5.34	2.31	2.31	5.22	2.47	2.11	/	/	/	
-5	5.90	1.38	4.27	5.81	1.54	3.77	5.59	1.63	3.42	5.90	1.92	3.07	5.56	1.98	2.81	5.40	2.10	2.57	5.50	2.29	2.40	5.12	2.31	2.22	/	/	/	
-2	5.80	1.27	4.58	5.72	1.40	4.09	5.49	1.50	3.67	5.86	1.79	3.28	5.78	1.94	2.98	5.60	2.07	2.70	5.61	2.23	2.52	5.34	2.31	2.31	/	/	/	
0	5.84	1.21	4.84	5.72	1.34	4.28	5.12	1.34	3.83	5.78	1.69	3.41	5.85	1.91	3.07	5.71	2.05	2.78	5.43	2.10	2.59	5.30	2.24	2.36	/	/	/	
2	5.95	1.16	5.15	5.80	1.29	4.51	4.92	1.22	4.04	5.90	1.66	3.56	5.73	1.80	3.19	5.62	1.96	2.87	5.54	2.07	2.67	5.40	2.23	2.42	/	/	/	
5	5.75	0.93	6.21	5.88	1.09	5.38	5.85	1.25	4.69	5.92	1.43	4.13	5.83	1.59	3.67	5.67	1.73	3.28	5.89	1.89	3.12	5.71	2.09	2.73	4.70	1.90	2.47	
7	5.91	0.86	6.84	5.73	0.99	5.81	5.70	1.13	5.02	5.87	1.34	4.39	5.93	1.53	3.87	5.45	1.58	3.44	5.79	1.83	3.16	5.87	2.07	2.84	4.76	1.86	2.56	
10	5.86	0.74	7.96	5.72	0.87	6.59	5.89	1.05	5.59	5.81	1.20	4.82	5.94	1.41	4.21	5.27	1.48	3.57	5.51	1.62	3.39	5.57	1.84	3.02	4.90	1.81	2.71	
12	5.83	0.65	8.91	5.74	0.80	7.22	5.67	0.94	6.05	5.75	1.11	5.16	5.94	1.33	4.47	5.20	1.35	3.86	5.17	1.47	3.52	5.50	1.74	3.16	5.08	1.80	2.82	
15	5.73	0.56	10.3	5.90	0.71	8.35	5.75	0.84	6.85	5.94	1.03	5.74	5.61	1.17	4.81	5.28	1.24	4.26	5.15	1.39	3.71	5.31	1.58	3.37	5.21	1.74	2.99	
20	5.57	0.46	12.1	5.91	0.62	9.53	5.84	0.74	7.86	5.60	0.87	6.43	5.76	1.04	5.54	5.46	1.18	4.61	5.11	1.25	4.10	5.27	1.32	3.99	/	/	/	
25	5.85	0.46	12.8	5.73	0.53	10.8	5.75	0.65	8.90	5.26	0.74	7.10	5.30	0.88	5.99	5.29	1.08	4.91	4.63	1.09	4.26	5.76	1.34	4.29	/	/	/	
30	/	/	/	/	5.54	0.47	11.7	5.38	0.56	9.60	0.67	6.66	8.56	5.58	0.81	6.92	4.92	0.90	5.48	4.53	0.90	5.01	6.65	1.34	4.98	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.54	0.81	5.62	/	/	/	/	/	/	

Part load: 70%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	2.71	1.06	2.55	2.69	1.14	2.37	2.66	1.21	2.20	2.64	1.29	2.04	2.61	1.37	1.90	/	/	/	/	/	/	/	/	/	/	/	/	
-20	3.29	1.14	2.89	3.26	1.23	2.66	3.23	1.31	2.46	3.20	1.40	2.28	3.16	1.50	2.11	3.11	1.59	1.95	2.08	1.12	1.86	/	/	/	/	/	/	
-15	3.95	1.20	3.28	3.91	1.30	3.00	3.87	1.40	2.76	3.82	1.50	2.54	3.77	1.61	2.34	3.71	1.72	2.16	3.57	1.77	2.02	2.41	1.28	1.89	/	/	/	
-10	4.41	1.17	3.76	4.53	1.33	3.41	4.32	1.39	3.10	4.21	1.49	2.83	4.16	1.61	2.59	4.07	1.71	2.38	3.66	1.65	2.22	3.58	1.75	2.04	/	/	/	
-7	4.45	1.10	4.04	4.36	1.20	3.64	4.25	1.29	3.30	4.21	1.41	2.99	4.14	1.52	2.73	4.00	1.61	2.49	4.04	1.72	2.35	3.93	1.83	2.15	/	/	/	
-5	4.64	1.06	4.38	4.47	1.16	3.86	4.39	1.27	3.47	4.44	1.42	3.14	4.36	1.53	2.85	4.15	1.60	2.59	4.24	1.74	2.44	3.86	1.73	2.23	/	/	/	
-2	4.46	0.95	4.70	4.41	1.06	4.16	4.15	1.11	3.73	4.61	1.38	3.33	4.37	1.46	3.00	4.30	1.58	2.72	4.23	1.67	2.54	4.12	1.78	2.32	/	/	/	
0	4.42	0.89	4.99	4.41	1.01	4.37	4.13	1.06	3.89	4.44	1.29	3.45	4.52	1.46	3.10	4.42	1.58	2.80	4.17	1.60	2.61	4.07	1.72	2.37	/	/	/	
2	4.49	0.84	5.32	4.57	0.99	4.63	3.90	0.95	4.09	4.46	1.24	3.61	4.53	1.41	3.22	4.43	1.53	2.90	4.25	1.58	2.69	4.15	1.70	2.44	/	/	/	
5	4.43	0.69	6.44	4.41	0.80	5.51	4.39	0.92	4.77	4.58	1.10	4.18	4.38	1.18	3.70	4.25	1.29	3.30	4.56	1.46	3.13	4.60	1.68	2.74	3.60	1.46	2.47	
7	4.58	0.64	7.12	4.39	0.74	5.97	4.37	0.86	5.11	4.55	1.02	4.44	4.45	1.14	3.90	4.19	1.21	3.46	4.58	1.44	3.17	4.41	1.55	2.85	3.78	1.48	2.56	
10	4.37	0.52	8.37	4.56	0.67	6.81	4.40	0.77	5.71	4.62	0.94	4.89	4.60	1.08	4.24	4.19	1.17	3.58	4.37	1.29	3.39	4.27	1.41	3.03	3.89	1.44	2.70	
12	4.34	0.46	9.46	4.58	0.61	7.50	4.36	0.70	6.19	4.58	0.88	5.23	4.44	0.98	4.51	4.13	1.07	3.87	4.11	1.16	3.53	4.36	1.38	3.16	3.78	1.35	2.80	
15	4.35	0.41	10.6	4.52	0.51	8.82	4.42	0.62	7.09	4.60	0.78	5.87	4.47	0.90	4.97	4.09	0.96	4.28	3.95	1.06	3.73	3.96	1.17	3.37	4.03	1.35	2.98	
20	4.40	0.36	12.3	4.36	0.45	9.72	4.31	0.52	8.33	4.08	0.61	6.66	4.47	0.79	5.67	4.23	0.91	4.66	3.96	0.96	4.12	4.08	1.02	4.00	/	/	/	
25	5.06	0.38	13.2	5.03	0.46	10.9	4.82	0.54	8.96	4.39	0.59	7.41	4.07	0.67	6.07	4.06	0.81	4.99	3.73	0.87	4.31	4.46	1.03	4.33	/	/	/	
30	/	/	/	/	5.64	0.48	11.8	5.38	0.56	9.60	5.09	0.57	8.96	4.88	0.68	7.15	4.37	0.78	5.58	4.02	0.79	5.06	4.67	0.93	5.05	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.50	0.80	5.62	/	/	/	/	/	/	

Part load: 50%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	1.91	0.75	2.55	1.90	0.81	2.36	1.88	0.86	2.19	1.86	0.91	2.04	1.84	0.97	1.90	/	/	/	/	/	/	/	/	/	/	/	/
-20	2.33	0.81	2.89	2.31	0.87	2.66	2.28	0.93	2.46	2.26	0.99	2.28	2.23	1.06	2.11	2.13	1.09	1.96	1.44	0.78	1.86	/	/	/	/	/	/
-15	2.80	0.85	3.30	2.77	0.92	3.01	2.74	0.99	2.76	2.70	1.06	2.54	2.66	1.14	2.34	2.55	1.18	2.16	2.52	1.24	2.03	1.70	0.90	1.88	/	/	/
-10	3.18	0.84	3.80	3.12	0.91	3.43	3.06	0.98	3.11	3.04	1.07	2.83	3.00	1.16	2.59	2.93	1.23	2.38	2.67	1.20	2.22	2.61	1.27	2.05	/	/	/
-7	3.22	0.79	4.10	3.22	0.88	3.67	2.99	0.91	3.30	3.11	1.04	2.99	2.99	1.10	2.72	2.95	1.19	2.48	2.91	1.24	2.35	2.81	1.30	2.16	/	/	/
-5	3.19	0.72	4.44	3.14	0.80	3.92	3.11	0.89	3.51	3.28	1.04	3.16	3.00	1.05	2.86	2.91	1.12	2.60	2.91	1.19	2.44	2.70	1.21	2.23	/	/	/
-2	3.13	0.66	4.77	3.20	0.76	4.23	3.02	0.81	3.75	3.27	0.98	3.35	3.07	1.02	3.01	3.12	1.15	2.72	2.97	1.17	2.54	2.92	1.26	2.31	/	/	/
0	3.22	0.63	5.13	3.21	0.72	4.45	2.93	0.75	3.91	3.23	0.93	3.47	3.21	1.03	3.11	3.13	1.12	2.80	2.93	1.13	2.60	2.95	1.25	2.36	/	/	/
2	3.16	0.58	5.49	3.13	0.66	4.72	2.77	0.68	4.10	3.24	0.90	3.62	3.10	0.96	3.23	3.03	1.05	2.89	2.98	1.11	2.68	2.91	1.20	2.42	/	/	/
5	2.95	0.44	6.70	3.24	0.58	5.63	3.22	0.67	4.81	3.25	0.78	4.19	3.20	0.87	3.69	3.11	0.95	3.27	3.10	1.03	3.02	3.26	1.20	2.72	2.39	0.98	2.43
7	3.10	0.42	7.36	3.08	0.50	6.12	2.92	0.57	5.16	2.94	0.66	4.45	3.26	0.84	3.89	3.07	0.90	3.43	3.25	1.03	3.15	3.22	1.14	2.82	2.54	1.01	2.51
10	3.36	0.38	8.93	3.32	0.47	7.02	3.25	0.56	5.79	3.12	0.64	4.90	3.11	0.74	4.23	2.83	0.80	3.54	2.95	0.88	3.36	2.85	0.95	2.99	2.79	1.05	2.65
12	3.55	0.35	10.1	3.50	0.45	7.74	3.43	0.55	6.29	3.32	0.63	5.23	3.28	0.73	4.49	2.97	0.77	3.84	2.96	0.85	3.49	2.95	0.95	3.12	2.94	1.07	2.76
15	3.92	0.36	11.0	3.83	0.45	8.51	3.73	0.51	7.26	3.67	0.62	5.94	3.56	0.71	5.00	3.20	0.75	4.27	3.06	0.82	3.71	2.95	0.88	3.34	3.18	1.08	2.94
20	4.40	0.36	12.3	4.36	0.45	9.72	4.31	0.52	8.33	4.08	0.61	6.66	3.92	0.69	5.71	3.74	0.80	4.67	3.73	0.91	4.12	3.18	0.80	3.98	/	/	/
25	5.06	0.38	13.2	5.03	0.46	10.9	4.82	0.54	8.96	4.39	0.59	7.41	4.07	0.67	6.07	4.06	0.81	4.99	3.80	0.86	4.42	3.52	0.81	4.34	/	/	/
30	/	/	/	5.64	0.48	11.8	5.38	0.56	9.60	5.09	0.57	8.96	4.88	0.68	7.15	4.37	0.78	5.58	4.02	0.79	5.06	4.67	0.93	5.05	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.22	0.75	5.62	/	/	/	/	/	/

Part load: 30%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	1.02	0.42	2.45	1.01	0.44	2.27	1.00	0.47	2.11	0.99	0.50	1.98	0.97	0.52	1.86	/	/	/	/	/	/	/	/	/	/	/	/
-20	1.25	0.44	2.80	1.24	0.48	2.57	1.22	0.51	2.37	1.21	0.55	2.20	1.19	0.58	2.05	1.17	0.61	1.92	1.12	0.61	1.84	/	/	/	/	/	/
-15	1.51	0.47	3.23	1.49	0.51	2.93	1.47	0.55	2.67	1.45	0.59	2.46	1.43	0.63	2.27	1.40	0.66	2.11	1.34	0.67	2.00	1.31	0.70	1.86	/	/	/
-10	1.80	0.48	3.74	1.81	0.56	3.25	1.72	0.57	3.01	1.71	0.63	2.74	1.69	0.67	2.51	1.65	0.72	2.30	1.59	0.73	2.17	1.55	0.77	2.01	/	/	/
-7	1.96	0.50	3.95	1.93	0.55	3.48	1.88	0.61	3.10	1.84	0.65	2.83	1.78	0.68	2.63	1.75	0.73	2.40	1.76	0.77	2.29	1.65	0.78	2.11	/	/	/
-5	2.10	0.50	4.21	2.06	0.54	3.79	2.03	0.59	3.45	1.93	0.65	2.99	1.81	0.65	2.80	1.80	0.71	2.54	1.87	0.79	2.38	1.82	0.83	2.18	/	/	/
-2	2.26	0.47	4.77	2.21	0.54	4.12	2.16	0.58	3.70	2.13	0.67	3.20	2.07	0.70	2.95	1.99	0.75	2.66	2.01	0.81	2.49	1.95	0.86	2.26	/	/	/
0	2.33	0.46	5.09	2.30	0.53	4.35	2.25	0.58	3.87	2.21	0.66	3.35	2.15	0.70	3.05	2.03	0.74	2.74	2.09	0.82	2.55	2.03	0.88	2.31	/	/	/
2	2.48	0.45	5.48	2.42	0.52	4.65	2.40	0.59	4.08	2.32	0.66	3.50	2.26	0.71	3.17	2.11	0.75	2.83	2.20	0.84	2.63	2.10	0.89	2.37	/	/	/
5	2.95	0.44	6.70	2.63	0.49	5.35	2.75	0.57	4.81	2.71	0.66	4.13	2.70	0.74	3.66	2.60	0.80	3.24	2.58	0.86	2.99	2.41	0.90	2.68	2.39	0.98	2.43
7	3.10	0.42	7.36	3.01	0.50	6.06	2.98	0.58	5.16	2.93	0.66	4.44	2.82	0.73	3.87	2.71	0.80	3.40	2.77	0.88	3.13	2.62	0.94	2.79	2.54	1.01	2.51
10	3.36	0.38	8.93	3.32	0.47	7.02	3.25	0.56	5.79	3.16	0.64	4.90	3.09	0.73	4.22	2.80	0.79	3.54	2.95	0.88	3.36	2.85	0.95	2.99	2.79	1.05	2.65
12	3.55	0.35	10.1	3.50	0.45	7.74	3.43	0.55	6.29	3.32	0.63	5.23	3.28	0.73	4.49	2.97	0.77	3.84	2.96	0.85	3.49	2.95	0.95	3.12	2.94	1.07	2.76
15	3.92	0.36	11.0	3.83	0.45	8.51	3.73	0.51	7.26	3.67	0.62	5.94	3.56	0.71	5.00	3.20	0.75	4.27	3.06	0.82	3.71	2.95	0.88	3.34	3.18	1.08	2.94
20	4.40	0.36	12.3	4.36	0.45	9.72	4.31	0.52	8.33	4.08	0.61	6.66	3.92	0.69	5.71	3.74	0.80	4.67	3.73	0.91	4.12	3.18	0.80	3.98	/	/	/
25	5.06	0.38	13.2	5.03	0.46	10.9	4.82	0.54	8.96	4.39	0.59	7.41	4.07	0.67	6.07	4.06	0.81	4.99	3.80	0.86	4.42	3.52	0.81	4.34	/	/	/
30	/	/	/	5.64	0.48	11.8	5.38	0.56	9.60	5.09	0.57	8.96	4.88	0.68	7.15	4.37	0.78	5.58	4.02	0.79	5.06	4.67	0.93	5.05	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.22	0.75	5.62	/	/	/	/	/	/

Part load: Minimum

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	1.00	0.43	2.33	0.99	0.46	2.15	0.98	0.47	2.09	0.97	0.51	1.91	0.90	0.49	1.84	/	/	/	/	/	/	/	/	/	/	/	/
-20	1.23	0.46	2.68	1.21	0.49	2.45	1.19	0.53	2.25	1.15	0.55	2.10	1.12	0.55	2.04	1.13	0.59	1.90	1.12	0.61	1.84	/	/	/	/	/	/
-15	1.49	0.48	3.09	1.45	0.52	2.80	1.42	0.56	2.55	1.41	0.60	2.36	1.35	0.60	2.25	1.33	0.64	2.09	1.34	0.67	2.00	1.31	0.70	1.86	/	/	/
-10	1.78	0.49	3.63	1.73	0.54	3.23	1.70	0.57	2.98	1.64	0.62	2.63	1.61	0.64	2.50	1.56	0.68	2.30	1.59	0.73	2.17	1.55	0.77	2.01	/	/	/
-7	1.96	0.50	3.95	1.93	0.55	3.48	1.88	0.61	3.10	1.84	0.65	2.83	1.78	0.68	2.63	1.75	0.73	2.40	1.76	0.77	2.29	1.65	0.78	2.11	/	/	/
-5	2.10	0.50	4.21	2.06	0.54	3.79	2.03	0.59	3.45	1.93	0.65	2.99	1.81	0.65	2.80	1.80	0.71	2.54	1.87	0.79	2.38	1.82	0.83	2.18	/	/	/
-2	2.26	0.47	4.77	2.21	0.54	4.12	2.16	0.58	3.70	2.13	0.67	3.20	2.07	0.70	2.95	1.99	0.75	2.66	2.01	0.81	2.49	1.95	0.86	2.26	/	/	/
0	2.33	0.46	5.09	2.30	0.53	4.35	2.25	0.58	3.87	2.21	0.66	3.35	2.15	0.70	3.05	2.03	0.74	2.74	2.09	0.82	2.55	2.03	0.88	2.31	/	/	/
2	2.48	0.45	5.48	2.42	0.52	4.65	2.40	0.59	4.08	2.32	0.66	3.50	2.26	0.71	3.17	2.11	0.75	2.83	2.20	0.84	2.63	2.10	0.89	2.37	/	/	/
5	2.83	0.43	6.63	2.63	0.49	5.35	2.75	0.57	4.81	2.71	0.66	4.13	2.70	0.74	3.66	2.60	0.80	3.24	2.58	0.86	2.99	2.41	0.90	2.68	2.39	0.98	2.43
7	3.10	0.42	7.36	3.01	0.50	6.06	2.98	0.58	5.16	2.93	0.66	4.44	2.82	0.73	3.87	2.71	0.80	3.40	2.77	0.88	3.13	2.62	0.94	2.79	2.54	1.01	2.51
10	3.36	0.38	8.93	3.32	0.47	7.02	3.25	0.56	5.79	3.16	0.64	4.90	3.09	0.73	4.22	2.80	0.79	3.54	2.95	0.88	3.36	2.85	0.95	2.99	2.79	1.05	2.65
12	3.55	0.35	10.1	3.50	0.45	7.74	3.43	0.55	6.29	3.32	0.63	5.23	3.28	0.73	4.49	2.97	0.77	3.84	2.96	0.85	3.49	2.95	0.95	3.12	2.94	1.07	2.76
15	3.92	0.36	11.0	3.83	0.45	8.51	3.73	0.51	7.26	3.67	0.62	5.94	3.56	0.71	5.00	3.20	0.75	4.27	3.06	0.82	3.71	2.95	0.88	3.34	3.18	1.08	2.94
20	4.40	0.36	12.3	4.36	0.45	9.72	4.31	0.52	8.33	4.08	0.61	6.66	3.92	0.69	5.71	3.74	0.80	4.67	3.73	0.91	4.12	3.18	0.80	3.98	/	/	/
25	5.06	0.38	13.2	5.03	0.46	10.9	4.82	0.54	8.96	4.39	0.59	7.41	4.07	0.67	6.07	4.06	0.81	4.99	3.80	0.86	4.42	3.52	0.81	4.34	/	/	/
30	/	/	/	5.64	0.48	11.8	5.38	0.56	9.60	5.09	0.57	8.96	4.88	0.68	7.15	4.37	0.78	5.58	4.02	0.79	5.06	4.67	0.93	5.05	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.22	0.75	5.62	/	/	/	/	/	/

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

HC: Total heating capacity (kW)

PI: Power input (kW)

MHC-V7WD2N8-C

Part load: Maximum

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	4.26	1.80	2.37	4.23	1.91	2.22	4.19	2.02	2.07	4.15	2.15	1.93	3.90	2.27	1.72	/	/	/	/	/	/	/	/	/	/	/	/	
-20	5.17	1.96	2.64	5.12	2.08	2.46	5.08	2.22	2.29	5.02	2.36	2.13	4.96	2.48	2.00	4.89	2.67	1.83	3.25	1.89	1.72	/	/	/	/	/	/	
-15	6.20	2.09	2.96	6.14	2.23	2.75	6.07	2.39	2.54	6.00	2.55	2.35	5.92	2.69	2.20	5.82	2.90	2.01	5.72	2.99	1.91	3.59	2.04	1.76	/	/	/	
-10	7.35	2.20	3.34	7.28	2.36	3.08	7.19	2.54	2.83	7.10	2.72	2.61	6.99	2.91	2.40	6.75	3.04	2.22	6.49	3.29	1.97	5.87	2.99	1.96	/	/	/	
-7	7.84	2.15	3.64	7.75	2.32	3.34	7.65	2.50	3.06	7.54	2.69	2.80	7.43	2.89	2.57	7.16	3.03	2.36	6.86	3.38	2.03	6.31	3.05	2.07	/	/	/	
-5	8.28	2.15	3.85	8.19	2.33	3.52	8.08	2.52	3.21	7.96	2.72	2.93	7.83	2.92	2.68	7.47	3.04	2.46	7.30	3.15	2.32	6.26	2.90	2.16	/	/	/	
-2	8.51	2.04	4.17	8.40	2.22	3.78	8.29	2.42	3.43	8.16	2.62	3.12	8.01	2.82	2.84	7.85	3.04	2.58	7.46	3.07	2.43	6.54	2.91	2.25	/	/	/	
0	8.69	1.99	4.37	8.58	2.18	3.94	8.45	2.37	3.56	8.32	2.58	3.22	8.17	2.80	2.92	8.00	3.02	2.65	7.58	3.06	2.48	6.56	2.88	2.28	/	/	/	
2	8.77	1.89	4.65	8.65	2.08	4.16	8.52	2.28	3.74	8.38	2.49	3.37	8.22	2.70	3.04	8.21	3.04	2.70	7.95	3.12	2.55	6.95	2.93	2.37	/	/	/	
5	9.62	1.77	5.45	9.54	1.97	4.85	9.44	2.19	4.32	9.38	2.42	3.88	9.19	2.64	3.48	8.99	2.87	3.13	8.21	3.02	2.72	7.73	2.88	2.68	5.31	2.26	2.35	
7	9.80	1.64	5.97	9.72	1.85	5.24	9.56	2.07	4.62	9.48	2.30	4.13	9.28	2.51	3.69	8.92	2.70	3.30	8.29	2.81	2.95	7.95	2.84	2.80	5.39	2.22	2.43	
10	10.1	1.45	6.95	9.84	1.65	5.95	9.77	1.88	5.20	9.57	2.09	4.57	9.37	2.32	4.04	8.72	2.53	3.45	9.08	2.76	3.29	8.14	2.71	3.00	5.60	2.18	2.57	
12	10.4	1.36	7.65	10.1	1.57	6.46	10.1	1.79	5.60	9.86	2.02	4.87	9.64	2.25	4.28	8.83	2.37	3.73	8.74	2.55	3.43	8.13	2.60	3.13	5.66	2.11	2.68	
15	10.2	1.13	9.05	9.97	1.34	7.45	9.89	1.56	6.33	9.69	1.78	5.43	9.46	2.00	4.72	8.57	2.08	4.13	8.39	2.30	3.64	8.13	2.44	3.33	5.78	2.04	2.84	
20	9.82	0.99	9.89	9.78	1.17	8.38	9.57	1.34	7.13	9.18	1.52	6.04	8.88	1.67	5.32	8.51	1.90	4.48	7.82	1.95	4.01	7.65	2.04	3.75	/	/	/	
25	8.48	0.71	12.0	9.43	1.00	9.41	9.23	1.18	7.84	8.44	1.29	6.54	7.98	1.39	5.73	7.99	1.68	4.77	7.15	1.67	4.29	6.90	1.70	4.07	/	/	/	
30	/	/	/	/	10.5	1.06	9.92	10.0	1.17	8.60	9.52	1.33	7.14	9.36	1.48	6.33	8.24	1.63	5.06	7.57	1.59	4.75	7.09	1.61	4.41	/	/	/
35	/	/	/	/	/	/	/	10.6	1.17	9.03	10.3	1.31	7.86	9.82	1.47	6.69	8.67	1.60	5.43	8.46	1.66	5.09	/	/	/	/	/	/

Part load: 130%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	4.26	1.80	2.37	4.23	1.91	2.22	4.19	2.02	2.07	4.15	2.15	1.93	3.90	2.27	1.72	/	/	/	/	/	/	/	/	/	/	/	/	
-20	5.17	1.96	2.64	5.12	2.08	2.46	5.08	2.22	2.29	5.02	2.36	2.13	4.96	2.48	2.00	4.89	2.67	1.83	3.25	1.89	1.72	/	/	/	/	/	/	
-15	6.20	2.09	2.96	6.14	2.23	2.75	6.07	2.39	2.54	6.00	2.55	2.35	5.92	2.69	2.20	5.82	2.90	2.01	5.72	2.99	1.91	3.59	2.04	1.76	/	/	/	
-10	7.35	2.20	3.34	7.28	2.36	3.08	7.19	2.54	2.83	7.10	2.72	2.61	6.99	2.91	2.40	6.75	3.04	2.22	6.49	3.29	1.97	5.87	2.99	1.96	/	/	/	
-7	7.84	2.15	3.64	7.75	2.32	3.34	7.65	2.50	3.06	7.54	2.69	2.80	7.43	2.89	2.57	7.16	3.03	2.36	6.86	3.38	2.03	6.31	3.05	2.07	/	/	/	
-5	8.28	2.15	3.85	8.19	2.33	3.52	8.08	2.52	3.21	7.96	2.72	2.93	7.83	2.92	2.68	7.47	3.04	2.46	7.30	3.15	2.32	6.26	2.90	2.16	/	/	/	
-2	8.51	2.04	4.17	8.40	2.22	3.78	8.29	2.42	3.43	8.16	2.62	3.12	8.01	2.82	2.84	7.85	3.04	2.58	7.46	3.07	2.43	6.54	2.91	2.25	/	/	/	
0	8.69	1.99	4.37	8.58	2.18	3.94	8.45	2.37	3.56	8.32	2.58	3.22	8.17	2.80	2.92	8.00	3.02	2.65	7.58	3.06	2.48	6.56	2.88	2.28	/	/	/	
2	8.77	1.89	4.65	8.65	2.08	4.16	8.52	2.28	3.74	8.38	2.49	3.37	8.22	2.70	3.04	8.21	3.04	2.70	7.95	3.12	2.55	6.95	2.93	2.37	/	/	/	
5	9.62	1.77	5.45	9.54	1.97	4.85	9.44	2.19	4.32	9.38	2.42	3.88	9.19	2.64	3.48	8.99	2.87	3.13	8.21	3.02	2.72	7.73	2.88	2.68	5.31	2.26	2.35	
7	9.80	1.64	5.97	9.72	1.85	5.24	9.56	2.07	4.62	9.48	2.30	4.13	9.28	2.51	3.69	8.92	2.70	3.30	8.29	2.81	2.95	7.95	2.84	2.80	5.39	2.22	2.43	
10	10.1	1.45	6.95	9.84	1.65	5.95	9.77	1.88	5.20	9.57	2.09	4.57	9.37	2.32	4.04	8.72	2.53	3.45	9.08	2.76	3.29	8.14	2.71	3.00	5.60	2.18	2.57	
12	10.4	1.36	7.65	10.1	1.57	6.46	10.1	1.79	5.60	9.86	2.02	4.87	9.64	2.25	4.28	8.83	2.37	3.73	8.74	2.55	3.43	8.13	2.60	3.13	5.66	2.11	2.68	
15	10.2	1.13	9.05	9.97	1.34	7.45	9.89	1.56	6.33	9.69	1.78	5.43	9.46	2.00	4.72	8.57	2.08	4.13	8.39	2.30	3.64	8.13	2.44	3.33	5.78	2.04	2.84	
20	9.82	0.99	9.89	9.78	1.17	8.38	9.57	1.34	7.13	9.18	1.52	6.04	8.88	1.67	5.32	8.51	1.90	4.48	7.82	1.95	4.01	7.65	2.04	3.75	/	/	/	
25	8.48	0.70	12.1	9.43	1.00	9.41	9.23	1.18	7.84	8.44	1.29	6.54	7.98	1.39	5.73	7.99	1.68	4.77	7.15	1.67	4.29	7.18	1.76	4.07	/	/	/	
30	/	/	/	/	10.5	1.06	9.92	10.0	1.17	8.60	9.52	1.33	7.14	9.36	1.48	6.33	8.24	1.63	5.06	7.57	1.59	4.75	7.09	1.61	4.41	/	/	/
35	/	/	/	/	/	/	/	10.6	1.17	9.03	10.3	1.31	7.86	9.82	1.47	6.69	8.67	1.60	5.43	8.46	1.66	5.09	/	/	/	/	/	/

Part load: 100%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	4.26	1.80	2.37	4.23	1.91	2.22	4.19	2.02	2.07	4.15	2.15	1.93	3.90	2.27	1.72	/	/	/	/	/	/	/	/	/	/	/	/
-20	5.17	1.96	2.64	5.12	2.08	2.46	5.08	2.22	2.29	5.02	2.36	2.13	4.96	2.48	2.00	4.89	2.67	1.83	3.25	1.89	1.72	/	/	/	/	/	/
-15	6.20	2.09	2.96	6.14	2.23	2.75	6.07	2.39	2.54	6.00	2.55	2.35	5.92	2.69	2.20	5.82	2.90	2.01	5.72	2.99	1.91	3.59	2.04	1.76	/	/	/
-10	7.35	2.20	3.34	7.28	2.36	3.08	6.94	2.43	2.86	6.91	2.64	2.62	6.69	2.76	2.42	6.51	2.92	2.23	6.49	3.29	1.97	5.87	2.99	1.96	/	/	/
-7	7.84	2.15	3.64	7.75	2.32	3.34	7.10	2.25	3.15	7.13	2.52	2.83	6.80	2.72	2.50	6.78	2.85	2.38	6.60	3.14	2.10	6.31	3.05	2.07	/	/	/
-5	8.28	2.15	3.85	8.19	2.33	3.52	7.10	2.16	3.29	7.14	2.39	2.99	7.17	2.64	2.72	6.88	2.76	2.49	6.96	2.99	2.33	6.26	2.90	2.16	/	/	/
-2	8.34	1.99	4.19	8.40	2.22	3.78	7.12	2.02	3.53	6.84	2.14	3.20	7.54	2.64	2.86	7.05	2.69	2.62	7.30	2.99	2.44	6.54	2.91	2.25	/	/	/
0	8.34	1.89	4.42	8.40	2.12	3.96	7.24	1.97	3.67	7.29	2.22	3.29	7.66	2.60	2.95	7.17	2.67	2.69	7.58	3.06	2.48	6.56	2.88	2.28	/	/	/
2	8.40	1.78	4.71	8.47	2.02	4.19	7.10	1.80	3.95	7.28	2.11	3.45	7.50	2.46	3.05	7.29	2.61	2.79	7.60	2.81	2.70	6.95	2.93	2.37	/	/	/
5	8.55	1.50	5.70	8.47	1.68	5.03	7.94	1.76	4.52	8.09	2.02	4.01	8.56	2.42	3.53	8.17	2.57	3.18	7.46	2.70	2.76	7.73	2.88	2.68	5.31	2.26	2.35
7	8.40	1.32	6.38	8.32	1.51	5.52	8.40	1.66	5.05	8.34	1.96	4.26	8.50	2.24	3.80	8.27	2.47	3.35	8.20	2.60	3.15	7.95	2.84	2.80	5.39	2.22	2.43
10	8.47	1.15	7.38	8.25	1.32	6.24	8.47	1.57	5.38	8.31	1.77	4.69	8.62	2.10	4.11	8.02	2.29	3.50	8.07	2.42	3.34	8.14	2.71	3.00	5.60	2.18	2.57
12	8.09	0.98	8.26	8.45	1.25	6.77	8.39	1.44	5.81	8.49	1.70	5.00	8.58	1.97	4.36	7.85	2.07	3.79	8.23	2.40	3.43	8.13	2.60	3.13	5.66	2.11	2.68
15	8.36	0.87	9.65	8.45	1.09	7.74	8.37	1.29	6.51	8.20	1.48	5.55	8.58	1.80	4.76	7.76	1.87	4.16	8.39	2.30	3.64	7.84	2.35	3.33	5.78	2.04	2.84
20	8.30	0.76	10.8 9	8.15	0.93	8.72	8.45	1.16	7.27	8.10	1.32	6.13	8.15	1.52	5.35	8.13	1.82	4.47	7.82	1.95	4.01	7.36	1.96	3.76	/	/	/
25	6.51	0.52	12.5 7	8.52	0.89	9.57	8.33	1.04	8.00	7.63	1.15	6.63	7.56	1.32	5.73	7.91	1.67	4.74	7.15	1.67	4.29	7.18	1.76	4.07	/	/	/
30	/	/	/	8.66	0.84	10.2 5	8.26	0.96	8.62	7.83	1.02	7.70	8.03	1.24	6.49	7.15	1.38	5.20	7.57	1.59	4.75	7.09	1.61	4.41	/	/	/
35	/	/	/	/	/	/	8.09	0.87	9.35	7.55	0.89	8.48	7.64	1.03	7.40	6.73	1.15	5.83	8.46	1.66	5.09	/	/	/	/	/	/

Part load: 90%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	3.82	1.59	2.40	3.79	1.68	2.25	3.76	1.80	2.09	3.72	1.91	1.95	3.68	2.01	1.83	/	/	/	/	/	/	/	/	/	/	/	/
-20	4.63	1.72	2.69	4.60	1.83	2.51	4.55	1.95	2.33	4.50	2.08	2.16	4.43	2.19	2.02	4.38	2.35	1.86	3.02	1.66	1.82	/	/	/	/	/	/
-15	5.56	1.83	3.03	5.50	1.96	2.80	5.44	2.10	2.59	5.38	2.24	2.40	5.29	2.36	2.24	5.22	2.56	2.04	5.06	2.61	1.94	3.33	1.79	1.86	/	/	/
-10	6.60	1.92	3.43	6.53	2.07	3.15	6.15	2.11	2.91	6.20	2.32	2.67	6.00	2.44	2.46	5.76	2.55	2.26	5.75	2.69	2.14	5.26	2.64	1.99	/	/	/
-7	6.94	1.86	3.74	6.86	2.01	3.41	6.38	2.03	3.15	6.39	2.23	2.87	6.02	2.28	2.64	6.07	2.52	2.41	5.97	2.63	2.27	5.58	2.66	2.10	/	/	/
-5	7.43	1.88	3.95	7.35	2.04	3.60	6.29	1.88	3.34	6.32	2.09	3.03	6.43	2.34	2.75	6.08	2.41	2.52	6.24	2.63	2.37	5.53	2.53	2.19	/	/	/
-2	7.49	1.74	4.31	7.54	1.95	3.87	6.39	1.78	3.59	6.14	1.89	3.25	6.66	2.30	2.90	6.24	2.35	2.65	6.46	2.60	2.48	5.87	2.57	2.28	/	/	/
0	7.49	1.64	4.56	7.54	1.86	4.06	6.50	1.74	3.74	6.54	1.95	3.35	6.78	2.26	3.00	6.33	2.32	2.73	6.70	2.66	2.52	5.88	2.55	2.31	/	/	/
2	7.43	1.53	4.87	7.50	1.74	4.30	6.61	1.59	4.15	6.53	1.86	3.52	6.95	2.24	3.11	6.43	2.27	2.83	6.92	2.52	2.75	6.23	2.60	2.40	/	/	/
5	7.68	1.30	5.92	7.61	1.47	5.19	7.00	1.53	4.59	7.13	1.75	4.07	7.69	2.14	3.60	7.33	2.26	3.24	6.70	2.38	2.81	6.83	2.52	2.71	4.90	1.99	2.47
7	7.40	1.14	6.51	7.34	1.31	5.61	7.42	1.45	5.12	7.35	1.71	4.31	7.94	2.09	3.80	7.30	2.15	3.40	6.86	2.14	3.20	7.02	2.49	2.82	4.98	1.94	2.56
10	7.61	1.01	7.55	7.41	1.17	6.34	7.31	1.34	5.45	7.17	1.51	4.74	7.59	1.83	4.15	7.06	2.01	3.52	6.81	2.03	3.36	7.32	2.43	3.01	5.15	1.90	2.71
12	7.10	0.84	8.47	7.59	1.10	6.90	7.54	1.28	5.88	7.63	1.51	5.06	7.39	1.68	4.40	6.77	1.77	3.82	7.73	2.23	3.47	7.31	2.33	3.14	5.21	1.85	2.82
15	7.34	0.80	9.18	7.42	0.94	7.87	7.35	1.12	6.59	7.82	1.41	5.55	7.55	1.58	4.79	6.82	1.63	4.18	8.39	2.30	3.64	7.04	2.10	3.35	5.46	1.83	2.99
20	7.47	0.68	10.9	7.33	0.82	8.95	7.68	1.03	7.38	7.35	1.19	6.15	7.14	1.33	5.38	7.13	1.59	4.49	7.24	1.79	4.04	6.46	1.71	3.77	/	/	/
25	5.85	0.46	12.8	7.66	0.78	9.87	7.50	0.92	8.16	6.86	1.03	6.66	6.80	1.18	5.77	7.12	1.50	4.76	7.15	1.67	4.29	6.79	1.59	4.28	/	/	/
30	/	/	/	7.52	0.69	10.9	7.37	0.80	9.24	6.80	0.87	7.85	6.99	1.06	6.58	6.22	1.19	5.23	6.54	1.35	4.85	6.28	1.27	4.95	/	/	/
35	/	/	/	/	/	/	7.32	0.73	10.1	6.68	0.72	9.27	6.62	0.86	7.72	5.83	0.97	6.00	6.56	1.23	5.35	/	/	/	/	/	/

Part load: 70%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	2.94	1.20	2.45	2.92	1.28	2.28	2.90	1.37	2.12	2.81	1.43	1.97	2.79	1.51	1.85	/	/	/	/	/	/	/	/	/	/	/	/
-20	3.58	1.29	2.78	3.55	1.38	2.57	3.51	1.47	2.38	3.41	1.55	2.20	3.38	1.64	2.06	3.33	1.76	1.89	2.31	1.27	1.82	/	/	/	/	/	/
-15	4.29	1.36	3.15	4.25	1.47	2.90	4.20	1.58	2.66	4.08	1.67	2.45	4.03	1.76	2.29	3.97	1.90	2.09	3.95	1.98	2.00	2.61	1.40	1.86	/	/	/
-10	5.10	1.42	3.60	5.04	1.54	3.28	4.81	1.60	3.01	4.71	1.71	2.75	4.63	1.84	2.52	4.42	1.92	2.31	4.49	2.04	2.20	4.06	2.00	2.03	/	/	/
-7	5.44	1.38	3.95	5.38	1.51	3.57	4.84	1.49	3.24	4.94	1.67	2.95	4.63	1.72	2.69	4.69	1.91	2.46	4.67	2.00	2.33	4.28	2.00	2.14	/	/	/
-5	5.65	1.35	4.19	5.58	1.48	3.77	4.93	1.43	3.44	4.87	1.55	3.13	4.88	1.72	2.83	4.68	1.81	2.58	4.82	1.99	2.42	4.25	1.92	2.22	/	/	/
-2	5.69	1.24	4.58	5.83	1.44	4.05	4.95	1.35	3.68	4.65	1.40	3.31	5.13	1.72	2.98	4.61	1.71	2.70	4.96	1.96	2.53	4.54	1.97	2.31	/	/	/
0	5.69	1.18	4.83	5.84	1.38	4.24	4.92	1.29	3.82	4.66	1.48	3.42	5.32	1.73	3.07	4.78	1.72	2.78	5.15	2.00	2.58	4.45	1.91	2.33	/	/	/
2	5.62	1.09	5.14	5.89	1.31	4.50	5.00	1.22	4.11	4.95	1.39	3.57	5.14	1.61	3.19	5.06	1.76	2.87	5.42	1.90	2.85	4.72	1.95	2.42	/	/	/
5	5.95	0.97	6.15	5.89	1.10	5.34	5.52	1.18	4.68	5.50	1.33	4.14	5.82	1.59	3.66	5.68	1.73	3.28	5.06	1.78	2.84	5.37	1.97	2.73	3.88	1.58	2.46
7	5.85	0.86	6.80	5.80	1.00	5.79	5.86	1.12	5.21	5.80	1.32	4.39	6.15	1.59	3.86	5.75	1.67	3.44	5.30	1.68	3.16	5.39	1.90	2.84	3.81	1.50	2.55
10	5.90	0.74	7.94	5.75	0.88	6.57	5.90	1.06	5.59	5.79	1.20	4.83	6.00	1.43	4.21	5.58	1.57	3.56	5.46	1.61	3.39	5.52	1.82	3.03	4.09	1.51	2.70
12	5.64	0.63	8.98	5.72	0.80	7.18	5.68	0.94	6.05	5.91	1.15	5.16	5.97	1.34	4.47	5.46	1.41	3.86	5.42	1.54	3.52	5.51	1.74	3.16	4.14	1.48	2.80
15	5.64	0.58	9.78	5.89	0.71	8.35	5.83	0.85	6.87	5.71	0.99	5.77	5.80	1.18	4.90	5.24	1.23	4.25	5.68	1.53	3.71	5.30	1.57	3.37	4.06	1.36	2.98
20	5.58	0.48	11.7	5.47	0.57	9.58	5.89	0.75	7.85	5.64	0.87	6.46	5.67	1.02	5.55	5.47	1.19	4.59	5.04	1.23	4.11	4.95	1.30	3.80	/	/	/
25	5.06	0.38	13.2	5.70	0.56	10.2	5.81	0.63	9.25	5.31	0.74	7.15	5.27	0.87	6.03	5.31	1.08	4.91	4.80	1.09	4.39	5.06	1.16	4.34	/	/	/
30	/	/	/	5.49	0.49	11.2	5.24	0.54	9.73	4.96	0.57	8.70	5.60	0.80	7.00	4.98	0.91	5.47	4.55	0.91	5.00	5.49	1.09	5.04	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.22	0.75	5.62	/	/	/	/	/	/

Part load: 50%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	2.08	0.86	2.43	2.06	0.91	2.26	1.99	0.95	2.10	1.97	1.01	1.96	1.95	1.04	1.87	/	/	/	/	/	/	/	/	/	/	/	/	
-20	2.53	0.91	2.77	2.51	0.98	2.55	2.42	1.03	2.36	2.39	1.09	2.19	2.36	1.15	2.05	2.32	1.23	1.89	1.67	0.91	1.83	/	/	/	/	/	/	
-15	3.04	0.96	3.16	3.01	1.04	2.89	2.90	1.09	2.66	2.87	1.17	2.45	2.82	1.24	2.28	2.77	1.33	2.08	2.79	1.39	2.01	1.84	0.99	1.85	/	/	/	
-10	3.62	0.99	3.64	3.57	1.08	3.30	3.33	1.11	3.00	3.39	1.24	2.74	3.20	1.26	2.54	3.11	1.34	2.33	3.10	1.40	2.21	2.87	1.41	2.03	/	/	/	
-7	3.77	0.95	3.98	3.73	1.03	3.63	3.50	1.09	3.22	3.41	1.15	2.97	3.34	1.24	2.70	3.23	1.31	2.47	3.30	1.42	2.33	3.01	1.40	2.14	/	/	/	
-5	3.98	0.92	4.33	3.94	1.02	3.86	3.50	1.01	3.47	3.42	1.09	3.13	3.53	1.24	2.84	3.29	1.27	2.58	3.32	1.37	2.42	3.07	1.38	2.22	/	/	/	
-2	4.12	0.87	4.71	4.03	0.97	4.16	3.40	0.92	3.70	3.37	1.02	3.31	3.61	1.21	2.99	3.37	1.24	2.71	3.58	1.42	2.53	3.11	1.35	2.30	/	/	/	
0	4.12	0.83	4.98	4.04	0.93	4.36	3.57	0.92	3.86	3.48	1.01	3.44	3.77	1.22	3.09	3.53	1.27	2.78	3.72	1.44	2.58	3.12	1.35	2.32	/	/	/	
2	4.04	0.76	5.32	4.19	0.91	4.61	3.51	0.85	4.15	3.47	0.97	3.59	3.77	1.17	3.21	3.48	1.21	2.87	3.84	1.44	2.66	3.31	1.37	2.41	/	/	/	
5	4.23	0.66	6.45	4.19	0.76	5.51	3.78	0.80	4.76	3.99	0.95	4.18	4.22	1.14	3.70	3.90	1.19	3.29	3.55	1.25	2.84	3.68	1.35	2.73	2.75	1.14	2.42	
7	4.16	0.58	7.16	4.12	0.69	5.97	4.02	0.77	5.19	3.98	0.90	4.44	4.22	1.08	3.90	4.04	1.17	3.45	3.76	1.27	2.97	3.91	1.38	2.83	2.54	1.01	2.51	
10	4.03	0.48	8.47	3.93	0.57	6.83	4.19	0.73	5.72	4.11	0.84	4.89	4.26	1.00	4.24	3.96	1.11	3.57	3.82	1.13	3.38	4.01	1.33	3.01	2.76	1.05	2.64	
12	3.65	0.38	9.68	4.19	0.56	7.52	4.16	0.67	6.21	4.03	0.77	5.24	4.24	0.94	4.50	3.88	1.01	3.86	3.81	1.09	3.51	3.86	1.23	3.14	2.94	1.07	2.74	
15	3.95	0.37	10.6	3.81	0.42	8.98	3.76	0.52	7.18	3.69	0.62	5.92	4.24	0.85	4.98	3.83	0.89	4.28	3.99	1.07	3.73	3.72	1.10	3.37	3.19	1.09	2.94	
20	4.40	0.36	12.3	4.31	0.42	10.2	4.28	0.53	8.03	4.08	0.61	6.74	3.92	0.69	5.71	3.82	0.85	4.47	3.70	0.90	4.12	3.39	0.89	3.80	/	/	/	
25	5.06	0.38	13.2	5.03	0.46	10.9	4.82	0.54	8.96	4.39	0.59	7.41	4.17	0.67	6.19	4.16	0.83	5.00	3.80	0.86	4.42	3.79	0.87	4.34	/	/	/	
30	/	/	/	/	5.49	0.49	11.2	5.24	0.54	9.73	4.96	0.57	8.70	4.88	0.68	7.15	4.37	0.78	5.58	4.04	0.80	5.06	3.96	0.78	5.07	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.22	0.75	5.62	/	/	/	/	/	/	

Part load: 30%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	1.23	0.52	2.37	1.21	0.55	2.20	1.15	0.56	2.05	1.13	0.59	1.92	1.12	0.62	1.82	/	/	/	/	/	/	/	/	/	/	/	/	
-20	1.50	0.55	2.71	1.48	0.59	2.50	1.40	0.61	2.31	1.38	0.65	2.14	1.36	0.67	2.02	1.34	0.72	1.87	1.13	0.63	1.79	/	/	/	/	/	/	
-15	1.80	0.58	3.12	1.78	0.63	2.84	1.69	0.65	2.60	1.67	0.70	2.40	1.64	0.73	2.24	1.61	0.79	2.05	1.64	0.83	1.98	1.31	0.72	1.82	/	/	/	
-10	2.15	0.59	3.63	2.12	0.65	3.26	2.02	0.69	2.94	2.01	0.75	2.68	1.94	0.79	2.45	1.88	0.84	2.25	1.87	0.87	2.15	1.54	0.78	1.98	/	/	/	
-7	2.30	0.58	3.98	2.27	0.64	3.54	1.89	0.60	3.16	1.89	0.66	2.86	1.80	0.69	2.60	1.78	0.75	2.38	1.77	0.78	2.26	1.73	0.83	2.08	/	/	/	
-5	2.43	0.56	4.33	2.40	0.63	3.82	1.98	0.59	3.37	1.98	0.65	3.04	1.90	0.69	2.75	1.90	0.76	2.50	1.92	0.82	2.34	1.84	0.86	2.15	/	/	/	
-2	2.23	0.47	4.74	2.25	0.54	4.13	2.22	0.60	3.68	2.15	0.67	3.22	2.10	0.72	2.90	2.03	0.78	2.61	2.02	0.82	2.46	1.96	0.88	2.23	/	/	/	
0	2.33	0.46	5.03	2.35	0.54	4.34	2.32	0.60	3.85	2.23	0.67	3.34	2.13	0.71	2.99	2.11	0.79	2.68	2.10	0.84	2.50	2.04	0.90	2.27	/	/	/	
2	2.52	0.46	5.43	2.47	0.53	4.64	2.45	0.60	4.07	2.34	0.67	3.50	2.29	0.74	3.11	2.21	0.79	2.78	2.17	0.84	2.58	2.13	0.91	2.33	/	/	/	
5	2.86	0.43	6.63	2.65	0.50	5.30	2.76	0.58	4.74	2.72	0.66	4.13	2.71	0.74	3.64	2.61	0.81	3.22	2.54	0.88	2.89	2.50	0.94	2.65	2.43	1.01	2.40	
7	3.03	0.41	7.39	3.02	0.50	6.04	3.00	0.58	5.14	2.94	0.67	4.42	2.85	0.74	3.85	2.74	0.81	3.39	2.70	0.89	3.02	2.66	0.96	2.77	2.54	1.01	2.51	
10	3.38	0.38	8.94	3.35	0.48	6.98	3.27	0.57	5.77	3.19	0.65	4.88	3.12	0.74	4.21	2.87	0.82	3.52	2.92	0.90	3.24	2.90	0.98	2.96	2.76	1.05	2.64	
12	3.65	0.38	9.68	3.53	0.45	7.82	3.45	0.55	6.26	3.36	0.64	5.24	3.29	0.73	4.48	2.99	0.78	3.82	2.98	0.86	3.47	2.83	0.92	3.09	2.94	1.07	2.74	
15	3.95	0.37	10.6	3.81	0.42	8.98	3.76	0.52	7.18	3.69	0.62	5.92	3.56	0.71	5.00	3.20	0.75	4.27	3.06	0.82	3.71	2.95	0.88	3.34	3.19	1.09	2.94	
20	4.40	0.36	12.3	4.31	0.42	10.2	4.28	0.53	8.03	4.08	0.61	6.74	3.92	0.69	5.71	3.82	0.85	4.47	3.70	0.90	4.12	3.39	0.89	3.80	/	/	/	
25	5.06	0.38	13.2	5.03	0.46	10.9	4.82	0.54	8.96	4.39	0.59	7.41	4.17	0.67	6.19	4.16	0.83	5.00	3.80	0.86	4.42	3.79	0.87	4.34	/	/	/	
30	/	/	/	/	5.49	0.49	11.2	5.24	0.54	9.73	4.96	0.57	8.70	4.88	0.68	7.15	4.37	0.78	5.58	4.04	0.80	5.06	3.96	0.78	5.07	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.22	0.75	5.62	/	/	/	/	/	/	

Part load: Minimum

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	1.01	0.44	2.31	1.00	0.47	2.14	0.98	0.49	1.99	0.96	0.51	1.87	0.94	0.53	1.76	/	/	/	/	/	/	/	/	/	/	/	/	
-20	1.24	0.47	2.65	1.22	0.50	2.43	1.20	0.53	2.25	1.17	0.56	2.09	1.15	0.59	1.95	1.13	0.62	1.83	1.12	0.63	1.79	/	/	/	/	/	/	
-15	1.49	0.49	3.06	1.47	0.53	2.78	1.44	0.57	2.54	1.41	0.60	2.34	1.38	0.64	2.16	1.35	0.67	2.01	1.35	0.69	1.95	1.31	0.72	1.82	/	/	/	
-10	1.78	0.50	3.57	1.75	0.55	3.19	1.72	0.60	2.88	1.68	0.64	2.63	1.65	0.68	2.41	1.60	0.72	2.21	1.56	0.75	2.07	1.57	0.80	1.97	/	/	/	
-7	1.97	0.50	3.94	1.93	0.55	3.49	1.90	0.61	3.13	1.86	0.66	2.83	1.82	0.70	2.61	1.77	0.75	2.35	1.72	0.79	2.18	1.71	0.83	2.06	/	/	/	
-5	2.11	0.50	4.22	2.07	0.55	3.78	2.06	0.60	3.43	1.94	0.65	2.97	1.85	0.68	2.71	1.88	0.76	2.48	1.83	0.81	2.27	1.84	0.86	2.15	/	/	/	
-2	2.27	0.48	4.75	2.23	0.54	4.10	2.22	0.60	3.68	2.15	0.67	3.22	2.09	0.72	2.89	2.03	0.78	2.61	1.97	0.83	2.38	1.96	0.88	2.23	/	/	/	
0	2.37	0.47	5.03	2.32	0.54	4.32	2.32	0.60	3.85	2.23	0.67	3.34	2.17	0.73	2.98	2.11	0.79	2.68	2.05	0.84	2.44	2.04	0.90	2.27	/	/	/	
2	2.52	0.46	5.43	2.47	0.53	4.64	2.45	0.60	4.07	2.34	0.67	3.50	2.29	0.74	3.11	2.21	0.79	2.78	2.14	0.85	2.51	2.13	0.91	2.33	/	/	/	
5	2.86	0.43	6.63	2.65	0.50	5.30	2.76	0.58	4.74	2.72	0.66	4.13	2.71	0.74	3.64	2.61	0.81	3.22	2.54	0.88	2.89	2.50	0.94	2.65	2.43	1.01	2.40	
7	3.03	0.41	7.39	3.02	0.50	6.04	3.00	0.58	5.14	2.94	0.67	4.42	2.85	0.74	3.85	2.74	0.81	3.39	2.70	0.89	3.02	2.66	0.96	2.77	2.54	1.01	2.51	
10	3.38	0.38	8.94	3.35	0.48	6.98	3.27	0.57	5.77	3.19	0.65	4.88	3.12	0.74	4.21	2.87	0.82	3.52	2.92	0.90	3.24	2.90	0.98	2.96	2.76	1.05	2.64	
12	3.65	0.38	9.68	3.53	0.45	7.82	3.45	0.55	6.26	3.36	0.64	5.24	3.29	0.73	4.48	2.99	0.78	3.82	2.98	0.86	3.47	2.83	0.92	3.09	2.94	1.07	2.74	
15	3.95	0.37	10.6	3.81	0.42	8.98	3.76	0.52	7.18	3.69	0.62	5.92	3.56	0.71	5.00	3.20	0.75	4.27	3.06	0.82	3.71	2.95	0.88	3.34	3.19	1.09	2.94	
20	4.40	0.36	12.3	4.31	0.42	10.2	4.28	0.53	8.03	4.08	0.61	6.74	3.92	0.69	5.71	3.82	0.85	4.47	3.70	0.90	4.12	3.39	0.89	3.80	/	/	/	
25	5.06	0.38	13.2	5.03	0.46	10.9	4.82	0.54	8.96	4.39	0.59	7.41	4.17	0.67	6.19	4.16	0.83	5.00	3.80	0.86	4.42	3.79	0.87	4.34	/	/	/	
30	/	/	/	/	5.49	0.49	11.2	5.24	0.54	9.73	4.96	0.57	8.70	4.88	0.68	7.15	4.37	0.78	5.58	4.04	0.80	5.06	3.96	0.78	5.07	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.22	0.75	5.62	/	/	/	/	/	/	

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

HC: Total heating capacity (kW)

PI: Power input (kW)

MHC-V9WD2N8-C

Part load: Maximum

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	4.40	1.86	2.36	4.37	1.98	2.21	4.41	2.15	2.05	4.37	2.28	1.92	2.97	1.72	1.73	/	/	/	/	/	/	/	/	/	/	/	/	
-20	5.34	2.04	2.62	5.30	2.17	2.44	5.33	2.35	2.27	5.28	2.50	2.11	5.22	2.66	1.96	5.15	2.83	1.82	3.44	2.01	1.71	/	/	/	/	/	/	
-15	6.61	2.27	2.91	6.55	2.43	2.70	6.48	2.59	2.50	6.41	2.76	2.32	6.33	2.96	2.14	6.23	3.13	1.99	6.12	3.24	1.89	3.69	2.11	1.75	/	/	/	
-10	7.84	2.40	3.27	7.76	2.57	3.02	7.68	2.76	2.78	7.58	2.96	2.56	7.47	3.28	2.28	7.29	3.34	2.18	6.92	3.43	2.02	6.48	3.34	1.94	/	/	/	
-7	8.65	2.45	3.53	8.50	2.62	3.25	8.40	2.82	2.98	8.29	3.04	2.73	8.16	3.50	2.33	7.89	3.42	2.31	7.41	3.67	2.02	6.98	3.40	2.05	/	/	/	
-5	8.94	2.38	3.75	8.92	2.61	3.42	8.98	2.81	3.20	8.43	2.98	2.83	8.47	3.22	2.63	8.04	3.31	2.43	7.60	3.39	2.24	7.14	3.35	2.13	/	/	/	
-2	9.47	2.34	4.05	9.36	2.56	3.66	9.42	2.77	3.40	9.02	2.97	3.04	8.95	3.23	2.77	8.40	3.29	2.55	7.92	3.38	2.34	7.34	3.31	2.22	/	/	/	
0	9.69	2.30	4.22	9.58	2.51	3.82	9.63	2.73	3.53	9.22	2.93	3.15	9.13	3.20	2.85	8.56	3.27	2.62	8.07	3.36	2.40	7.45	3.28	2.27	/	/	/	
2	10.1	2.26	4.48	10.0	2.47	4.05	9.94	2.75	3.62	9.51	2.90	3.28	9.42	3.25	2.90	8.90	3.28	2.71	8.47	3.27	2.59	7.63	3.26	2.34	/	/	/	
5	11.0	2.15	5.13	10.3	2.34	4.41	10.8	2.61	4.15	10.8	2.87	3.75	10.7	3.15	3.39	10.3	3.34	3.07	9.55	3.42	2.79	8.66	3.32	2.61	5.75	2.46	2.34	
7	11.4	2.03	5.61	11.3	2.27	4.97	11.2	2.51	4.45	11.0	2.78	3.99	10.9	3.04	3.58	10.5	3.25	3.22	9.69	3.25	2.98	9.04	3.30	2.74	5.60	2.30	2.43	
10	11.8	1.84	6.43	11.7	2.08	5.62	11.5	2.32	4.94	11.3	2.58	4.37	11.0	2.84	3.89	10.1	3.01	3.35	9.57	3.03	3.16	8.87	3.01	2.95	5.85	2.28	2.57	
12	12.0	1.69	7.09	11.8	1.94	6.11	11.6	2.18	5.33	11.4	2.44	4.68	11.2	2.70	4.13	10.2	2.83	3.62	9.50	2.81	3.38	8.70	2.82	3.09	5.92	2.21	2.68	
15	12.0	1.46	8.21	11.8	1.69	6.95	11.6	1.94	5.96	11.4	2.20	5.17	11.1	2.46	4.52	10.1	2.52	3.99	9.45	2.66	3.55	8.45	2.56	3.30	6.09	2.14	2.84	
20	11.9	1.32	9.01	11.7	1.55	7.52	11.5	1.71	6.69	11.0	1.91	5.75	10.7	2.08	5.12	10.2	2.36	4.34	9.58	2.41	3.97	8.68	2.33	3.73	/	/	/	
25	10.7	1.03	10.4	10.5	1.27	8.32	10.3	1.40	7.39	9.45	1.51	6.26	8.95	1.62	5.54	8.95	1.92	4.65	8.22	1.94	4.23	7.85	1.95	4.03	/	/	/	
30	/	/	/	/	11.8	1.31	9.05	11.3	1.40	8.04	10.7	1.58	6.81	10.4	1.74	5.96	9.31	1.89	4.93	8.61	1.85	4.66	7.32	1.67	4.38	/	/	/
35	/	/	/	/	/	/	/	12.4	1.41	8.79	11.6	1.58	7.34	11.1	1.74	6.37	9.76	1.86	5.24	8.93	1.80	4.95	/	/	/	/	/	/

Part load: 130%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	4.40	1.86	2.36	4.37	1.98	2.21	4.41	2.15	2.05	4.37	2.28	1.92	2.97	1.72	1.73	/	/	/	/	/	/	/	/	/	/	/	/	
-20	5.34	2.04	2.62	5.30	2.17	2.44	5.33	2.35	2.27	5.28	2.50	2.11	5.22	2.66	1.96	5.15	2.83	1.82	3.44	2.01	1.71	/	/	/	/	/	/	
-15	6.61	2.27	2.91	6.55	2.43	2.70	6.48	2.59	2.50	6.41	2.76	2.32	6.33	2.96	2.14	6.23	3.13	1.99	6.12	3.24	1.89	3.69	2.11	1.75	/	/	/	
-10	7.84	2.40	3.27	7.76	2.57	3.02	7.68	2.76	2.78	7.58	2.96	2.56	7.47	3.28	2.28	7.29	3.34	2.18	6.92	3.43	2.02	6.48	3.34	1.94	/	/	/	
-7	8.65	2.45	3.53	8.50	2.62	3.25	8.40	2.82	2.98	8.29	3.04	2.73	8.16	3.50	2.33	7.89	3.42	2.31	7.41	3.67	2.02	6.98	3.40	2.05	/	/	/	
-5	8.94	2.38	3.75	8.92	2.61	3.42	8.98	2.81	3.20	8.43	2.98	2.83	8.47	3.22	2.63	8.04	3.31	2.43	7.60	3.39	2.24	7.14	3.35	2.13	/	/	/	
-2	9.47	2.34	4.05	9.36	2.56	3.66	9.42	2.77	3.40	9.02	2.97	3.04	8.95	3.23	2.77	8.40	3.29	2.55	7.92	3.38	2.34	7.34	3.31	2.22	/	/	/	
0	9.69	2.30	4.22	9.58	2.51	3.82	9.63	2.73	3.53	9.22	2.93	3.15	9.13	3.20	2.85	8.56	3.27	2.62	8.07	3.36	2.40	7.45	3.28	2.27	/	/	/	
2	10.1	2.26	4.48	10.0	2.47	4.05	9.94	2.75	3.62	9.51	2.90	3.28	9.42	3.25	2.90	8.90	3.28	2.71	8.47	3.27	2.59	7.63	3.26	2.34	/	/	/	
5	11.0	2.15	5.13	10.3	2.34	4.41	10.8	2.61	4.15	10.8	2.87	3.75	10.7	3.15	3.39	10.3	3.34	3.07	9.55	3.42	2.79	8.66	3.32	2.61	5.75	2.46	2.34	
7	11.4	2.03	5.61	11.3	2.27	4.97	11.2	2.51	4.45	11.1	2.78	3.99	10.9	3.04	3.58	10.5	3.25	3.22	9.69	3.25	2.98	9.04	3.30	2.74	5.60	2.30	2.43	
10	11.8	1.84	6.43	11.7	2.08	5.62	11.5	2.32	4.94	11.3	2.58	4.37	11.0	2.84	3.89	10.1	3.01	3.35	9.57	3.03	3.16	8.87	3.01	2.95	5.85	2.28	2.57	
12	12.0	1.69	7.09	11.8	1.94	6.11	11.6	2.18	5.33	11.4	2.44	4.68	11.2	2.70	4.13	10.2	2.83	3.62	9.50	2.81	3.38	8.70	2.82	3.09	5.92	2.21	2.68	
15	12.0	1.46	8.21	11.8	1.69	6.95	11.6	1.94	5.96	11.4	2.20	5.17	11.1	2.46	4.52	10.1	2.52	3.99	9.45	2.66	3.55	8.45	2.56	3.30	6.09	2.14	2.84	
20	11.9	1.32	9.01	11.7	1.55	7.52	11.5	1.71	6.69	11.0	1.91	5.75	10.7	2.08	5.12	10.2	2.36	4.34	9.58	2.41	3.97	8.68	2.33	3.73	/	/	/	
25	10.7	1.03	10.4	10.5	1.27	8.32	10.3	1.40	7.39	9.45	1.51	6.26	8.95	1.62	5.54	8.95	1.92	4.65	8.22	1.94	4.23	7.85	1.95	4.03	/	/	/	
30	/	/	/	/	11.8	1.31	9.05	11.3	1.40	8.04	10.7	1.58	6.81	10.4	1.74	5.96	9.31	1.89	4.93	8.61	1.85	4.66	7.32	1.67	4.38	/	/	/
35	/	/	/	/	/	/	12.4	1.41	8.79	11.6	1.58	7.34	11.1	1.74	6.37	9.76	1.86	5.24	8.93	1.80	4.95	/	/	/	/	/	/	

Part load: 100%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	4.40	1.86	2.36	4.37	1.98	2.21	4.41	2.15	2.05	4.37	2.28	1.92	2.97	1.72	1.73	/	/	/	/	/	/	/	/	/	/	/	/	
-20	5.34	2.04	2.62	5.30	2.17	2.44	5.33	2.35	2.27	5.28	2.50	2.11	5.22	2.66	1.96	5.15	2.83	1.82	3.44	2.01	1.71	/	/	/	/	/	/	
-15	6.61	2.27	2.91	6.55	2.43	2.70	6.48	2.59	2.50	6.41	2.76	2.32	6.33	2.96	2.14	6.23	3.13	1.99	6.12	3.24	1.89	3.69	2.11	1.75	/	/	/	
-10	7.84	2.40	3.27	7.76	2.57	3.02	7.68	2.76	2.78	7.58	2.96	2.56	6.99	2.99	2.34	7.11	3.25	2.19	6.92	3.43	2.02	6.48	3.34	1.94	/	/	/	
-7	8.65	2.45	3.53	8.50	2.62	3.25	8.00	2.67	3.00	7.81	2.81	2.78	7.40	3.08	2.40	7.43	3.18	2.34	7.20	3.51	2.05	6.98	3.40	2.05	/	/	/	
-5	8.94	2.38	3.75	8.92	2.61	3.42	8.31	2.54	3.27	7.73	2.67	2.90	7.55	2.80	2.70	7.61	3.09	2.46	7.40	3.29	2.25	7.14	3.35	2.13	/	/	/	
-2	9.47	2.34	4.05	9.36	2.56	3.66	8.36	2.38	3.51	8.00	2.56	3.13	7.86	2.77	2.84	7.85	3.04	2.58	7.77	3.31	2.35	7.34	3.31	2.22	/	/	/	
0	9.69	2.30	4.22	9.58	2.51	3.82	8.44	2.31	3.65	8.15	2.52	3.23	8.17	2.80	2.92	8.16	3.08	2.65	7.91	3.28	2.41	7.45	3.28	2.27	/	/	/	
2	10.1	2.26	4.48	10.0	2.47	4.05	8.20	2.16	3.80	8.56	2.55	3.36	8.50	2.88	2.95	8.39	3.06	2.74	8.40	3.17	2.65	7.63	3.26	2.34	/	/	/	
5	10.2	1.94	5.28	9.95	2.23	4.46	9.56	2.24	4.27	9.34	2.42	3.86	10.0	2.92	3.42	9.46	3.04	3.11	9.13	3.26	2.80	8.66	3.32	2.61	5.75	2.46	2.34	
7	10.3	1.76	5.85	10.2	1.98	5.14	10.0	2.13	4.70	9.92	2.43	4.08	10.2	2.79	3.65	9.83	3.02	3.25	9.40	3.03	3.10	9.04	3.30	2.74	5.60	2.30	2.43	
10	10.3	1.51	6.86	10.2	1.72	5.92	10.0	1.94	5.16	10.1	2.23	4.51	10.3	2.62	3.95	9.63	2.85	3.38	9.57	3.03	3.16	8.87	3.01	2.95	5.85	2.28	2.57	
12	10.1	1.31	7.76	10.2	1.57	6.50	10.1	1.79	5.60	10.1	2.09	4.84	10.4	2.47	4.21	9.31	2.52	3.69	9.50	2.81	3.38	8.64	2.80	3.09	5.92	2.21	2.68	
15	10.2	1.18	8.65	10.1	1.35	7.49	10.2	1.62	6.29	9.98	1.85	5.40	10.3	2.23	4.62	9.08	2.22	4.09	9.45	2.66	3.55	7.33	2.21	3.32	6.09	2.14	2.84	
20	9.82	0.99	9.88	10.3	1.22	8.48	10.2	1.46	6.93	9.77	1.65	5.91	10.1	1.95	5.17	9.96	2.28	4.36	9.58	2.41	3.97	8.68	2.33	3.73	/	/	/	
25	10.3	0.94	11.0	10.1	1.10	9.21	9.93	1.32	7.50	9.45	1.51	6.26	8.95	1.62	5.54	8.95	1.92	4.65	8.22	1.94	4.23	7.85	1.95	4.03	/	/	/	
30	/	/	/	/	10.1	1.06	9.49	10.0	1.17	8.60	9.52	1.33	7.14	9.58	1.57	6.10	8.61	1.72	5.02	8.61	1.85	4.66	7.32	1.67	4.38	/	/	/
35	/	/	/	/	/	/	/	9.59	1.04	9.22	9.41	1.16	8.08	8.98	1.29	6.94	8.29	1.50	5.51	8.93	1.80	4.95	/	/	/	/	/	/

Part load: 90%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	3.95	1.65	2.39	3.92	1.75	2.24	3.91	1.87	2.09	3.88	2.00	1.94	2.80	1.53	1.83	/	/	/	/	/	/	/	/	/	/	/	/	
-20	4.73	1.77	2.68	4.75	1.90	2.50	4.73	2.04	2.32	4.68	2.18	2.15	4.68	2.35	1.99	4.61	2.49	1.85	3.24	1.78	1.82	/	/	/	/	/	/	
-15	5.93	1.98	2.99	5.87	2.11	2.78	5.81	2.26	2.57	5.74	2.41	2.38	5.67	2.59	2.19	5.59	2.75	2.03	5.49	2.84	1.93	3.43	1.84	1.86	/	/	/	
-10	7.03	2.08	3.38	6.96	2.24	3.11	6.88	2.40	2.87	6.80	2.59	2.63	6.27	2.57	2.44	6.37	2.84	2.24	6.20	3.01	2.06	5.74	2.93	1.96	/	/	/	
-7	7.76	2.13	3.65	7.62	2.27	3.35	7.53	2.45	3.07	7.01	2.47	2.84	6.64	2.54	2.61	6.58	2.76	2.38	6.27	2.86	2.19	6.18	2.99	2.07	/	/	/	
-5	8.02	2.07	3.88	8.00	2.26	3.54	7.36	2.20	3.34	6.84	2.33	2.94	6.68	2.44	2.74	6.84	2.75	2.49	6.55	2.87	2.28	6.40	2.96	2.16	/	/	/	
-2	8.50	2.03	4.19	8.40	2.22	3.78	7.40	2.07	3.58	7.18	2.26	3.18	7.05	2.44	2.89	6.96	2.66	2.62	6.97	2.93	2.38	6.58	2.92	2.25	/	/	/	
0	8.70	1.99	4.37	8.59	2.18	3.94	7.58	2.03	3.73	7.31	2.22	3.29	7.33	2.47	2.97	7.23	2.69	2.69	7.10	2.91	2.44	6.59	2.85	2.31	/	/	/	
2	9.08	1.96	4.64	8.97	2.15	4.18	7.70	1.97	3.90	7.68	2.25	3.42	7.66	2.50	3.07	7.44	2.68	2.78	7.21	2.66	2.71	6.75	2.85	2.37	/	/	/	
5	9.05	1.66	5.47	8.94	1.95	4.59	8.46	1.93	4.39	8.39	2.12	3.95	8.97	2.56	3.50	8.38	2.65	3.16	8.07	2.83	2.85	7.65	2.88	2.66	5.43	2.20	2.47	
7	9.10	1.50	6.08	9.01	1.70	5.31	8.91	1.88	4.73	8.78	2.09	4.19	9.28	2.52	3.68	8.71	2.63	3.31	8.15	2.59	3.14	7.99	2.86	2.79	5.17	2.02	2.56	
10	9.29	1.28	7.24	9.15	1.48	6.17	8.99	1.68	5.34	9.04	1.95	4.64	9.14	2.26	4.05	8.51	2.47	3.45	8.59	2.67	3.22	7.96	2.65	3.00	5.40	1.99	2.71	
12	8.93	1.11	8.04	9.19	1.37	6.72	9.03	1.57	5.75	9.08	1.83	4.97	9.33	2.16	4.32	8.36	2.21	3.78	8.53	2.47	3.45	7.71	2.46	3.13	5.46	1.93	2.82	
15	8.66	0.95	9.14	8.52	1.11	7.67	8.98	1.40	6.41	8.80	1.61	5.48	9.10	1.93	4.72	8.00	1.93	4.14	8.16	2.26	3.61	6.59	1.98	3.33	5.76	1.93	2.99	
20	8.63	0.84	10.2	9.09	1.05	8.66	9.12	1.28	7.13	8.77	1.45	6.04	8.85	1.68	5.27	8.40	1.90	4.42	8.43	2.11	4.00	7.40	1.97	3.76	/	/	/	
25	9.05	0.77	11.7	8.89	0.94	9.47	8.70	1.14	7.63	8.29	1.31	6.33	7.85	1.41	5.58	7.85	1.68	4.67	7.21	1.70	4.24	5.72	1.35	4.24	/	/	/	
30	/	/	/	/	9.05	0.90	10.1	9.02	1.02	8.83	8.57	1.18	7.26	8.62	1.40	6.16	7.74	1.53	5.05	7.27	1.54	4.71	5.66	1.20	4.73	/	/	/
35	/	/	/	/	/	/	8.61	0.87	9.93	8.46	1.01	8.34	8.07	1.11	7.24	7.44	1.31	5.68	6.80	1.30	5.25	/	/	/	/	/	/	/

Part load: 70%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	3.00	1.23	2.45	2.97	1.30	2.28	3.04	1.43	2.12	3.01	1.53	1.97	2.10	1.15	1.83	/	/	/	/	/	/	/	/	/	/	/	/	
-20	3.64	1.32	2.77	3.61	1.41	2.56	3.69	1.56	2.37	3.65	1.67	2.19	3.60	1.77	2.03	3.50	1.86	1.88	2.44	1.34	1.82	/	/	/	/	/	/	
-15	4.51	1.45	3.12	4.46	1.55	2.87	4.42	1.67	2.65	4.36	1.79	2.44	4.37	1.94	2.25	4.31	2.07	2.08	4.17	2.10	1.98	2.69	1.45	1.86	/	/	/	
-10	5.35	1.50	3.56	5.30	1.63	3.25	5.23	1.76	2.97	5.17	1.90	2.72	4.76	1.90	2.51	4.83	2.10	2.30	4.71	2.22	2.12	4.41	2.18	2.02	/	/	/	
-7	5.91	1.53	3.87	5.89	1.68	3.51	5.73	1.79	3.20	5.32	1.82	2.93	5.10	1.89	2.70	5.14	2.10	2.45	4.90	2.17	2.26	4.75	2.23	2.13	/	/	/	
-5	6.10	1.48	4.12	6.08	1.64	3.72	5.76	1.66	3.47	5.27	1.73	3.04	5.23	1.85	2.83	5.28	2.05	2.57	5.03	2.14	2.35	4.85	2.19	2.22	/	/	/	
-2	6.47	1.44	4.49	6.39	1.60	3.99	5.80	1.55	3.73	5.56	1.69	3.29	5.45	1.83	2.98	5.35	1.98	2.70	5.39	2.19	2.46	4.99	2.16	2.31	/	/	/	
0	6.73	1.43	4.70	6.65	1.59	4.18	5.87	1.51	3.88	5.66	1.66	3.41	5.67	1.85	3.07	5.56	2.01	2.77	5.39	2.14	2.52	5.06	2.15	2.36	/	/	/	
2	6.91	1.37	5.03	6.83	1.53	4.46	5.93	1.46	4.07	5.94	1.67	3.55	5.93	1.86	3.18	5.82	2.03	2.87	5.65	2.05	2.76	5.29	2.19	2.42	/	/	/	
5	7.11	1.20	5.92	6.79	1.38	4.93	6.25	1.36	4.59	6.11	1.50	4.08	6.80	1.87	3.64	6.45	1.98	3.26	6.21	2.12	2.93	5.66	2.09	2.71	4.08	1.65	2.47	
7	6.87	1.05	6.53	6.80	1.21	5.61	7.01	1.42	4.94	6.61	1.52	4.34	7.18	1.87	3.83	6.70	1.96	3.42	6.27	1.97	3.19	6.02	2.12	2.84	4.09	1.60	2.56	
10	7.04	0.92	7.64	6.93	1.08	6.42	6.81	1.24	5.50	7.00	1.47	4.76	7.03	1.69	4.17	6.54	1.85	3.54	6.65	2.03	3.28	6.16	2.04	3.02	4.13	1.53	2.70	
12	6.88	0.81	8.53	6.96	0.99	7.00	6.99	1.18	5.93	7.03	1.38	5.09	7.22	1.63	4.42	6.33	1.65	3.83	6.46	1.85	3.50	6.08	1.93	3.15	4.33	1.54	2.81	
15	6.95	0.73	9.56	6.84	0.85	8.08	7.09	1.06	6.66	6.95	1.23	5.64	7.00	1.45	4.83	6.31	1.50	4.21	6.41	1.74	3.69	6.22	1.85	3.36	4.30	1.44	2.99	
20	6.64	0.58	11.5	6.99	0.75	9.34	6.87	0.91	7.51	6.61	1.06	6.26	6.81	1.26	5.42	6.74	1.49	4.52	6.49	1.60	4.06	6.15	1.62	3.79	/	/	/	
25	6.95	0.56	12.3	6.82	0.68	10.0	6.68	0.79	8.42	6.37	0.94	6.78	6.03	1.03	5.86	6.03	1.25	4.84	5.54	1.27	4.35	5.23	1.21	4.32	/	/	/	
30	/	/	/	/	6.73	0.63	10.7	6.73	0.71	9.44	6.38	0.79	8.04	0.67	1.01	6.61	5.99	1.13	5.30	5.77	1.18	4.88	4.77	0.95	5.03	/	/	/
35	/	/	/	/	/	/	6.68	0.63	10.6	6.56	0.73	9.04	6.25	0.80	7.82	5.54	0.93	5.96	5.27	0.97	5.42	/	/	/	/	/	/	/

Part load: 50%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	2.15	0.88	2.43	2.13	0.94	2.26	2.10	1.00	2.11	2.08	1.06	1.96	1.52	0.84	1.80	/	/	/	/	/	/	/	/	/	/	/	/
-20	2.62	0.95	2.77	2.59	1.01	2.56	2.55	1.08	2.37	2.52	1.15	2.19	2.48	1.22	2.04	2.45	1.30	1.89	1.76	0.96	1.83	/	/	/	/	/	/
-15	3.17	1.00	3.17	3.21	1.11	2.90	3.17	1.19	2.66	3.13	1.28	2.45	3.09	1.37	2.26	3.04	1.45	2.09	2.99	1.49	2.01	1.83	0.99	1.85	/	/	/
-10	3.76	1.03	3.64	3.81	1.15	3.30	3.77	1.25	3.01	3.71	1.35	2.75	3.34	1.33	2.51	3.40	1.47	2.31	3.30	1.54	2.14	3.17	1.56	2.03	/	/	/
-7	4.17	1.05	3.98	4.09	1.14	3.58	4.03	1.24	3.24	3.75	1.28	2.94	3.68	1.35	2.72	3.64	1.49	2.45	3.39	1.50	2.26	3.34	1.56	2.14	/	/	/
-5	4.40	1.04	4.23	4.29	1.12	3.83	3.99	1.13	3.52	3.71	1.20	3.09	3.71	1.31	2.84	3.65	1.41	2.59	3.53	1.50	2.35	3.41	1.54	2.22	/	/	/
-2	4.56	0.97	4.68	4.50	1.09	4.12	4.01	1.06	3.78	3.94	1.19	3.32	3.87	1.29	3.00	3.76	1.39	2.71	3.81	1.54	2.47	3.60	1.56	2.31	/	/	/
0	4.67	0.95	4.90	4.61	1.06	4.34	4.06	1.03	3.94	3.91	1.14	3.44	4.02	1.30	3.09	3.91	1.40	2.79	3.78	1.49	2.53	3.56	1.51	2.36	/	/	/
2	4.99	0.95	5.27	4.93	1.06	4.63	4.29	1.04	4.13	4.11	1.14	3.59	4.21	1.31	3.21	4.02	1.40	2.88	4.00	1.43	2.80	3.75	1.55	2.42	/	/	/
5	4.91	0.94	5.25	4.78	0.93	5.13	4.59	0.98	4.70	4.48	1.08	4.15	4.92	1.33	3.69	4.53	1.38	3.29	4.37	1.48	2.95	4.14	1.52	2.72	4.65	1.17	3.96
7	5.09	0.74	6.87	4.90	0.84	5.84	4.98	0.98	5.08	4.76	1.08	4.42	4.96	1.28	3.89	4.72	1.37	3.45	4.40	1.43	3.08	4.45	1.57	2.84	4.74	1.15	4.11
10	4.95	0.61	8.17	4.88	0.73	6.72	4.79	0.84	5.67	4.98	1.02	4.87	5.10	1.21	4.23	4.75	1.33	3.57	4.57	1.38	3.30	4.23	1.40	3.02	4.53	1.04	4.36
12	5.02	0.54	9.22	4.90	0.66	7.39	4.80	0.78	6.14	5.00	0.96	5.21	5.13	1.14	4.49	4.44	1.15	3.87	4.78	1.35	3.53	4.49	1.43	3.15	4.83	1.06	4.54
15	5.07	0.49	10.3	4.81	0.55	8.72	5.04	0.72	7.01	4.93	0.84	5.84	4.91	0.99	4.95	4.33	1.01	4.28	4.40	1.18	3.72	4.52	1.34	3.37	3.17	1.08	2.94
20	4.44	0.37	12.0	5.12	0.54	9.57	5.02	0.65	7.71	4.83	0.73	6.60	4.97	0.88	5.62	4.73	1.02	4.63	4.73	1.15	4.12	4.35	1.04	4.20	/	/	/
25	5.06	0.38	13.2	5.03	0.46	10.9	4.82	0.54	8.96	4.46	0.61	7.29	4.22	0.69	6.13	4.22	0.85	4.97	4.34	0.98	4.41	3.68	0.85	4.33	/	/	/
30	/	/	/	5.64	0.48	11.8	5.35	0.55	9.75	5.09	0.57	8.96	4.88	0.68	7.15	4.37	0.78	5.58	4.09	0.81	5.05	3.96	0.78	5.07	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.22	0.75	5.62	/	/	/	/	/	/

Part load: 30%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	1.22	0.51	2.39	1.21	0.55	2.21	1.26	0.61	2.06	1.25	0.65	1.93	0.94	0.53	1.76	/	/	/	/	/	/	/	/	/	/	/	/	
-20	1.49	0.54	2.74	1.47	0.59	2.51	1.54	0.66	2.32	1.52	0.71	2.15	1.50	0.75	2.01	1.47	0.79	1.87	1.12	0.63	1.79	/	/	/	/	/	/	
-15	1.92	0.61	3.16	1.90	0.66	2.86	1.88	0.72	2.62	1.85	0.77	2.41	1.76	0.79	2.23	1.73	0.84	2.06	1.76	0.89	1.98	1.31	0.72	1.82	/	/	/	
-10	2.29	0.63	3.66	2.26	0.69	3.28	2.23	0.75	2.97	2.20	0.81	2.71	1.95	0.79	2.46	2.06	0.91	2.27	2.00	0.95	2.11	1.87	0.94	1.99	/	/	/	
-7	2.53	0.63	4.03	2.48	0.69	3.57	2.45	0.76	3.21	2.19	0.76	2.89	2.18	0.82	2.66	2.16	0.90	2.40	2.05	0.92	2.22	2.02	0.97	2.09	/	/	/	
-5	2.52	0.58	4.30	2.61	0.68	3.84	2.43	0.70	3.48	2.26	0.75	3.02	2.20	0.79	2.77	2.21	0.88	2.52	2.14	0.93	2.30	2.07	0.95	2.17	/	/	/	
-2	2.67	0.56	4.77	2.63	0.63	4.15	2.23	0.60	3.71	2.13	0.66	3.24	2.08	0.72	2.91	2.29	0.87	2.64	2.26	0.94	2.41	1.94	0.86	2.25	/	/	/	
0	2.85	0.57	5.04	2.81	0.64	4.36	2.36	0.61	3.87	2.17	0.65	3.36	2.17	0.72	3.01	2.38	0.88	2.71	2.30	0.93	2.46	2.07	0.90	2.29	/	/	/	
2	2.98	0.55	5.40	2.94	0.63	4.67	2.43	0.60	4.08	2.28	0.65	3.52	2.27	0.73	3.13	2.23	0.79	2.81	2.15	0.85	2.53	2.11	0.90	2.34	/	/	/	
5	2.87	0.43	6.60	2.66	0.50	5.29	2.76	0.58	4.74	2.74	0.66	4.13	2.65	0.73	3.66	2.64	0.81	3.24	2.53	0.87	2.90	2.52	0.95	2.65	2.43	1.01	2.40	
7	3.03	0.41	7.39	3.02	0.50	6.04	3.00	0.58	5.14	2.94	0.67	4.42	2.89	0.75	3.86	2.74	0.81	3.40	2.70	0.89	3.02	2.66	0.96	2.77	2.58	1.04	2.49	
10	3.38	0.38	8.94	3.35	0.48	6.98	3.27	0.57	5.77	3.19	0.65	4.88	3.12	0.74	4.21	2.87	0.82	3.52	2.92	0.90	3.24	2.90	0.98	2.96	4.53	1.04	4.36	
12	3.59	0.36	10.1	3.53	0.45	7.82	3.45	0.55	6.26	3.36	0.64	5.24	3.29	0.73	4.48	2.99	0.78	3.82	2.98	0.86	3.47	2.83	0.92	3.09	4.83	1.06	4.54	
15	3.92	0.36	11.0	3.83	0.45	8.51	3.73	0.51	7.26	3.67	0.62	5.94	3.56	0.71	5.00	3.20	0.75	4.27	3.06	0.82	3.71	2.95	0.88	3.34	3.17	1.08	2.94	
20	4.44	0.37	12.0	4.31	0.42	10.2	4.28	0.53	8.03	4.08	0.61	6.74	3.92	0.69	5.71	3.74	0.80	4.67	3.73	0.91	4.12	3.58	0.94	3.79	/	/	/	
25	5.06	0.38	13.2	5.03	0.46	10.9	4.82	0.54	8.96	4.46	0.61	7.29	4.22	0.69	6.13	4.22	0.85	4.97	4.34	0.98	4.41	3.68	0.85	4.33	/	/	/	
30	/	/	/	/	5.64	0.48	11.8	5.35	0.55	9.75	5.09	0.57	8.96	4.88	0.68	7.15	4.37	0.78	5.58	4.09	0.81	5.05	3.96	0.78	5.07	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.22	0.75	5.62	/	/	/	/	/	/	/

Part load: Minimum

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	1.01	0.44	2.31	1.00	0.47	2.14	0.98	0.49	1.99	0.96	0.51	1.87	0.94	0.53	1.76	/	/	/	/	/	/	/	/	/	/	/	/
-20	1.24	0.47	2.65	1.22	0.50	2.43	1.20	0.53	2.25	1.17	0.56	2.09	1.15	0.59	1.95	1.13	0.62	1.83	1.12	0.63	1.79	/	/	/	/	/	/
-15	1.49	0.49	3.06	1.47	0.53	2.78	1.44	0.57	2.54	1.41	0.60	2.34	1.38	0.64	2.16	1.35	0.67	2.01	1.35	0.69	1.95	1.31	0.72	1.82	/	/	/
-10	1.78	0.50	3.57	1.75	0.55	3.19	1.72	0.60	2.88	1.68	0.64	2.63	1.65	0.68	2.41	1.60	0.72	2.21	1.56	0.75	2.07	1.57	0.80	1.97	/	/	/
-7	1.97	0.50	3.94	1.93	0.55	3.49	1.90	0.61	3.13	1.86	0.66	2.83	1.82	0.70	2.61	1.77	0.75	2.35	1.72	0.79	2.18	1.71	0.83	2.06	/	/	/
-5	2.11	0.50	4.22	2.07	0.55	3.78	2.06	0.60	3.43	1.94	0.65	2.97	1.85	0.68	2.71	1.88	0.76	2.48	1.83	0.81	2.27	1.84	0.86	2.15	/	/	/
-2	2.27	0.48	4.75	2.23	0.54	4.10	2.23	0.60	3.71	2.13	0.66	3.24	2.08	0.72	2.91	2.03	0.78	2.61	1.97	0.83	2.38	1.94	0.86	2.25	/	/	/
0	2.37	0.47	5.03	2.32	0.54	4.32	2.36	0.61	3.87	2.17	0.65	3.36	2.17	0.72	3.01	2.11	0.79	2.68	2.05	0.84	2.44	2.07	0.90	2.29	/	/	/
2	2.52	0.46	5.43	2.47	0.53	4.64	2.43	0.60	4.08	2.28	0.65	3.52	2.27	0.73	3.13	2.23	0.79	2.81	2.15	0.85	2.53	2.11	0.90	2.34	/	/	/
5	2.86	0.43	6.63	2.66	0.50	5.29	2.76	0.58	4.74	2.74	0.66	4.13	2.65	0.73	3.66	2.64	0.81	3.24	2.53	0.87	2.90	2.52	0.95	2.65	2.43	1.01	2.40
7	3.03	0.41	7.39	3.02	0.50	6.04	3.00	0.58	5.14	2.94	0.67	4.42	2.89	0.75	3.86	2.74	0.81	3.40	2.70	0.89	3.02	2.66	0.96	2.77	2.58	1.04	2.49
10	3.38	0.38	8.94	3.35	0.48	6.98	3.27	0.57	5.77	3.19	0.65	4.88	3.12	0.74	4.21	2.87	0.82	3.52	2.92	0.90	3.24	2.90	0.98	2.96	4.53	1.04	4.36
12	3.59	0.36	10.1	3.53	0.45	7.82	3.45	0.55	6.26	3.36	0.64	5.24	3.29	0.73	4.48	2.99	0.78	3.82	2.98	0.86	3.47	2.83	0.92	3.09	4.83	1.06	4.54
15	3.92	0.36	11.0	3.83	0.45	8.51	3.73	0.51	7.26	3.67	0.62	5.94	3.56	0.71	5.00	3.20	0.75	4.27	3.06	0.82	3.71	2.95	0.88	3.34	3.17	1.08	2.94
20	4.44	0.37	12.0	4.31	0.42	10.2	4.28	0.53	8.03	4.08	0.61	6.74	3.92	0.69	5.71	3.74	0.80	4.67	3.73	0.91	4.12	3.58	0.94	3.79	/	/	/
25	5.06	0.38	13.2	5.03	0.46	10.9	4.82	0.54	8.96	4.46	0.61	7.29	4.22	0.69	6.13	4.22	0.85	4.97	4.34	0.98	4.41	3.68	0.85	4.33	/	/	/
30	/	/	/	5.64	0.48	11.8	5.35	0.55	9.75	5.09	0.57	8.96	4.88	0.68	7.15	4.37	0.78	5.58	4.09	0.81	5.05	3.96	0.78	5.07	/	/	/
35	/	/	/	/	/	/	5.93	0.55	10.9	5.54	0.57	9.78	5.28	0.63	8.41	4.62	0.73	6.32	4.22	0.75	5.62	/	/	/	/	/	/

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

HC: Total heating capacity (kW)

PI: Power input (kW)

MHC-V12WD2N8-C, MHC-V12WD2RN8-C

Part load: Maximum

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	6.83	3.13	2.18	6.93	3.35	2.07	7.04	3.57	1.97	7.14	3.84	1.86	5.60	3.03	1.85	/	/	/	/	/	/	/	/	/	/	/	/
-20	8.18	3.38	2.42	8.30	3.62	2.29	8.42	3.90	2.16	8.53	4.16	2.05	8.63	4.47	1.93	8.73	4.80	1.82	6.87	3.84	1.79	/	/	/	/	/	/
-15	9.70	3.62	2.68	9.83	3.89	2.53	9.96	4.17	2.39	10.1	4.48	2.25	10.2	4.83	2.11	10.3	5.17	1.99	9.82	5.25	1.87	5.81	3.25	1.79	/	/	/
-10	11.4	3.82	2.99	11.6	4.11	2.81	11.7	4.42	2.64	11.8	4.79	2.47	11.9	5.14	2.32	12.0	5.54	2.17	11.0	5.35	2.05	10.8	5.55	1.95	/	/	/
-7	10.6	3.49	3.03	10.9	3.78	2.88	11.2	4.12	2.73	11.5	4.48	2.56	11.5	4.80	2.39	11.7	5.19	2.25	11.7	5.41	2.17	10.8	5.38	2.00	/	/	/
-5	10.8	3.35	3.21	11.1	3.65	3.04	11.4	3.99	2.87	11.7	4.34	2.69	11.5	4.63	2.49	11.7	5.03	2.33	11.9	5.23	2.27	10.4	5.07	2.05	/	/	/
-2	10.9	3.11	3.51	11.3	3.41	3.30	11.6	3.74	3.10	11.8	4.08	2.89	11.9	4.46	2.67	12.1	4.84	2.50	12.7	5.31	2.39	10.8	5.02	2.15	/	/	/
0	11.3	3.01	3.75	11.6	3.31	3.51	12.0	3.66	3.28	12.2	4.01	3.04	12.3	4.36	2.81	12.1	4.84	2.50	12.9	5.22	2.47	11.4	5.10	2.23	/	/	/
2	11.7	2.92	4.01	12.1	3.23	3.73	12.4	3.56	3.48	12.6	3.93	3.21	12.7	4.28	2.96	12.8	4.69	2.74	13.1	5.13	2.56	11.7	5.03	2.32	/	/	/
5	13.1	2.86	4.58	13.4	3.19	4.21	13.8	3.52	3.92	14.1	3.95	3.57	14.6	4.33	3.37	14.5	4.71	3.09	14.4	5.00	2.88	14.0	5.31	2.63	8.56	3.71	2.31
7	13.8	2.66	5.17	14.1	3.00	4.71	14.4	3.31	4.35	14.4	3.66	3.93	14.5	4.04	3.60	14.5	4.42	3.28	14.4	4.70	3.06	14.4	5.23	2.75	8.65	3.62	2.39
10	14.9	2.40	6.19	14.9	2.74	5.45	14.9	3.06	4.87	14.8	3.41	4.35	14.8	3.77	3.91	14.7	4.16	3.53	14.6	4.46	3.27	14.0	4.78	2.92	8.57	3.41	2.51
12	15.3	2.28	6.73	15.3	2.61	5.86	15.3	2.93	5.21	15.2	3.28	4.62	15.1	3.65	4.13	15.0	4.03	3.71	14.9	4.40	3.39	14.8	4.85	3.04	8.92	3.42	2.61
15	14.5	1.84	7.86	14.4	2.16	6.66	14.3	2.49	5.73	14.1	2.82	5.01	14.0	3.17	4.42	13.8	3.52	3.93	13.5	3.94	3.43	13.2	4.18	3.16	8.54	3.11	2.75
20	14.8	1.71	8.67	14.6	2.01	7.28	14.5	2.29	6.34	14.4	2.62	5.49	14.2	2.99	4.73	13.9	3.38	4.12	13.4	3.41	3.92	9.26	2.72	3.41	/	/	/
25	14.4	1.37	10.5	14.7	1.78	8.25	14.1	1.90	7.43	13.9	2.43	5.72	13.7	2.66	5.14	13.5	3.07	4.38	13.3	3.33	3.98	9.80	2.55	3.85	/	/	/
30	/	/	/	15.7	1.72	9.16	15.5	1.88	8.27	15.3	2.42	6.33	15.1	2.70	5.60	14.8	3.15	4.69	14.3	3.33	4.29	11.1	2.69	4.11	/	/	/
35	/	/	/	/	/	/	17.6	1.96	8.97	17.2	2.47	6.98	17.0	2.78	6.09	16.6	3.29	5.05	15.5	3.69	4.19	/	/	/	/	/	/

Part load: 130%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	6.83	3.13	2.18	6.93	3.35	2.07	7.04	3.57	1.97	7.14	3.84	1.86	5.60	3.03	1.85	/	/	/	/	/	/	/	/	/	/	/	/
-20	8.18	3.38	2.42	8.30	3.62	2.29	8.42	3.90	2.16	8.53	4.16	2.05	8.63	4.47	1.93	8.73	4.80	1.82	6.87	3.84	1.79	/	/	/	/	/	/
-15	9.70	3.62	2.68	9.83	3.89	2.53	9.96	4.17	2.39	10.1	4.48	2.25	10.2	4.83	2.11	10.3	5.17	1.99	9.82	5.25	1.87	5.81	3.25	1.79	/	/	/
-10	11.4	3.82	2.99	11.6	4.11	2.81	11.7	4.42	2.64	11.8	4.79	2.47	11.9	5.14	2.32	12.0	5.54	2.17	11.0	5.35	2.05	10.8	5.55	1.95	/	/	/
-7	10.6	3.49	3.03	10.9	3.78	2.88	11.2	4.12	2.73	11.5	4.48	2.56	11.5	4.80	2.39	11.7	5.19	2.25	11.7	5.41	2.17	10.8	5.38	2.00	/	/	/
-5	10.8	3.35	3.21	11.1	3.65	3.04	11.4	3.99	2.87	11.7	4.34	2.69	11.5	4.63	2.49	11.7	5.03	2.33	11.9	5.23	2.27	10.4	5.07	2.05	/	/	/
-2	10.9	3.11	3.51	11.3	3.41	3.30	11.6	3.74	3.10	11.8	4.08	2.89	11.9	4.46	2.67	12.1	4.84	2.50	12.7	5.31	2.39	10.8	5.02	2.15	/	/	/
0	11.3	3.01	3.75	11.6	3.31	3.51	12.0	3.66	3.28	12.2	4.01	3.04	12.3	4.36	2.81	12.1	4.84	2.50	12.9	5.22	2.47	11.4	5.10	2.23	/	/	/
2	11.7	2.92	4.01	12.1	3.23	3.73	12.4	3.56	3.48	12.6	3.93	3.21	12.7	4.28	2.96	12.8	4.69	2.74	13.1	5.13	2.56	11.7	5.03	2.32	/	/	/
5	13.1	2.86	4.58	13.4	3.19	4.21	13.8	3.52	3.92	14.1	3.95	3.57	14.6	4.33	3.37	14.5	4.71	3.09	14.4	5.00	2.88	14.0	5.31	2.63	8.56	3.71	2.31
7	13.8	2.66	5.17	14.1	3.00	4.71	14.4	3.31	4.35	14.4	3.66	3.93	14.5	4.04	3.60	14.5	4.42	3.28	14.4	4.70	3.06	14.4	5.23	2.75	8.65	3.62	2.39
10	14.9	2.40	6.19	14.9	2.74	5.45	14.9	3.06	4.87	14.8	3.41	4.35	14.8	3.77	3.91	14.7	4.16	3.53	14.6	4.46	3.27	11.7	5.03	2.32	8.57	3.41	2.51
12	15.3	2.28	6.73	15.3	2.61	5.86	15.3	2.93	5.21	15.2	3.28	4.62	15.1	3.65	4.13	15.0	4.03	3.71	14.9	4.40	3.39	14.8	4.85	3.04	8.92	3.42	2.61
15	14.5	1.84	7.86	14.4	2.16	6.66	14.3	2.49	5.73	14.1	2.82	5.01	14.0	3.17	4.42	13.8	3.52	3.93	13.5	3.94	3.43	13.2	4.18	3.16	8.54	3.11	2.75
20	14.8	1.71	8.67	14.6	2.01	7.28	14.5	2.29	6.34	14.4	2.62	5.49	14.2	2.99	4.73	13.9	3.38	4.12	13.4	3.41	3.92	9.26	2.72	3.41	/	/	/
25	14.4	1.37	10.5	14.7	1.78	8.25	14.1	1.90	7.43	13.8	2.42	5.69	13.6	3.14	4.96	13.5	3.07	4.38	13.3	3.33	3.98	9.80	2.55	3.85	/	/	/
30	/	/	/	15.7	1.72	9.16	15.5	1.88	8.27	15.3	2.42	6.33	15.2	2.74	5.54	14.8	3.15	4.69	14.3	3.33	4.29	11.1	2.69	4.11	/	/	/
35	/	/	/	/	/	/	15.2	1.67	9.13	15.1	2.03	7.43	14.7	2.31	6.39	15.6	3.02	5.16	15.5	3.69	4.19	/	/	/	/	/	/

Part load: 100%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	6.83	3.13	2.18	6.93	3.35	2.07	7.04	3.57	1.97	7.14	3.84	1.86	5.60	3.03	1.85	/	/	/	/	/	/	/	/	/	/	/	/
-20	8.18	3.38	2.42	8.30	3.62	2.29	8.42	3.90	2.16	8.53	4.16	2.05	8.63	4.47	1.93	8.73	4.80	1.82	6.87	3.84	1.79	/	/	/	/	/	/
-15	9.70	3.62	2.68	9.83	3.89	2.53	9.96	4.17	2.39	10.1	4.48	2.25	10.2	4.83	2.11	10.3	5.17	1.99	9.82	5.25	1.87	5.81	3.25	1.79	/	/	/
-10	11.4	3.82	2.99	11.6	4.11	2.81	11.7	4.42	2.64	11.8	4.79	2.47	11.9	5.14	2.32	12.0	5.54	2.17	11.0	5.35	2.05	10.8	5.55	1.95	/	/	/
-7	10.7	3.49	3.06	11.0	3.78	2.91	11.6	4.07	2.85	11.6	4.47	2.59	11.5	4.79	2.40	11.8	5.19	2.27	10.8	5.14	2.10	10.8	5.38	2.00	/	/	/
-5	10.9	3.35	3.24	11.2	3.66	3.07	11.6	3.98	2.90	11.8	4.35	2.71	11.7	4.64	2.51	11.8	5.04	2.35	11.9	5.23	2.27	10.4	5.07	2.05	/	/	/
-2	11.0	3.10	3.55	11.4	3.41	3.33	11.7	3.74	3.13	11.9	4.10	2.91	12.0	4.46	2.70	12.2	4.82	2.52	12.4	5.17	2.40	10.8	5.02	2.15	/	/	/
0	11.4	3.02	3.78	11.8	3.32	3.54	12.1	3.66	3.31	12.3	4.01	3.07	12.2	4.27	2.85	11.9	4.68	2.54	12.2	4.89	2.50	11.4	5.10	2.23	/	/	/
2	11.8	2.92	4.05	12.2	3.23	3.77	12.3	3.42	3.60	11.8	3.53	3.33	12.0	4.14	2.90	12.1	4.24	2.86	12.0	5.11	2.35	11.7	5.03	2.32	/	/	/
5	12.1	2.62	4.62	12.0	2.71	4.42	11.9	2.87	4.14	11.8	3.16	3.74	12.1	3.46	3.48	12.0	3.78	3.17	12.4	4.19	2.96	11.8	4.43	2.65	8.56	3.71	2.31
7	12.0	2.21	5.41	11.8	2.39	4.94	12.2	2.49	4.90	11.9	2.94	4.06	12.5	3.38	3.70	11.7	3.52	3.32	12.0	4.00	3.00	11.7	4.26	2.75	8.65	3.62	2.39
10	11.8	1.79	6.61	11.6	2.03	5.72	11.3	2.25	5.04	11.2	2.52	4.46	12.2	3.06	3.97	12.0	3.37	3.56	12.2	3.71	3.30	12.0	4.11	2.92	8.57	3.41	2.51
12	12.0	1.65	7.29	12.1	1.95	6.21	12.1	2.24	5.42	11.9	2.50	4.76	11.9	2.83	4.20	11.7	3.12	3.75	11.7	3.39	3.44	11.5	3.79	3.04	8.92	3.42	2.61
15	12.0	1.44	8.35	11.7	1.67	7.05	12.1	2.03	5.97	12.2	2.36	5.16	12.3	2.72	4.51	12.1	3.04	3.99	12.1	3.36	3.60	11.8	3.71	3.18	8.54	3.11	2.75
20	11.4	1.25	9.11	11.4	1.42	8.04	11.5	1.71	6.69	11.2	1.99	5.65	12.5	2.58	4.83	12.2	2.90	4.20	12.3	3.05	4.03	9.26	2.72	3.41	/	/	/
25	11.7	1.08	10.9	12.2	1.36	8.98	11.9	1.54	7.67	11.8	1.96	5.99	12.2	2.30	5.30	12.2	2.72	4.47	12.0	2.97	4.04	9.80	2.55	3.85	/	/	/
30	/	/	/	12.1	1.25	9.71	12.2	1.41	8.65	11.8	1.68	7.00	11.7	1.94	6.02	12.2	2.48	4.92	12.6	2.82	4.45	11.1	2.69	4.11	/	/	/
35	/	/	/	/	/	/	11.6	1.24	9.37	11.7	1.36	8.56	12.3	1.74	7.05	12.1	2.17	5.59	12.1	2.58	4.70	/	/	/	/	/	/

Part load: 90%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	6.03	2.69	2.24	6.12	2.87	2.13	6.22	3.09	2.01	6.40	3.37	1.90	5.10	2.71	1.88	/	/	/	/	/	/	/	/	/	/	/	/	
-20	7.22	2.89	2.50	7.33	3.11	2.36	7.43	3.35	2.22	7.64	3.64	2.10	7.73	3.90	1.98	7.83	4.21	1.86	6.06	3.33	1.82	/	/	/	/	/	/	
-15	8.57	3.08	2.78	8.68	3.31	2.62	8.80	3.58	2.46	9.04	3.91	2.31	9.13	4.21	2.17	9.22	4.52	2.04	8.69	4.55	1.91	5.46	2.89	1.89	/	/	/	
-10	10.1	3.23	3.12	10.2	3.49	2.92	10.3	3.80	2.72	10.6	4.18	2.54	10.7	4.49	2.38	10.8	4.83	2.23	9.70	4.62	2.10	9.71	4.86	2.00	/	/	/	
-7	9.59	2.99	3.21	9.88	3.25	3.04	10.2	3.57	2.86	10.3	3.83	2.68	10.3	4.13	2.49	10.5	4.47	2.34	10.4	4.65	2.23	9.79	4.78	2.05	/	/	/	
-5	9.76	2.86	3.41	10.1	3.14	3.21	10.4	3.44	3.02	10.4	3.72	2.81	10.3	3.97	2.60	10.5	4.32	2.43	10.7	4.55	2.34	9.48	4.51	2.10	/	/	/	
-2	9.74	2.60	3.74	10.1	2.87	3.50	10.4	3.17	3.27	10.6	3.48	3.03	10.8	3.88	2.79	11.0	4.23	2.60	11.1	4.51	2.47	9.85	4.50	2.19	/	/	/	
0	10.1	2.52	4.01	10.4	2.79	3.72	10.7	3.10	3.46	11.1	3.47	3.19	10.9	3.70	2.96	10.4	3.96	2.63	11.0	4.29	2.56	10.0	4.42	2.27	/	/	/	
2	10.5	2.44	4.29	11.0	2.77	3.96	11.3	3.07	3.67	10.4	3.07	3.39	10.9	3.48	3.12	10.2	3.55	2.88	10.7	4.03	2.65	10.6	4.53	2.35	/	/	/	
5	11.9	2.42	4.91	10.7	2.34	4.56	10.4	2.47	4.22	10.9	2.86	3.80	11.1	3.16	3.50	11.0	3.46	3.18	10.9	3.69	2.96	10.5	3.97	2.65	8.10	3.35	2.42	
7	10.4	1.84	5.63	10.6	2.08	5.09	10.5	2.27	4.61	10.5	2.55	4.11	11.1	3.00	3.69	10.2	3.07	3.33	11.1	3.59	3.09	10.3	3.73	2.75	8.39	3.34	2.51	
10	10.9	1.61	6.76	10.6	1.83	5.81	10.9	2.14	5.11	10.5	2.33	4.51	10.9	2.73	4.00	10.8	3.00	3.59	11.0	3.33	3.31	10.8	3.68	2.92	7.84	2.97	2.64	
12	10.8	1.44	7.48	10.9	1.72	6.32	10.6	1.92	5.51	10.4	2.16	4.81	10.9	2.58	4.24	10.7	2.84	3.77	11.0	3.20	3.44	10.6	3.46	3.05	8.16	2.98	2.74	
15	10.2	1.16	8.73	10.2	1.40	7.29	9.96	1.62	6.13	11.0	2.08	5.26	11.0	2.40	4.58	10.6	2.62	4.04	10.6	2.90	3.64	10.8	3.37	3.21	8.34	2.90	2.88	
20	10.8	1.15	9.46	10.6	1.28	8.28	10.6	1.54	6.89	10.5	1.85	5.70	10.7	2.07	5.15	10.6	2.48	4.26	10.7	2.62	4.09	8.43	2.33	3.62	/	/	/	
25	10.9	0.99	11.1	11.0	1.17	9.40	10.6	1.34	7.92	10.5	1.69	6.20	11.0	2.02	5.43	10.9	2.40	4.55	10.8	2.62	4.11	9.59	2.34	4.09	/	/	/	
30	/	/	/	/	10.4	1.02	10.2	10.5	1.18	8.83	11.0	1.49	7.35	10.9	1.75	6.23	10.5	2.08	5.04	11.3	2.47	4.56	10.8	2.31	4.69	/	/	/
35	/	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.9	1.89	5.78	10.4	2.14	4.86	/	/	/	/	/	/

Part load: 70%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	4.70	1.97	2.38	4.68	2.09	2.24	4.85	2.30	2.11	4.92	2.47	1.99	3.93	2.08	1.89	/	/	/	/	/	/	/	/	/	/	/	/	
-20	5.63	2.11	2.67	5.61	2.24	2.50	5.80	2.47	2.35	5.88	2.67	2.20	5.85	2.83	2.07	6.04	3.10	1.95	4.54	2.48	1.83	/	/	/	/	/	/	
-15	6.69	2.23	3.00	6.65	2.38	2.80	6.88	2.64	2.61	6.97	2.86	2.44	6.92	3.04	2.28	7.12	3.33	2.14	6.69	3.35	2.00	4.16	2.21	1.88	/	/	/	
-10	7.87	2.32	3.39	7.82	2.49	3.14	8.07	2.77	2.91	8.18	3.03	2.70	8.10	3.23	2.51	8.33	3.56	2.34	7.47	3.43	2.18	7.21	3.53	2.04	/	/	/	
-7	7.29	2.09	3.48	7.36	2.26	3.25	7.61	2.50	3.04	7.62	2.69	2.83	7.63	2.91	2.62	8.25	3.38	2.44	7.67	3.33	2.30	7.42	3.57	2.08	/	/	/	
-5	7.58	2.06	3.68	7.68	2.25	3.42	7.90	2.48	3.19	7.91	2.68	2.95	7.83	2.89	2.71	8.13	3.21	2.53	8.08	3.38	2.39	7.34	3.48	2.11	/	/	/	
-2	7.69	1.92	4.01	7.94	2.15	3.70	8.01	2.32	3.46	8.16	2.59	3.15	8.44	2.90	2.91	8.56	3.19	2.68	8.44	3.36	2.51	7.12	3.25	2.19	/	/	/	
0	7.61	1.78	4.27	7.66	1.95	3.92	8.48	2.32	3.65	8.61	2.60	3.31	7.95	2.61	3.05	8.25	3.08	2.68	7.93	3.07	2.58	7.56	3.33	2.27	/	/	/	
2	8.07	1.77	4.56	8.13	1.95	4.16	8.35	2.17	3.85	8.24	2.37	3.48	8.26	2.57	3.21	7.96	2.72	2.93	8.43	3.16	2.67	8.05	3.43	2.35	/	/	/	
5	9.24	1.76	5.26	8.32	1.74	4.78	8.30	1.90	4.37	8.45	2.17	3.90	8.54	2.40	3.56	8.50	2.64	3.22	8.65	2.89	2.99	8.34	3.15	2.65	6.29	2.60	2.42	
7	8.27	1.38	6.01	8.38	1.59	5.28	8.22	1.73	4.75	8.23	1.96	4.20	8.06	2.16	3.74	7.99	2.37	3.37	8.80	2.83	3.11	7.85	2.85	2.75	6.28	2.50	2.51	
10	8.12	1.12	7.28	8.17	1.33	6.12	8.45	1.60	5.29	8.36	1.81	4.62	8.18	2.01	4.07	8.08	2.23	3.63	8.54	2.56	3.33	8.07	2.76	2.92	6.29	2.39	2.63	
12	8.04	0.99	8.13	8.45	1.26	6.70	8.43	1.48	5.71	8.28	1.68	4.93	8.18	1.90	4.31	8.53	2.23	3.82	8.50	2.44	3.49	8.15	2.67	3.05	6.55	2.40	2.73	
15	8.37	0.93	8.98	8.39	1.09	7.69	8.14	1.28	6.36	8.18	1.51	5.40	8.54	1.83	4.66	8.45	2.07	4.09	8.39	2.27	3.70	8.12	2.52	3.22	6.65	2.29	2.91	
20	8.38	0.82	10.2	8.08	0.88	9.23	8.12	1.12	7.28	8.04	1.33	6.06	8.54	1.62	5.28	8.15	1.84	4.43	8.20	1.97	4.17	6.66	1.81	3.67	/	/	/	
25	8.70	0.74	11.7	8.61	0.89	9.72	8.50	1.01	8.38	8.22	1.11	7.38	8.12	1.28	6.34	7.92	1.65	4.80	8.35	1.86	4.49	7.47	1.79	4.17	/	/	/	
30	/	/	/	/	9.89	0.94	10.5	9.60	1.08	8.88	9.37	1.21	7.75	9.24	1.30	7.12	8.97	1.71	5.26	8.54	1.76	4.86	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	9.62	1.91	5.04	/	/	/	/	/	/	/

Part load: 50%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	3.31	1.40	2.37	3.36	1.51	2.23	3.42	1.62	2.11	3.38	1.70	1.99	2.68	1.43	1.87	/	/	/	/	/	/	/	/	/	/	/	/	
-20	3.98	1.49	2.67	4.04	1.62	2.50	4.10	1.75	2.34	4.04	1.84	2.20	4.21	2.03	2.07	4.27	2.18	1.96	3.25	1.78	1.83	/	/	/	/	/	/	
-15	4.73	1.57	3.02	4.79	1.70	2.81	4.86	1.86	2.61	4.79	1.96	2.44	4.98	2.18	2.28	5.03	2.35	2.14	4.82	2.40	2.01	3.19	1.72	1.86	/	/	/	
-10	5.57	1.61	3.45	5.64	1.78	3.17	5.71	1.96	2.92	5.63	2.08	2.71	5.84	2.32	2.52	5.90	2.52	2.34	5.39	2.46	2.19	5.33	2.61	2.04	/	/	/	
-7	5.13	1.45	3.55	5.29	1.60	3.30	5.31	1.73	3.07	5.76	2.03	2.84	5.77	2.19	2.63	5.87	2.40	2.45	5.77	2.51	2.30	5.06	2.44	2.07	/	/	/	
-5	5.39	1.40	3.85	5.41	1.53	3.54	5.57	1.70	3.28	5.52	1.86	2.97	5.47	1.98	2.76	5.91	2.31	2.56	5.50	2.30	2.39	5.21	2.49	2.09	/	/	/	
-2	5.30	1.26	4.21	5.47	1.42	3.84	5.83	1.66	3.52	5.94	1.84	3.22	5.83	1.98	2.94	5.92	2.18	2.71	5.94	2.35	2.53	5.24	2.41	2.17	/	/	/	
0	5.68	1.26	4.50	5.85	1.44	4.07	5.84	1.57	3.71	5.94	1.76	3.38	5.88	1.92	3.07	5.88	2.17	2.71	5.85	2.25	2.60	5.44	2.43	2.24	/	/	/	
2	5.69	1.18	4.83	6.07	1.40	4.34	6.23	1.59	3.93	5.88	1.66	3.55	6.03	1.84	3.28	5.47	1.87	2.93	5.99	2.24	2.68	5.86	2.50	2.34	/	/	/	
5	7.10	1.20	5.93	6.01	1.16	5.18	6.11	1.34	4.57	5.85	1.45	4.04	5.82	1.61	3.61	5.79	1.78	3.25	6.12	2.02	3.03	5.93	2.23	2.66	4.57	1.90	2.40	
7	6.06	0.91	6.64	5.94	1.06	5.60	5.76	1.18	4.90	5.76	1.34	4.29	6.08	1.60	3.80	6.02	1.77	3.40	5.98	1.89	3.16	5.94	2.16	2.75	4.80	1.94	2.48	
10	5.99	0.77	7.79	5.97	0.93	6.39	5.71	1.04	5.47	5.65	1.20	4.71	5.72	1.38	4.13	5.53	1.52	3.65	6.05	1.80	3.37	5.94	2.04	2.91	5.32	2.04	2.61	
12	6.36	0.73	8.67	6.24	0.89	6.99	6.21	1.05	5.91	6.05	1.20	5.04	6.08	1.39	4.37	5.84	1.52	3.85	5.85	1.66	3.53	5.52	1.83	3.02	5.61	2.07	2.71	
15	6.69	0.72	9.23	6.68	0.82	8.17	6.47	0.96	6.77	6.41	1.13	5.65	6.34	1.31	4.83	6.25	1.49	4.20	6.18	1.63	3.79	5.81	1.78	3.27	5.61	1.93	2.91	
20	7.63	0.73	10.4	7.55	0.86	8.83	7.47	0.98	7.59	7.37	1.08	6.85	7.12	1.24	5.72	7.02	1.55	4.52	6.85	1.64	4.18	6.66	1.81	3.67	/	/	/	
25	8.70	0.74	11.7	8.61	0.89	9.72	8.50	1.01	8.38	8.22	1.11	7.38	8.12	1.28	6.34	7.92	1.65	4.80	7.67	1.68	4.57	7.47	1.79	4.17	/	/	/	
30	/	/	/	/	9.89	0.94	10.5	9.60	1.08	8.88	9.37	1.21	7.75	9.24	1.30	7.12	8.97	1.71	5.26	8.54	1.76	4.86	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	9.62	1.91	5.04	/	/	/	/	/	/

Part load: 30%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	1.99	0.87	2.28	1.97	0.92	2.13	1.92	0.95	2.02	1.94	1.02	1.91	1.94	1.06	1.83	/	/	/	/	/	/	/	/	/	/	/	/	
-20	2.37	0.92	2.57	2.36	0.99	2.39	2.30	1.02	2.25	2.35	1.11	2.12	2.28	1.14	2.00	2.52	1.32	1.91	2.19	1.19	1.84	/	/	/	/	/	/	
-15	2.83	0.97	2.93	2.83	1.04	2.71	2.74	1.09	2.52	2.74	1.17	2.34	2.73	1.24	2.20	2.98	1.43	2.09	2.61	1.32	1.98	3.19	1.72	1.86	/	/	/	
-10	3.34	0.99	3.38	3.31	1.07	3.08	3.22	1.13	2.84	3.28	1.25	2.62	3.22	1.33	2.43	3.49	1.53	2.28	3.02	1.41	2.14	3.09	1.56	1.98	/	/	/	
-7	3.31	0.95	3.49	3.37	1.05	3.21	3.47	1.16	2.99	3.39	1.24	2.74	3.38	1.33	2.55	3.37	1.42	2.37	3.35	1.49	2.25	3.26	1.59	2.05	/	/	/	
-5	3.47	0.90	3.84	3.53	1.01	3.50	3.59	1.11	3.23	3.56	1.24	2.88	3.45	1.28	2.70	3.50	1.40	2.50	3.54	1.52	2.33	3.25	1.57	2.07	/	/	/	
-2	3.65	0.87	4.21	3.70	0.98	3.79	3.82	1.09	3.49	3.82	1.22	3.14	3.74	1.29	2.89	3.77	1.42	2.66	3.76	1.50	2.51	3.47	1.62	2.14	/	/	/	
0	3.90	0.86	4.52	3.97	0.98	4.04	4.01	1.09	3.69	3.98	1.21	3.30	4.07	1.34	3.03	3.77	1.42	2.66	3.96	1.54	2.57	3.63	1.64	2.21	/	/	/	
2	4.11	0.84	4.87	4.23	0.98	4.32	4.28	1.09	3.91	4.26	1.22	3.48	4.25	1.34	3.17	4.17	1.44	2.89	4.12	1.55	2.66	3.85	1.68	2.29	/	/	/	
5	5.29	0.86	6.15	5.13	0.98	5.24	5.17	1.12	4.61	5.02	1.24	4.06	4.98	1.38	3.61	4.90	1.51	3.24	4.76	1.57	3.04	4.65	1.77	2.63	4.57	1.90	2.40	
7	5.56	0.83	6.73	5.54	0.98	5.64	5.49	1.12	4.92	5.32	1.24	4.30	5.25	1.38	3.80	5.08	1.49	3.40	5.11	1.62	3.16	4.81	1.76	2.73	4.80	1.94	2.48	
10	5.99	0.77	7.79	5.97	0.93	6.39	5.82	1.06	5.48	5.80	1.23	4.72	5.72	1.38	4.13	5.53	1.52	3.65	5.53	1.64	3.38	5.23	1.80	2.90	5.32	2.04	2.61	
12	6.36	0.73	8.67	6.24	0.89	6.99	6.21	1.05	5.91	6.05	1.20	5.04	6.08	1.39	4.37	5.84	1.52	3.85	5.85	1.66	3.53	5.52	1.83	3.02	5.61	2.07	2.71	
15	6.69	0.72	9.23	6.68	0.82	8.17	6.47	0.96	6.77	6.41	1.13	5.65	6.34	1.31	4.83	6.25	1.49	4.20	6.18	1.63	3.79	5.81	1.78	3.27	5.61	1.93	2.91	
20	7.63	0.73	10.4	7.55	0.86	8.83	7.47	0.98	7.59	7.37	1.08	6.85	7.12	1.24	5.72	7.02	1.55	4.52	6.85	1.64	4.18	6.66	1.81	3.67	/	/	/	
25	8.70	0.74	11.7	8.61	0.89	9.72	8.50	1.01	8.38	8.22	1.11	7.38	8.12	1.28	6.34	7.92	1.65	4.80	7.67	1.68	4.57	7.47	1.79	4.17	/	/	/	
30	/	/	/	/	9.89	0.94	10.5	9.60	1.08	8.88	9.37	1.21	7.75	9.24	1.30	7.12	8.97	1.71	5.26	8.54	1.76	4.86	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	9.62	1.91	5.04	/	/	/	/	/	/	

Part load: Minimum

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	1.99	0.87	2.28	1.97	0.92	2.13	1.95	0.97	2.01	1.94	1.02	1.91	1.94	1.06	1.83	/	/	/	/	/	/	/	/	/	/	/	/	
-20	2.37	0.92	2.57	2.36	0.99	2.39	2.35	1.04	2.25	2.35	1.11	2.12	2.28	1.14	2.00	2.29	1.21	1.90	2.19	1.19	1.84	/	/	/	/	/	/	
-15	2.83	0.97	2.93	2.83	1.04	2.71	2.79	1.11	2.51	2.74	1.17	2.34	2.73	1.24	2.20	2.69	1.30	2.07	2.61	1.32	1.98	3.19	1.72	1.86	/	/	/	
-10	3.34	0.99	3.38	3.31	1.07	3.08	3.28	1.16	2.83	3.28	1.25	2.62	3.22	1.33	2.43	3.20	1.42	2.26	3.02	1.41	2.14	3.09	1.56	1.98	/	/	/	
-7	3.31	0.95	3.49	3.37	1.05	3.21	3.47	1.16	2.99	3.39	1.24	2.74	3.38	1.33	2.55	3.37	1.42	2.37	3.35	1.49	2.25	3.26	1.59	2.05	/	/	/	
-5	3.47	0.90	3.84	3.53	1.01	3.50	3.59	1.11	3.23	3.56	1.24	2.88	3.45	1.28	2.70	3.50	1.40	2.50	3.54	1.52	2.33	3.25	1.57	2.07	/	/	/	
-2	3.65	0.87	4.21	3.70	0.98	3.79	3.82	1.09	3.49	3.82	1.22	3.14	3.74	1.29	2.89	3.77	1.42	2.66	3.76	1.50	2.51	3.47	1.62	2.14	/	/	/	
0	3.90	0.86	4.52	3.97	0.98	4.04	4.01	1.09	3.69	3.98	1.21	3.30	4.07	1.34	3.03	3.77	1.42	2.66	3.96	1.54	2.57	3.63	1.64	2.21	/	/	/	
2	4.11	0.84	4.87	4.23	0.98	4.32	4.28	1.09	3.91	4.26	1.22	3.48	4.25	1.34	3.17	4.17	1.44	2.89	4.12	1.55	2.66	3.85	1.68	2.29	/	/	/	
5	5.29	0.86	6.15	5.13	0.98	5.24	5.13	1.11	4.61	5.02	1.24	4.06	4.98	1.38	3.61	4.90	1.51	3.24	4.76	1.57	3.04	4.65	1.77	2.63	4.57	1.90	2.40	
7	5.56	0.83	6.73	5.54	0.98	5.64	5.29	1.08	4.92	5.32	1.24	4.30	5.25	1.38	3.80	5.08	1.49	3.40	5.11	1.62	3.16	4.81	1.76	2.73	4.80	1.94	2.48	
10	5.99	0.77	7.79	5.97	0.93	6.39	5.81	1.08	5.40	5.80	1.23	4.72	5.72	1.38	4.13	5.53	1.52	3.65	5.53	1.64	3.38	5.23	1.80	2.90	5.32	2.04	2.61	
12	6.36	0.73	8.67	6.24	0.89	6.99	6.20	1.06	5.83	6.05	1.20	5.04	6.08	1.39	4.37	5.84	1.52	3.85	5.85	1.66	3.53	5.52	1.83	3.02	5.61	2.07	2.71	
15	6.69	0.72	9.23	6.68	0.82	8.17	6.47	0.96	6.77	6.41	1.13	5.65	6.34	1.31	4.83	6.25	1.49	4.20	6.18	1.63	3.79	5.81	1.78	3.27	5.61	1.93	2.91	
20	7.63	0.73	10.4	7.55	0.86	8.83	7.47	0.98	7.59	7.37	1.08	6.85	7.12	1.24	5.72	7.02	1.55	4.52	6.85	1.64	4.18	6.66	1.81	3.67	/	/	/	
25	8.70	0.74	11.7	8.61	0.89	9.72	8.50	1.01	8.38	8.22	1.11	7.38	8.12	1.28	6.34	7.92	1.65	4.80	7.67	1.68	4.57	7.47	1.79	4.17	/	/	/	
30	/	/	/	/	9.89	0.94	10.5	9.40	1.06	8.88	9.37	1.21	7.75	9.24	1.30	7.12	8.97	1.71	5.26	8.54	1.76	4.86	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	9.62	1.91	5.04	/	/	/	/	/	/	

Abbreviations:
LWT: Leaving water temperature (°C)
DB: Dry-bulb temperature for Outdoor air temperature (°C)
HC: Total heating capacity (kW)
PI: Power input (kW)

MHC-V14WD2N8-C, MHC-V14WD2RN8-C

Part load: Maximum

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	7.30	3.41	2.14	7.44	3.67	2.03	7.57	3.92	1.93	7.70	4.21	1.83	5.69	3.08	1.85	/	/	/	/	/	/	/	/	/	/	/	/	
-20	8.75	3.71	2.36	8.89	3.97	2.24	9.03	4.26	2.12	9.18	4.59	2.00	9.31	4.93	1.89	9.46	5.28	1.79	6.87	3.84	1.79	/	/	/	/	/	/	
-15	10.4	3.98	2.61	10.6	4.29	2.46	10.7	4.60	2.33	10.8	4.93	2.20	11.0	5.31	2.07	11.1	5.71	1.95	10.7	5.83	1.83	6.83	3.82	1.79	/	/	/	
-10	12.2	4.21	2.90	12.4	4.54	2.73	12.6	4.89	2.57	12.7	5.28	2.41	12.9	5.69	2.26	12.8	5.96	2.14	11.7	5.80	2.02	11.4	5.90	1.93	/	/	/	
-7	11.6	4.01	2.89	12.0	4.35	2.76	12.4	4.72	2.63	12.7	5.15	2.47	12.8	5.51	2.33	12.7	5.78	2.20	12.6	5.86	2.14	11.3	5.70	1.98	/	/	/	
-5	11.9	3.89	3.05	12.3	4.21	2.91	12.7	4.60	2.76	13.0	5.00	2.59	12.9	5.34	2.42	12.9	5.64	2.28	13.0	5.83	2.23	11.3	5.59	2.02	/	/	/	
-2	12.2	3.71	3.29	12.6	4.06	3.11	13.0	4.43	2.94	13.3	4.84	2.75	13.6	5.25	2.58	13.5	5.57	2.43	13.4	5.66	2.36	11.7	5.56	2.11	/	/	/	
0	12.5	3.54	3.52	12.9	3.88	3.32	13.3	4.25	3.12	13.5	4.67	2.90	13.8	5.07	2.72	14.0	5.55	2.53	13.9	5.74	2.42	12.0	5.44	2.20	/	/	/	
2	13.0	3.45	3.75	13.4	3.80	3.52	13.8	4.18	3.30	14.0	4.58	3.06	14.3	5.01	2.85	14.5	5.46	2.65	14.2	5.65	2.51	12.7	5.55	2.28	/	/	/	
5	14.4	3.31	4.34	14.8	3.66	4.03	15.2	4.05	3.74	15.6	4.54	3.43	16.1	4.97	3.25	16.2	5.41	2.99	15.9	5.63	2.83	14.9	5.76	2.59	8.85	3.85	2.30	
7	15.6	3.25	4.80	16.0	3.61	4.42	16.4	4.04	4.07	16.5	4.43	3.71	16.7	4.86	3.43	16.6	5.30	3.14	16.6	5.55	2.98	15.2	5.64	2.70	9.36	3.92	2.39	
10	16.6	2.87	5.78	16.6	3.22	5.16	16.7	3.60	4.63	16.7	3.99	4.18	16.7	4.42	3.78	16.7	4.85	3.44	17.0	5.25	3.23	15.4	5.30	2.91	9.15	3.63	2.52	
12	17.1	2.70	6.33	17.1	3.06	5.59	17.1	3.44	4.98	17.1	3.84	4.46	17.1	4.26	4.02	17.1	4.69	3.64	17.2	5.13	3.36	15.8	5.20	3.04	9.73	3.73	2.61	
15	16.4	2.20	7.44	16.7	2.65	6.31	16.2	2.93	5.53	16.9	3.53	4.80	15.9	3.69	4.31	15.7	4.09	3.85	16.0	4.61	3.46	15.2	4.86	3.12	9.58	3.50	2.74	
20	16.5	1.95	8.46	16.4	2.39	6.85	16.3	2.66	6.11	16.1	3.01	5.34	15.9	3.44	4.62	15.6	3.87	4.04	15.0	3.86	3.89	9.26	2.72	3.41	/	/	/	
25	15.7	1.55	10.1	16.0	2.03	7.87	15.3	2.11	7.27	15.2	2.73	5.55	15.0	2.98	5.02	14.7	3.42	4.30	14.6	3.72	3.91	9.80	2.55	3.85	/	/	/	
30	/	/	/	/	16.8	1.94	8.66	16.7	2.07	8.05	16.4	2.67	6.14	16.2	2.96	5.47	15.9	3.44	4.61	15.4	3.63	4.24	11.1	2.69	4.11	/	/	/
35	/	/	/	/	/	/	/	18.7	2.15	8.71	18.5	2.76	6.68	18.2	3.07	5.91	17.8	3.61	4.94	16.5	3.62	4.56	/	/	/	/	/	/

Part load: 130%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	7.30	3.41	2.14	7.44	3.67	2.03	7.57	3.92	1.93	7.70	4.21	1.83	5.69	3.08	1.85	/	/	/	/	/	/	/	/	/	/	/	/
-20	8.75	3.71	2.36	8.89	3.97	2.24	9.03	4.26	2.12	9.18	4.59	2.00	9.31	4.93	1.89	9.46	5.28	1.79	6.87	3.84	1.79	/	/	/	/	/	/
-15	10.4	3.98	2.61	10.6	4.29	2.46	10.7	4.60	2.33	10.8	4.93	2.20	11.0	5.31	2.07	11.1	5.71	1.95	10.7	5.83	1.83	6.83	3.82	1.79	/	/	/
-10	12.2	4.21	2.90	12.4	4.54	2.73	12.6	4.89	2.57	12.7	5.28	2.41	12.9	5.69	2.26	12.8	5.96	2.14	11.7	5.80	2.02	11.4	5.90	1.93	/	/	/
-7	11.6	4.01	2.89	12.0	4.35	2.76	12.4	4.72	2.63	12.7	5.15	2.47	12.8	5.51	2.33	12.7	5.78	2.20	12.6	5.86	2.14	11.3	5.70	1.98	/	/	/
-5	11.9	3.89	3.05	12.3	4.21	2.91	12.7	4.60	2.76	13.0	5.00	2.59	12.9	5.34	2.42	12.9	5.64	2.28	13.0	5.83	2.23	11.3	5.59	2.02	/	/	/
-2	12.2	3.71	3.29	12.6	4.06	3.11	13.0	4.43	2.94	13.3	4.84	2.75	13.6	5.25	2.58	13.5	5.57	2.43	13.4	5.66	2.36	11.7	5.56	2.11	/	/	/
0	12.5	3.54	3.52	12.9	3.88	3.32	13.3	4.25	3.12	13.5	4.67	2.90	13.8	5.07	2.72	14.0	5.55	2.53	13.9	5.74	2.42	12.0	5.44	2.20	/	/	/
2	13.0	3.45	3.75	13.4	3.80	3.52	13.8	4.18	3.30	14.0	4.58	3.06	14.3	5.01	2.85	14.5	5.46	2.65	14.2	5.65	2.51	12.7	5.55	2.28	/	/	/
5	14.4	3.31	4.34	14.8	3.66	4.03	15.2	4.05	3.74	15.6	4.54	3.43	16.1	4.97	3.25	16.2	5.41	2.99	15.9	5.63	2.83	14.9	5.76	2.59	8.85	3.85	2.30
7	15.6	3.25	4.80	16.0	3.61	4.42	16.4	4.04	4.07	16.5	4.43	3.71	16.7	4.86	3.43	16.6	5.30	3.14	16.6	5.55	2.98	15.2	5.64	2.70	9.36	3.92	2.39
10	16.6	2.87	5.78	16.6	3.22	5.16	16.7	3.60	4.63	16.7	3.99	4.18	16.7	4.42	3.78	16.7	4.85	3.44	17.0	5.25	3.23	15.4	5.30	2.91	9.15	3.63	2.52
12	17.1	2.70	6.33	17.1	3.06	5.59	17.1	3.44	4.98	17.1	3.84	4.46	17.1	4.26	4.02	17.1	4.69	3.64	17.2	5.13	3.36	15.8	5.20	3.04	9.73	3.73	2.61
15	16.4	2.20	7.44	16.7	2.65	6.31	16.2	2.93	5.53	16.9	3.53	4.80	15.9	3.69	4.31	15.7	4.09	3.85	16.0	4.61	3.46	15.2	4.86	3.12	9.58	3.50	2.74
20	16.5	1.95	8.46	16.4	2.39	6.85	16.3	2.66	6.11	16.1	3.01	5.34	15.9	3.44	4.62	15.6	3.87	4.04	15.0	3.86	3.89	9.26	2.72	3.41	/	/	/
25	15.7	1.55	10.1	16.0	2.03	7.87	15.3	2.11	7.27	15.2	2.73	5.55	15.0	2.98	5.02	14.7	3.42	4.30	14.6	3.72	3.91	9.80	2.55	3.85	/	/	/
30	/	/	/	16.8	1.94	8.66	16.7	2.07	8.05	16.4	2.67	6.14	16.2	2.96	5.47	15.9	3.44	4.61	15.4	3.63	4.24	11.1	2.69	4.11	/	/	/
35	/	/	/	/	/	/	17.7	1.99	8.92	18.5	2.76	6.68	18.2	3.07	5.91	17.8	3.61	4.94	16.5	3.62	4.56	/	/	/	/	/	/

Part load: 100%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	7.30	3.41	2.14	7.44	3.67	2.03	7.57	3.92	1.93	7.70	4.21	1.83	5.60	3.03	1.85	/	/	/	/	/	/	/	/	/	/	/	/	
-20	8.75	3.71	2.36	8.89	3.97	2.24	9.03	4.26	2.12	9.18	4.59	2.00	9.31	4.93	1.89	9.46	5.28	1.79	6.87	3.84	1.79	/	/	/	/	/	/	
-15	10.4	3.98	2.61	10.6	4.29	2.46	10.7	4.60	2.33	10.8	4.93	2.20	11.0	5.31	2.07	11.1	5.71	1.95	10.7	5.83	1.83	6.83	3.82	1.79	/	/	/	
-10	12.2	4.21	2.90	12.4	4.54	2.73	12.6	4.89	2.57	12.7	5.28	2.41	12.9	5.69	2.26	12.8	5.96	2.14	11.7	5.80	2.02	11.4	5.90	1.93	/	/	/	
-7	11.7	4.01	2.92	12.1	4.34	2.79	12.5	4.46	2.80	12.8	5.14	2.50	12.5	5.43	2.30	12.8	5.78	2.22	11.7	5.63	2.08	11.3	5.70	1.98	/	/	/	
-5	12.0	3.89	3.08	12.4	4.21	2.94	12.8	4.62	2.78	13.1	5.02	2.61	13.1	5.35	2.44	13.0	5.64	2.30	13.0	5.83	2.23	11.3	5.59	2.02	/	/	/	
-2	12.3	3.71	3.32	12.8	4.05	3.15	13.2	4.43	2.97	13.4	4.83	2.78	13.7	5.25	2.61	13.7	5.58	2.45	13.4	5.66	2.36	11.7	5.56	2.11	/	/	/	
0	12.6	3.53	3.56	13.0	3.88	3.35	13.4	4.26	3.15	13.7	4.67	2.93	13.9	5.06	2.75	13.8	5.36	2.57	13.9	5.74	2.42	12.0	5.44	2.20	/	/	/	
2	13.1	3.45	3.79	13.5	3.81	3.55	13.0	3.71	3.50	13.6	4.38	3.11	13.0	4.64	2.80	13.0	4.68	2.77	13.0	5.60	2.32	12.7	5.55	2.28	/	/	/	
5	14.2	3.23	4.39	14.0	3.33	4.20	13.8	3.53	3.91	14.1	3.94	3.58	14.2	4.19	3.39	14.3	4.60	3.10	14.3	4.89	2.92	14.0	5.31	2.63	8.85	3.85	2.30	
7	13.9	2.65	5.23	14.0	3.01	4.66	14.1	3.00	4.70	14.2	3.60	3.95	14.5	4.08	3.55	14.2	4.32	3.28	14.0	4.75	2.95	14.0	5.09	2.75	9.36	3.92	2.39	
10	14.1	2.25	6.27	14.0	2.54	5.50	13.9	2.85	4.87	13.9	3.20	4.35	14.0	3.57	3.91	14.3	4.04	3.53	14.5	4.41	3.30	13.8	4.73	2.91	9.15	3.63	2.52	
12	13.9	2.01	6.88	13.8	2.32	5.96	13.9	2.66	5.23	13.7	2.95	4.63	13.7	3.31	4.13	13.4	3.60	3.72	14.7	4.29	3.42	13.1	4.32	3.04	9.73	3.73	2.61	
15	13.9	1.73	7.99	13.9	2.08	6.68	14.3	2.49	5.73	14.2	2.84	5.00	13.9	3.16	4.40	13.7	3.49	3.91	14.0	3.99	3.50	13.1	4.17	3.15	9.58	3.50	2.74	
20	14.1	1.60	8.81	14.1	1.85	7.64	14.2	2.22	6.39	14.5	2.64	5.48	14.2	2.99	4.73	13.9	3.38	4.12	13.3	3.39	3.93	9.26	2.72	3.41	/	/	/	
25	14.1	1.32	10.7	14.2	1.68	8.44	14.1	1.90	7.43	13.8	2.42	5.69	14.2	2.79	5.09	14.2	3.27	4.33	14.6	3.72	3.91	9.80	2.55	3.85	/	/	/	
30	/	/	/	/	13.8	1.47	9.37	13.8	1.68	8.21	14.2	2.16	6.55	13.8	2.41	5.72	13.4	2.82	4.74	13.2	3.06	4.31	11.1	2.69	4.11	/	/	/
35	/	/	/	/	/	/	/	13.7	1.52	9.00	14.3	1.86	7.67	13.7	2.08	6.59	13.7	2.58	5.32	16.5	3.52	4.69	/	/	/	/	/	/

Part load: 90%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	6.45	2.92	2.21	6.66	3.19	2.09	6.77	3.42	1.98	6.89	3.68	1.87	5.10	2.71	1.88	/	/	/	/	/	/	/	/	/	/	/	/	
-20	7.73	3.16	2.45	7.96	3.45	2.31	8.09	3.69	2.19	8.22	3.99	2.06	8.24	4.25	1.94	8.37	4.57	1.83	6.06	3.33	1.82	/	/	/	/	/	/	
-15	9.17	3.37	2.72	9.45	3.69	2.56	9.59	3.98	2.41	9.71	4.28	2.27	9.73	4.57	2.13	9.86	4.93	2.00	9.44	5.02	1.88	6.20	3.28	1.89	/	/	/	
-10	10.9	3.60	3.04	11.1	3.89	2.85	11.3	4.21	2.67	11.4	4.56	2.50	11.4	4.86	2.34	11.3	5.13	2.20	10.5	5.07	2.07	10.1	5.09	1.98	/	/	/	
-7	10.4	3.38	3.07	10.8	3.69	2.91	11.1	4.03	2.76	11.5	4.47	2.58	11.7	4.81	2.42	11.6	5.04	2.29	11.1	5.07	2.19	10.1	4.98	2.03	/	/	/	
-5	10.6	3.27	3.24	11.0	3.58	3.07	11.5	3.99	2.89	11.8	4.34	2.71	11.7	4.66	2.52	11.7	4.93	2.37	11.5	5.04	2.28	10.1	4.89	2.07	/	/	/	
-2	10.9	3.12	3.50	11.3	3.42	3.30	11.7	3.76	3.10	12.1	4.19	2.88	12.3	4.56	2.70	12.3	4.86	2.53	11.8	4.88	2.42	10.4	4.78	2.17	/	/	/	
0	12.8	2.74	4.68	11.7	3.32	3.52	12.1	3.66	3.29	12.3	4.03	3.05	12.5	4.40	2.84	12.6	4.74	2.65	12.3	4.93	2.49	10.7	4.74	2.26	/	/	/	
2	11.8	2.93	4.02	12.2	3.25	3.74	11.9	3.36	3.55	12.4	3.83	3.24	11.8	3.85	3.07	11.7	4.08	2.86	12.7	4.91	2.59	11.4	4.86	2.34	/	/	/	
5	12.8	2.74	4.68	12.6	2.86	4.40	12.4	3.03	4.09	12.7	3.42	3.71	12.5	3.62	3.46	12.6	3.99	3.15	12.6	4.26	2.95	12.3	4.65	2.65	8.50	3.50	2.43	
7	12.4	2.27	5.47	13.1	2.68	4.89	11.9	2.67	4.47	12.0	2.99	4.02	13.2	3.64	3.63	12.7	3.86	3.30	13.0	4.21	3.09	12.6	4.58	2.75	9.06	3.61	2.51	
10	12.6	1.93	6.54	12.8	2.25	5.67	12.7	2.55	4.99	12.5	2.83	4.42	12.8	3.24	3.95	12.8	3.60	3.56	12.6	3.83	3.29	12.6	4.30	2.92	8.36	3.17	2.64	
12	12.4	1.72	7.19	12.4	2.01	6.16	12.2	2.27	5.35	12.2	2.59	4.71	11.9	2.86	4.18	11.9	3.19	3.74	13.0	3.75	3.45	12.6	4.13	3.04	8.66	3.16	2.74	
15	12.7	1.54	8.25	12.8	1.84	6.93	12.8	2.17	5.90	12.8	2.50	5.11	12.4	2.77	4.49	12.2	3.07	3.97	12.0	3.36	3.58	11.7	3.67	3.18	8.80	3.07	2.87	
20	12.6	1.40	9.06	12.7	1.61	7.89	12.7	1.93	6.60	12.4	2.20	5.65	12.5	2.58	4.83	12.8	2.99	4.27	12.2	3.03	4.02	8.43	2.33	3.62	/	/	/	
25	12.3	1.13	10.9	12.8	1.44	8.88	12.7	1.72	7.40	12.7	2.15	5.90	12.4	2.36	5.24	12.0	2.70	4.43	13.0	3.27	3.99	9.59	2.34	4.09	/	/	/	
30	/	/	/	/	12.3	1.24	9.95	12.8	1.51	8.47	12.7	1.85	6.88	12.3	2.08	5.92	12.8	2.62	4.87	12.6	2.82	4.45	10.8	2.41	4.50	/	/	/
35	/	/	/	/	/	/	12.8	1.39	9.18	12.3	1.54	7.99	12.3	1.77	6.91	12.7	2.32	5.50	14.8	3.14	4.71	/	/	/	/	/	/	

Part load: 70%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	4.93	2.08	2.37	5.12	2.32	2.21	5.21	2.49	2.09	5.21	2.64	1.97	3.93	2.08	1.89	/	/	/	/	/	/	/	/	/	/	/	/	
-20	5.91	2.22	2.66	6.12	2.49	2.46	6.22	2.68	2.32	6.22	2.85	2.18	6.42	3.13	2.05	6.53	3.38	1.93	4.54	2.48	1.83	/	/	/	/	/	/	
-15	7.02	2.35	2.99	7.27	2.64	2.75	7.38	2.87	2.57	7.35	3.05	2.41	7.59	3.36	2.26	7.70	3.63	2.12	7.37	3.70	1.99	4.99	2.65	1.88	/	/	/	
-10	8.27	2.45	3.37	8.55	2.77	3.09	8.66	3.02	2.87	8.63	3.23	2.67	8.89	3.57	2.49	8.82	3.79	2.33	8.11	3.74	2.17	7.76	3.80	2.04	/	/	/	
-7	8.01	2.34	3.43	8.45	2.63	3.21	8.59	2.85	3.01	8.80	3.14	2.80	9.05	3.49	2.59	8.82	3.63	2.43	8.54	3.73	2.29	7.48	3.60	2.08	/	/	/	
-5	8.34	2.30	3.62	8.47	2.51	3.38	8.95	2.83	3.16	9.14	3.12	2.93	8.97	3.32	2.70	9.08	3.60	2.52	8.84	3.71	2.38	7.69	3.64	2.11	/	/	/	
-2	8.59	2.20	3.91	8.72	2.41	3.62	9.19	2.74	3.36	9.39	3.03	3.10	9.40	3.26	2.88	9.57	3.58	2.67	8.71	3.48	2.50	8.16	3.73	2.19	/	/	/	
0	8.43	2.02	4.17	8.54	2.22	3.84	9.18	2.59	3.55	9.56	2.93	3.26	9.73	3.23	3.01	9.77	3.50	2.79	9.06	3.53	2.57	8.26	3.64	2.27	/	/	/	
2	8.94	2.01	4.45	9.06	2.23	4.07	9.07	2.41	3.76	9.45	2.76	3.42	9.21	2.91	3.16	8.49	2.92	2.91	9.63	3.63	2.65	8.81	3.75	2.35	/	/	/	
5	10.1	1.95	5.18	9.55	2.03	4.70	9.81	2.30	4.26	9.81	2.55	3.84	9.62	2.73	3.52	9.91	3.11	3.19	9.73	3.28	2.97	9.51	3.58	2.66	6.78	2.79	2.43	
7	9.66	1.65	5.87	10.4	2.01	5.18	9.81	2.12	4.63	9.62	2.33	4.12	9.97	2.70	3.69	9.60	2.87	3.34	10.3	3.30	3.12	9.77	3.54	2.76	7.03	2.80	2.51	
10	9.21	1.31	7.04	9.87	1.68	5.89	9.82	1.92	5.12	9.87	2.19	4.51	9.89	2.47	4.01	9.91	2.76	3.59	9.87	2.96	3.33	9.48	3.25	2.92	6.65	2.52	2.64	
12	9.83	1.26	7.81	9.53	1.46	6.53	9.56	1.71	5.58	9.59	2.00	4.80	9.32	2.20	4.24	9.30	2.47	3.77	10.2	2.93	3.49	9.73	3.20	3.04	7.15	2.61	2.74	
15	9.54	1.07	8.90	9.89	1.36	7.28	9.92	1.62	6.11	9.59	1.83	5.24	9.82	2.11	4.65	9.31	2.32	4.02	9.42	2.56	3.68	9.70	3.04	3.19	7.22	2.49	2.90	
20	9.45	0.93	10.1	9.49	1.10	8.59	9.87	1.42	6.93	9.92	1.70	5.83	9.59	1.88	5.10	9.56	2.20	4.34	9.36	2.39	3.91	6.66	1.81	3.67	/	/	/	
25	9.37	0.82	11.4	9.90	1.03	9.60	9.84	1.24	7.91	9.80	1.53	6.41	9.46	1.70	5.57	9.43	2.03	4.64	10.1	2.35	4.29	7.47	1.79	4.17	/	/	/	
30	/	/	/	/	9.89	0.94	10.5	9.40	1.06	8.88	9.37	1.21	7.75	9.87	1.54	6.42	9.86	1.91	5.15	9.30	2.02	4.60	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	11.4	2.32	4.93	/	/	/	/	/	/

Part load: 50%

DB	LWT																													
	25			30			35			40			45			50			55			60			65					
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP			
-25	3.54	1.49	2.38	3.51	1.57	2.24	3.58	1.70	2.11	3.74	1.87	2.00	2.68	1.43	1.87	/	/	/	/	/	/	/	/	/	/	/	/			
-20	4.25	1.59	2.68	4.21	1.68	2.50	4.28	1.82	2.35	4.47	2.02	2.21	4.54	2.18	2.08	4.62	2.36	1.96	3.25	1.78	1.83	/	/	/	/	/	/			
-15	5.05	1.67	3.03	5.01	1.78	2.81	5.08	1.94	2.62	5.29	2.17	2.44	5.37	2.36	2.28	5.45	2.55	2.14	5.22	2.60	2.01	3.40	1.82	1.87	/	/	/			
-10	5.95	1.73	3.44	5.89	1.86	3.17	5.97	2.04	2.93	6.21	2.29	2.71	6.29	2.50	2.52	6.25	2.66	2.35	5.61	2.56	2.19	5.45	2.67	2.04	/	/	/			
-7	5.64	1.60	3.53	5.84	1.78	3.28	6.21	2.03	3.06	6.21	2.19	2.83	6.44	2.45	2.63	6.23	2.54	2.45	6.17	2.67	2.31	5.63	2.72	2.07	/	/	/			
-5	5.93	1.59	3.74	5.97	1.73	3.46	6.19	1.93	3.21	6.50	2.20	2.96	6.33	2.32	2.73	6.47	2.55	2.54	6.22	2.60	2.39	5.24	2.51	2.09	/	/	/			
-2	6.11	1.51	4.05	6.33	1.70	3.72	6.54	1.91	3.43	6.50	2.07	3.14	6.63	2.28	2.91	6.63	2.46	2.69	6.57	2.62	2.51	5.61	2.57	2.18	/	/	/			
0	5.88	1.33	4.42	6.08	1.54	3.95	6.66	1.84	3.62	6.80	2.06	3.30	6.94	2.26	3.07	6.96	2.49	2.80	6.84	2.65	2.58	5.81	2.58	2.25	/	/	/			
2	6.30	1.33	4.74	6.52	1.55	4.20	6.60	1.70	3.88	6.47	1.86	3.47	6.56	2.04	3.22	6.49	2.21	2.94	6.57	2.47	2.66	6.25	2.68	2.33	/	/	/			
5	7.52	1.29	5.85	7.35	1.44	5.11	6.97	1.55	4.49	7.24	1.81	3.99	7.01	1.96	3.58	6.80	2.11	3.23	7.08	2.36	3.00	6.93	2.61	2.66	4.58	1.91	2.40			
7	7.07	1.09	6.49	7.45	1.35	5.50	6.97	1.45	4.81	6.75	1.60	4.23	7.26	1.93	3.76	7.01	2.07	3.38	7.07	2.25	3.14	6.71	2.43	2.76	4.75	1.92	2.48			
10	6.95	0.92	7.57	7.01	1.12	6.27	6.98	1.30	5.35	6.73	1.45	4.64	6.75	1.65	4.08	7.05	1.94	3.63	7.21	2.15	3.35	6.94	2.37	2.93	5.32	2.04	2.61			
12	6.98	0.82	8.49	6.98	1.01	6.89	6.70	1.16	5.78	6.72	1.35	4.96	7.04	1.63	4.33	7.03	1.84	3.82	6.98	1.99	3.51	6.65	2.18	3.05	5.61	2.07	2.71			
15	6.69	0.72	9.23	6.68	0.82	8.17	7.03	1.06	6.64	7.00	1.25	5.58	6.99	1.46	4.78	6.70	1.61	4.16	6.60	1.76	3.76	9.06	2.83	3.20	5.61	1.93	2.91			
20	7.63	0.73	10.4	7.55	0.86	8.83	7.47	0.98	7.59	7.37	1.08	6.85	7.12	1.24	5.72	7.02	1.55	4.52	6.85	1.64	4.18	6.66	1.81	3.67	/	/	/			
25	8.70	0.74	11.7	8.61	0.89	9.72	8.50	1.01	8.38	8.22	1.11	7.38	8.12	1.28	6.34	7.92	1.65	4.80	7.67	1.68	4.57	7.47	1.79	4.17	/	/	/			
30	/	/	/	/	/	/	9.89	0.94	10.5	9.40	1.06	8.88	9.37	1.21	7.75	9.24	1.30	7.12	8.97	1.71	5.26	8.54	1.76	4.86	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	9.62	1.91	5.04	/	/	/	/	/	/	/		

Part load: 30%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	1.99	0.87	2.28	2.12	0.99	2.15	2.16	1.06	2.04	2.10	1.08	1.94	1.94	1.06	1.83	/	/	/	/	/	/	/	/	/	/	/	/
-20	2.37	0.92	2.57	2.55	1.05	2.42	2.59	1.14	2.27	2.52	1.18	2.14	2.56	1.26	2.03	2.73	1.42	1.92	2.19	1.19	1.84	/	/	/	/	/	/
-15	2.83	0.97	2.93	3.04	1.11	2.73	3.09	1.22	2.54	2.99	1.26	2.37	3.04	1.36	2.23	3.22	1.53	2.10	3.09	1.55	1.99	3.19	1.72	1.86	/	/	/
-10	3.34	0.99	3.38	3.58	1.15	3.10	3.63	1.27	2.86	3.52	1.33	2.64	3.56	1.45	2.46	3.54	1.55	2.29	3.41	1.58	2.16	3.32	1.67	1.99	/	/	/
-7	3.31	0.95	3.49	3.40	1.05	3.23	3.69	1.23	3.00	3.79	1.37	2.77	3.66	1.42	2.58	3.63	1.51	2.40	3.66	1.61	2.27	3.26	1.59	2.05	/	/	/
-5	3.47	0.90	3.84	3.48	0.99	3.51	3.60	1.11	3.23	3.87	1.33	2.90	3.86	1.42	2.72	3.85	1.53	2.52	3.61	1.54	2.35	3.25	1.57	2.07	/	/	/
-2	3.65	0.87	4.21	3.77	0.99	3.79	3.71	1.07	3.46	3.79	1.20	3.15	4.05	1.40	2.90	4.06	1.52	2.67	3.72	1.51	2.46	3.47	1.62	2.14	/	/	/
0	3.90	0.86	4.52	3.97	0.98	4.04	3.99	1.09	3.65	4.05	1.23	3.30	4.07	1.34	3.03	3.95	1.42	2.78	3.87	1.50	2.58	3.63	1.64	2.21	/	/	/
2	4.11	0.84	4.87	4.23	0.98	4.32	4.25	1.10	3.87	4.26	1.22	3.48	4.25	1.34	3.17	4.17	1.44	2.89	4.16	1.56	2.66	3.85	1.68	2.29	/	/	/
5	5.29	0.86	6.15	5.13	0.98	5.24	5.16	1.13	4.55	5.02	1.25	4.01	4.99	1.40	3.57	4.91	1.53	3.21	4.80	1.61	2.99	4.65	1.77	2.63	4.57	1.90	2.40
7	5.56	0.83	6.73	5.54	0.98	5.64	5.48	1.13	4.86	5.33	1.25	4.25	5.26	1.40	3.76	5.09	1.51	3.36	5.14	1.64	3.14	4.81	1.76	2.73	4.80	1.94	2.48
10	5.99	0.77	7.79	5.97	0.93	6.39	5.81	1.08	5.40	5.81	1.25	4.66	5.73	1.40	4.09	5.54	1.53	3.62	5.55	1.66	3.35	5.23	1.80	2.90	5.32	2.04	2.61
12	6.36	0.73	8.67	6.24	0.89	6.99	6.20	1.06	5.83	6.06	1.22	4.98	6.09	1.41	4.33	5.86	1.54	3.81	5.86	1.67	3.51	5.52	1.83	3.02	5.61	2.07	2.71
15	6.69	0.72	9.23	6.68	0.82	8.17	6.47	0.96	6.77	6.41	1.13	5.65	6.34	1.31	4.83	6.25	1.49	4.20	6.18	1.63	3.79	5.81	1.78	3.27	5.61	1.93	2.91
20	7.63	0.73	10.4	7.55	0.86	8.83	7.47	0.98	7.59	7.37	1.08	6.85	7.12	1.24	5.72	7.02	1.55	4.52	6.85	1.64	4.18	6.66	1.81	3.67	/	/	/
25	8.70	0.74	11.7	8.61	0.89	9.72	8.50	1.01	8.38	8.22	1.11	7.38	8.12	1.28	6.34	7.92	1.65	4.80	7.67	1.68	4.57	7.47	1.79	4.17	/	/	/
30	/	/	/	9.89	0.94	10.5	9.40	1.06	8.88	9.37	1.21	7.75	9.24	1.30	7.12	8.97	1.71	5.26	8.54	1.76	4.86	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	9.62	1.91	5.04	/	/	/	/	/	/

Part load: Minimum

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	1.99	0.87	2.28	1.97	0.92	2.13	1.95	0.97	2.01	1.94	1.02	1.91	1.94	1.06	1.83	/	/	/	/	/	/	/	/	/	/	/	/
-20	2.37	0.92	2.57	2.36	0.99	2.39	2.35	1.04	2.25	2.35	1.11	2.12	2.28	1.14	2.00	2.29	1.21	1.90	2.19	1.19	1.84	/	/	/	/	/	/
-15	2.83	0.97	2.93	2.83	1.04	2.71	2.79	1.11	2.51	2.74	1.17	2.34	2.73	1.24	2.20	2.69	1.30	2.07	2.59	1.31	1.98	3.19	1.72	1.86	/	/	/
-10	3.34	0.99	3.38	3.31	1.07	3.08	3.28	1.16	2.83	3.28	1.25	2.62	3.22	1.33	2.43	3.20	1.42	2.26	3.03	1.42	2.14	3.09	1.56	1.98	/	/	/
-7	3.31	0.95	3.49	3.37	1.05	3.21	3.45	1.16	2.98	3.39	1.24	2.74	3.38	1.33	2.55	3.37	1.42	2.37	3.35	1.49	2.25	3.26	1.59	2.05	/	/	/
-5	3.47	0.90	3.84	3.53	1.01	3.50	3.57	1.11	3.21	3.56	1.24	2.88	3.45	1.28	2.70	3.50	1.40	2.50	3.55	1.52	2.33	3.25	1.57	2.07	/	/	/
-2	3.65	0.87	4.21	3.70	0.98	3.79	3.80	1.10	3.45	3.82	1.22	3.14	3.74	1.29	2.89	3.77	1.42	2.66	3.78	1.54	2.45	3.47	1.62	2.14	/	/	/
0	3.90	0.86	4.52	3.97	0.98	4.04	3.99	1.09	3.65	3.98	1.21	3.30	4.07	1.34	3.03	3.95	1.43	2.77	3.95	1.54	2.57	3.63	1.64	2.21	/	/	/
2	4.11	0.84	4.87	4.23	0.98	4.32	4.25	1.10	3.87	4.26	1.22	3.48	4.25	1.34	3.17	4.17	1.44	2.89	4.12	1.55	2.66	3.85	1.68	2.29	/	/	/
5	5.29	0.86	6.15	5.13	0.98	5.24	5.16	1.13	4.55	5.02	1.25	4.01	4.99	1.40	3.57	4.91	1.53	3.21	4.80	1.61	2.99	4.65	1.77	2.63	4.57	1.90	2.40
7	5.56	0.83	6.73	5.54	0.98	5.64	5.48	1.13	4.86	5.33	1.25	4.25	5.26	1.40	3.76	5.09	1.51	3.36	5.14	1.64	3.14	4.81	1.76	2.73	4.80	1.94	2.48
10	5.99	0.77	7.79	5.97	0.93	6.39	5.81	1.08	5.40	5.81	1.25	4.66	5.73	1.40	4.09	5.54	1.53	3.62	5.55	1.66	3.35	5.23	1.80	2.90	5.32	2.04	2.61
12	6.36	0.73	8.67	6.24	0.89	6.99	6.20	1.06	5.83	6.06	1.22	4.98	6.09	1.41	4.33	5.86	1.54	3.81	5.86	1.67	3.51	5.52	1.83	3.02	5.61	2.07	2.71
15	6.69	0.72	9.23	6.68	0.82	8.17	6.47	0.96	6.77	6.41	1.13	5.65	6.34	1.31	4.83	6.25	1.49	4.20	6.18	1.63	3.79	5.81	1.78	3.27	5.61	1.93	2.91
20	7.63	0.73	10.4	7.55	0.86	8.83	7.47	0.98	7.59	7.37	1.08	6.85	7.12	1.24	5.72	7.02	1.55	4.52	6.85	1.64	4.18	6.66	1.81	3.67	/	/	/
25	8.70	0.74	11.7	8.61	0.89	9.72	8.50	1.01	8.38	8.22	1.11	7.38	8.12	1.28	6.34	7.92	1.65	4.80	7.67	1.68	4.57	7.47	1.79	4.17	/	/	/
30	/	/	/	9.89	0.94	10.5	9.40	1.06	8.88	9.37	1.21	7.75	9.24	1.30	7.12	8.97	1.71	5.26	8.54	1.76	4.86	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	9.62	1.91	5.04	/	/	/	/	/	/

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

HC: Total heating capacity (kW)

PI: Power input (kW)

MHC-V16WD2N8-C, MHC-V16WD2RN8-C

Part load: Maximum

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	7.89	3.83	2.06	8.04	4.10	1.96	8.20	4.41	1.86	8.24	4.63	1.78	5.60	3.03	1.85	/	/	/	/	/	/	/	/	/	/	/	/
-20	9.45	4.18	2.26	9.62	4.50	2.14	9.80	4.83	2.03	9.81	5.06	1.94	10.1	5.57	1.82	10.2	5.84	1.74	6.87	3.84	1.79	/	/	/	/	/	/
-15	11.2	4.50	2.49	11.4	4.85	2.35	11.6	5.22	2.22	11.8	5.61	2.10	12.0	6.04	1.98	11.9	6.28	1.89	11.0	6.06	1.81	7.01	3.94	1.78	/	/	/
-10	13.2	4.78	2.76	13.4	5.15	2.60	13.6	5.55	2.45	13.8	6.00	2.30	13.7	6.24	2.19	13.2	6.26	2.11	12.2	6.10	2.00	11.9	6.19	1.92	/	/	/
-7	12.4	4.49	2.76	12.9	4.87	2.64	13.3	5.31	2.51	13.7	5.76	2.37	13.6	6.08	2.24	13.3	6.13	2.16	12.8	6.24	2.05	11.8	6.03	1.96	/	/	/
-5	12.7	4.34	2.92	13.1	4.71	2.79	13.6	5.15	2.65	14.0	5.60	2.49	13.5	5.72	2.36	13.4	5.98	2.24	13.6	6.17	2.20	11.5	5.72	2.01	/	/	/
-2	13.1	4.15	3.15	13.6	4.52	3.00	14.1	4.95	2.84	14.5	5.49	2.64	14.3	5.66	2.53	14.1	5.89	2.39	14.3	6.15	2.32	11.9	5.68	2.10	/	/	/
0	13.7	4.06	3.36	14.1	4.45	3.18	14.6	4.88	3.00	15.0	5.34	2.80	15.0	5.67	2.64	14.5	5.82	2.49	14.5	6.05	2.40	12.4	5.67	2.18	/	/	/
2	14.2	3.99	3.57	14.7	4.37	3.37	15.2	4.80	3.17	15.6	5.27	2.95	15.5	5.63	2.76	14.7	5.61	2.62	14.9	5.99	2.48	13.1	5.76	2.27	/	/	/
5	16.4	4.08	4.01	16.9	4.50	3.75	17.4	4.95	3.51	17.9	5.53	3.24	18.8	6.04	3.11	17.4	5.95	2.92	17.1	6.17	2.78	15.3	5.95	2.57	8.99	3.89	2.31
7	17.6	3.94	4.47	18.1	4.35	4.16	18.6	4.82	3.86	18.8	5.30	3.54	19.1	5.81	3.28	18.3	5.99	3.06	17.7	6.07	2.91	15.8	5.90	2.67	9.41	3.94	2.39
10	19.0	3.58	5.30	19.1	4.00	4.78	19.2	4.44	4.33	19.3	4.90	3.94	19.4	5.39	3.59	18.6	5.58	3.33	17.9	5.65	3.17	16.1	5.56	2.89	9.72	3.86	2.52
12	19.2	3.30	5.83	19.3	3.71	5.21	19.4	4.15	4.68	19.4	4.59	4.23	19.5	5.09	3.83	19.5	5.57	3.49	18.4	5.58	3.29	16.8	5.58	3.01	10.2	3.89	2.62
15	19.1	2.71	7.06	19.1	3.15	6.04	19.0	3.58	5.30	18.9	4.02	4.69	18.7	4.48	4.18	18.6	4.95	3.75	18.3	5.45	3.35	16.7	5.33	3.14	10.5	3.78	2.77
20	18.6	2.30	8.12	18.6	2.87	6.48	18.4	3.20	5.75	18.2	3.54	5.15	18.0	3.85	4.69	17.9	4.41	4.05	16.0	4.40	3.64	9.26	2.72	3.41	/	/	/
25	16.3	1.65	9.90	16.7	2.22	7.50	16.1	2.28	7.04	15.8	2.90	5.46	15.6	3.14	4.96	15.4	3.60	4.26	15.2	3.81	3.98	9.80	2.55	3.85	/	/	/
30	/	/	/	18.3	2.19	8.32	18.1	2.35	7.70	17.8	3.01	5.91	17.6	3.30	5.32	17.3	3.84	4.50	16.7	3.92	4.25	11.1	2.69	4.11	/	/	/
35	/	/	/	/	/	/	20.3	2.38	8.56	20.0	3.16	6.35	19.7	3.45	5.70	19.4	4.04	4.80	16.5	3.62	4.56	/	/	/	/	/	/

Part load: 130%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	7.89	3.83	2.06	8.04	4.10	1.96	8.20	4.41	1.86	8.24	4.63	1.78	5.60	3.03	1.85	/	/	/	/	/	/	/	/	/	/	/	/
-20	9.45	4.18	2.26	9.62	4.50	2.14	9.80	4.83	2.03	9.81	5.06	1.94	10.1	5.57	1.82	10.2	5.84	1.74	6.87	3.84	1.79	/	/	/	/	/	/
-15	11.2	4.50	2.49	11.4	4.85	2.35	11.6	5.22	2.22	11.8	5.61	2.10	12.0	6.04	1.98	11.9	6.28	1.89	11.0	6.06	1.81	7.01	3.94	1.78	/	/	/
-10	13.2	4.78	2.76	13.4	5.15	2.60	13.6	5.55	2.45	13.8	6.00	2.30	13.7	6.24	2.19	13.2	6.26	2.11	12.2	6.10	2.00	11.9	6.19	1.92	/	/	/
-7	12.4	4.49	2.76	12.9	4.87	2.64	13.3	5.31	2.51	13.7	5.76	2.37	13.6	6.08	2.24	13.3	6.13	2.16	12.8	6.24	2.05	11.8	6.03	1.96	/	/	/
-5	12.7	4.34	2.92	13.1	4.71	2.79	13.6	5.15	2.65	14.0	5.60	2.49	13.5	5.72	2.36	13.4	5.98	2.24	13.6	6.17	2.20	11.5	5.72	2.01	/	/	/
-2	13.1	4.15	3.15	13.6	4.52	3.00	14.1	4.95	2.84	14.5	5.49	2.64	14.3	5.66	2.53	14.1	5.89	2.39	14.3	6.15	2.32	11.9	5.68	2.10	/	/	/
0	13.7	4.06	3.36	14.1	4.45	3.18	14.6	4.88	3.00	15.0	5.34	2.80	15.0	5.67	2.64	14.5	5.82	2.49	14.5	6.05	2.40	12.4	5.67	2.18	/	/	/
2	14.2	3.99	3.57	14.7	4.37	3.37	15.2	4.80	3.17	15.6	5.27	2.95	15.5	5.63	2.76	14.7	5.61	2.62	14.9	5.99	2.48	13.1	5.76	2.27	/	/	/
5	16.4	4.08	4.01	16.9	4.50	3.75	17.4	4.95	3.51	17.9	5.53	3.24	18.8	6.04	3.11	17.4	5.95	2.92	17.1	6.17	2.78	15.3	5.95	2.57	8.99	3.89	2.31
7	17.6	3.94	4.47	18.1	4.35	4.16	18.6	4.82	3.86	18.8	5.30	3.54	19.1	5.81	3.28	18.3	5.99	3.06	17.7	6.07	2.91	15.8	5.90	2.67	9.41	3.94	2.39
10	19.0	3.58	5.30	19.1	4.00	4.78	19.2	4.44	4.33	19.3	4.90	3.94	19.4	5.39	3.59	18.6	5.58	3.33	17.9	5.65	3.17	16.1	5.56	2.89	9.72	3.86	2.52
12	19.2	3.30	5.83	19.3	3.71	5.21	19.4	4.15	4.68	19.4	4.59	4.23	19.5	5.09	3.83	19.5	5.57	3.49	18.4	5.58	3.29	16.8	5.58	3.01	10.2	3.89	2.62
15	19.1	2.71	7.06	19.1	3.15	6.04	19.0	3.58	5.30	18.9	4.02	4.69	18.7	4.48	4.18	18.6	4.95	3.75	18.3	5.45	3.35	16.7	5.33	3.14	10.5	3.78	2.77
20	18.6	2.30	8.12	18.6	2.87	6.48	18.4	3.20	5.75	18.2	3.54	5.15	18.0	3.85	4.69	17.9	4.41	4.05	16.0	4.40	3.64	9.26	2.72	3.41	/	/	/
25	16.3	1.65	9.90	16.7	2.22	7.50	16.1	2.28	7.04	15.8	2.90	5.46	15.6	3.14	4.96	15.4	3.60	4.26	15.2	3.81	3.98	9.80	2.55	3.85	/	/	/
30	/	/	/	18.3	2.19	8.32	18.1	2.35	7.70	17.8	3.01	5.91	17.6	3.30	5.32	17.3	3.84	4.50	16.7	3.92	4.25	11.1	2.69	4.11	/	/	/
35	/	/	/	/	/	/	20.3	2.38	8.56	20.0	3.16	6.35	19.7	3.45	5.70	19.4	4.04	4.80	16.5	3.62	4.56	/	/	/	/	/	/

Part load: 100%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	7.89	3.83	2.06	8.04	4.10	1.96	8.20	4.41	1.86	8.24	4.63	1.78	5.60	3.03	1.85	/	/	/	/	/	/	/	/	/	/	/	/	
-20	9.45	4.18	2.26	9.62	4.50	2.14	9.80	4.83	2.03	9.81	5.06	1.94	10.1	5.57	1.82	10.2	5.84	1.74	6.87	3.84	1.79	/	/	/	/	/	/	
-15	11.2	4.50	2.49	11.4	4.85	2.35	11.6	5.22	2.22	11.8	5.61	2.10	12.0	6.04	1.98	11.9	6.28	1.89	11.0	6.06	1.81	7.01	3.94	1.78	/	/	/	
-10	13.2	4.78	2.76	13.4	5.15	2.60	13.6	5.55	2.45	13.8	6.00	2.30	13.7	6.24	2.19	13.2	6.26	2.11	12.2	6.10	2.00	11.9	6.19	1.92	/	/	/	
-7	12.5	4.48	2.79	13.0	4.88	2.66	13.5	5.00	2.70	13.8	5.77	2.39	13.5	6.00	2.25	13.4	6.14	2.18	12.8	6.24	2.05	11.8	6.03	1.96	/	/	/	
-5	12.8	4.34	2.95	13.3	4.73	2.81	13.5	5.16	2.67	14.1	5.59	2.52	13.6	5.72	2.38	13.5	5.96	2.27	13.6	6.17	2.20	11.5	5.72	2.01	/	/	/	
-2	13.2	4.14	3.19	13.7	4.52	3.03	14.2	4.94	2.87	14.6	5.48	2.67	14.5	5.67	2.55	14.2	5.90	2.41	14.3	6.15	2.32	11.9	5.68	2.10	/	/	/	
0	13.8	4.07	3.39	14.3	4.45	3.21	14.8	4.87	3.03	15.1	5.34	2.83	15.1	5.66	2.67	14.6	5.83	2.51	14.5	6.05	2.40	12.4	5.67	2.18	/	/	/	
2	14.4	3.98	3.61	14.9	4.38	3.40	14.5	4.46	3.25	15.7	5.27	2.98	14.3	5.30	2.70	14.6	5.47	2.66	13.5	5.87	2.30	13.1	5.67	2.27	/	/	/	
5	16.5	4.08	4.05	16.2	4.17	3.87	15.9	4.34	3.67	16.4	4.84	3.39	16.2	5.00	3.25	16.1	5.40	2.99	15.9	5.63	2.83	15.3	5.95	2.57	8.99	3.89	2.31	
7	16.1	3.36	4.79	16.2	3.74	4.33	16.0	3.56	4.50	16.2	4.26	3.79	16.2	4.70	3.45	16.2	5.10	3.17	16.0	5.61	2.85	15.8	5.90	2.67	9.41	3.94	2.39	
10	16.1	2.72	5.91	16.1	3.07	5.25	15.9	3.38	4.70	15.8	3.74	4.24	15.9	4.14	3.83	16.2	4.66	3.47	16.5	5.07	3.25	16.1	5.56	2.89	9.72	3.86	2.52	
12	15.8	2.39	6.63	16.1	2.81	5.72	16.2	3.19	5.07	16.1	3.53	4.56	16.2	3.98	4.07	16.2	4.41	3.68	16.4	4.79	3.41	15.8	5.20	3.04	10.2	3.89	2.62	
15	15.8	2.05	7.68	15.8	2.47	6.40	16.2	2.92	5.54	16.1	3.32	4.86	16.3	3.71	4.39	16.2	4.23	3.83	16.4	4.78	3.43	16.0	5.07	3.16	10.5	3.78	2.77	
20	16.0	1.86	8.60	15.8	2.19	7.22	16.3	2.66	6.11	16.1	3.02	5.33	15.9	3.30	4.80	15.5	3.75	4.13	16.0	4.18	3.83	9.26	2.72	3.41	/	/	/	
25	16.1	1.61	9.98	16.0	2.03	7.87	16.1	2.28	7.04	15.8	2.90	5.46	15.6	3.14	4.96	15.4	3.60	4.26	15.2	3.91	3.88	9.80	2.55	3.85	/	/	/	
30	/	/	/	/	16.2	1.83	8.83	16.1	1.97	8.15	15.7	2.50	6.28	16.2	2.96	5.47	15.7	3.43	4.59	16.0	3.67	4.37	11.1	2.69	4.11	/	/	/
35	/	/	/	/	/	/	/	16.1	1.81	8.88	16.2	2.29	7.08	15.6	2.50	6.24	15.6	3.02	5.16	16.5	3.44	4.79	/	/	/	/	/	/

Part load: 90%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	7.05	3.26	2.16	7.19	3.49	2.06	7.34	3.76	1.95	7.37	3.98	1.85	5.10	2.71	1.88	/	/	/	/	/	/	/	/	/	/	/	/	
-20	8.45	3.54	2.39	8.61	3.79	2.27	8.77	4.10	2.14	8.78	4.33	2.03	9.08	4.75	1.91	9.10	5.03	1.81	6.06	3.33	1.82	/	/	/	/	/	/	
-15	10.0	3.78	2.65	10.2	4.08	2.50	10.4	4.39	2.36	10.6	4.76	2.22	10.7	5.12	2.09	10.6	5.36	1.98	9.83	5.26	1.87	6.62	3.50	1.89	/	/	/	
-10	11.8	3.98	2.96	12.0	4.31	2.78	12.2	4.66	2.61	12.4	5.07	2.44	12.2	5.32	2.30	11.8	5.43	2.18	10.9	5.34	2.05	10.5	5.36	1.96	/	/	/	
-7	11.2	3.77	2.98	11.5	4.06	2.84	12.0	4.45	2.69	12.4	4.90	2.53	12.4	5.22	2.37	12.0	5.35	2.25	11.7	5.41	2.17	10.7	5.34	2.01	/	/	/	
-5	11.4	3.62	3.14	11.8	3.95	2.98	12.4	4.39	2.82	12.7	4.78	2.65	12.1	4.90	2.47	12.0	5.16	2.33	12.2	5.39	2.26	10.5	5.10	2.05	/	/	/	
-2	11.9	3.50	3.39	12.2	3.80	3.20	12.6	4.18	3.01	13.2	4.70	2.80	12.8	4.86	2.64	12.8	5.15	2.48	12.6	5.30	2.38	10.7	4.97	2.15	/	/	/	
0	12.2	3.41	3.59	12.7	3.75	3.38	13.1	4.14	3.17	13.6	4.60	2.95	13.6	4.93	2.76	13.1	5.07	2.59	12.9	5.22	2.46	11.1	5.16	2.15	/	/	/	
2	12.8	3.34	3.82	13.2	3.69	3.58	13.0	3.83	3.40	14.1	4.55	3.10	13.1	4.44	2.95	13.3	4.84	2.74	13.1	5.15	2.55	11.7	5.04	2.33	/	/	/	
5	14.7	3.40	4.31	14.5	3.55	4.08	14.5	3.77	3.85	14.5	4.12	3.53	14.6	4.34	3.36	14.3	4.61	3.09	14.3	4.89	2.92	13.5	5.12	2.64	8.90	3.66	2.43	
7	14.2	2.77	5.13	15.5	3.38	4.58	14.2	3.26	4.36	14.5	3.67	3.95	14.5	4.07	3.57	14.5	4.44	3.27	14.7	4.80	3.06	14.4	5.22	2.75	9.08	3.62	2.51	
10	14.4	2.31	6.24	14.5	2.64	5.48	14.5	2.98	4.86	14.5	3.33	4.34	14.5	3.71	3.90	14.3	4.05	3.52	14.5	4.41	3.29	14.4	4.95	2.92	9.19	3.47	2.65	
12	13.9	2.03	6.84	13.9	2.34	5.94	14.2	2.73	5.21	13.6	2.94	4.62	14.5	3.52	4.13	14.6	3.93	3.71	14.7	4.26	3.45	14.2	4.66	3.04	9.63	3.50	2.75	
15	14.4	1.82	7.89	14.4	2.17	6.65	14.2	2.48	5.71	14.2	2.84	4.98	13.8	3.08	4.48	13.7	3.51	3.90	14.5	4.16	3.49	14.2	4.53	3.13	10.2	3.49	2.91	
20	14.1	1.60	8.81	14.5	1.92	7.56	14.5	2.29	6.34	14.5	2.64	5.48	14.2	2.89	4.91	13.9	3.38	4.12	13.4	3.41	3.92	8.43	2.33	3.62	/	/	/	
25	14.4	1.37	10.6	14.5	1.74	8.34	14.1	1.90	7.43	13.8	2.43	5.68	12.2	2.30	5.30	13.4	3.07	4.36	13.2	3.34	3.96	9.59	2.34	4.09	/	/	/	
30	/	/	/	/	14.5	1.57	9.25	14.4	1.71	8.45	14.0	2.16	6.50	14.5	2.56	5.68	13.4	2.82	4.74	14.4	3.11	4.61	10.8	2.41	4.50	/	/	/
35	/	/	/	/	/	/	/	14.4	1.60	9.05	14.0	1.91	7.35	13.9	2.13	6.55	14.5	2.74	5.29	14.8	2.94	5.02	/	/	/	/	/	/

Part load: 70%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	5.33	2.31	2.31	5.43	2.49	2.18	5.64	2.74	2.06	5.67	2.91	1.95	3.93	2.08	1.89	/	/	/	/	/	/	/	/	/	/	/	/	
-20	6.39	2.47	2.59	6.51	2.68	2.43	6.74	2.96	2.28	6.76	3.14	2.15	6.99	3.46	2.02	6.90	3.61	1.91	4.54	2.48	1.83	/	/	/	/	/	/	
-15	7.58	2.61	2.90	7.72	2.85	2.71	7.98	3.15	2.53	8.00	3.38	2.37	8.25	3.72	2.22	8.06	3.86	2.09	7.46	3.77	1.98	5.21	2.76	1.89	/	/	/	
-10	8.93	2.73	3.27	9.08	3.00	3.03	9.37	3.32	2.82	9.38	3.58	2.62	9.44	3.84	2.46	8.97	3.87	2.32	8.45	3.89	2.17	8.10	3.97	2.04	/	/	/	
-7	8.57	2.57	3.34	8.90	2.83	3.14	9.39	3.19	2.94	9.46	3.45	2.74	9.60	3.76	2.55	9.35	3.88	2.41	8.90	3.89	2.29	8.32	4.00	2.08	/	/	/	
-5	8.76	2.47	3.54	9.25	2.79	3.32	9.44	3.05	3.10	9.66	3.35	2.88	9.51	3.56	2.67	9.30	3.73	2.49	9.41	3.97	2.37	7.62	3.61	2.11	/	/	/	
-2	9.04	2.34	3.87	9.54	2.69	3.55	9.73	2.94	3.31	10.2	3.34	3.06	10.1	3.56	2.84	9.77	3.67	2.66	9.71	3.88	2.50	8.23	3.76	2.19	/	/	/	
0	9.60	2.34	4.11	9.78	2.61	3.75	10.3	2.93	3.52	10.5	3.28	3.21	10.6	3.54	2.99	10.4	3.74	2.77	9.88	3.86	2.56	8.55	3.77	2.27	/	/	/	
2	9.83	2.24	4.38	10.4	2.61	3.97	10.3	2.76	3.72	10.8	3.20	3.37	10.2	3.25	3.14	10.1	3.51	2.89	10.3	3.89	2.65	9.09	3.87	2.35	/	/	/	
5	11.5	2.33	4.95	11.4	2.52	4.53	10.8	2.61	4.15	11.0	2.94	3.75	11.3	3.24	3.48	11.2	3.53	3.18	11.1	3.75	2.96	10.6	4.02	2.65	6.69	2.75	2.43	
7	11.2	1.97	5.71	12.0	2.40	5.01	10.7	2.35	4.53	10.5	2.56	4.09	11.4	3.11	3.68	11.2	3.38	3.33	11.2	3.62	3.09	10.9	3.95	2.76	7.01	2.79	2.51	
10	10.9	1.61	6.73	11.2	1.93	5.79	11.2	2.21	5.06	11.2	2.50	4.47	11.2	2.81	3.99	11.2	3.14	3.58	11.2	3.39	3.31	10.9	3.75	2.92	7.14	2.70	2.64	
12	10.9	1.46	7.42	10.9	1.73	6.29	11.2	2.06	5.44	11.2	2.35	4.76	11.0	2.60	4.22	11.3	3.00	3.76	11.4	3.29	3.47	11.2	3.68	3.05	7.48	2.73	2.74	
15	11.2	1.39	8.01	11.1	1.54	7.23	11.2	1.84	6.09	11.2	2.13	5.24	11.3	2.48	4.57	11.2	2.78	4.03	11.1	3.07	3.62	10.9	3.39	3.20	7.61	2.62	2.91	
20	10.8	1.16	9.29	11.2	1.39	8.08	11.3	1.69	6.64	11.2	1.99	5.65	10.9	2.18	5.02	10.6	2.48	4.26	10.4	2.60	4.02	6.66	1.81	3.67	/	/	/	
25	10.9	0.99	11.1	10.8	1.19	9.10	10.6	1.34	7.92	10.6	1.70	6.19	10.4	1.90	5.45	10.9	2.40	4.55	10.5	2.52	4.17	7.47	1.79	4.17	/	/	/	
30	/	/	/	/	11.2	1.14	9.86	11.1	1.27	8.75	11.2	1.53	7.30	10.9	1.75	6.23	11.2	2.23	5.01	11.1	2.52	4.41	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	11.2	1.52	7.35	10.9	1.89	5.78	11.4	2.06	5.54	/	/	/	/	/	/

Part load: 50%

DB	LWT																										
	25			30			35			40			45			50			55			60			65		
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP
-25	3.81	1.60	2.38	3.89	1.74	2.24	3.88	1.83	2.12	3.90	1.95	2.00	2.68	1.43	1.87	/	/	/	/	/	/	/	/	/	/	/	/
-20	4.58	1.71	2.68	4.67	1.86	2.51	4.65	1.98	2.35	4.66	2.11	2.21	4.61	2.22	2.08	4.62	2.36	1.96	3.25	1.78	1.83	/	/	/	/	/	/
-15	5.44	1.80	3.02	5.54	1.97	2.81	5.50	2.10	2.62	5.48	2.25	2.44	5.44	2.38	2.29	5.53	2.58	2.14	5.25	2.61	2.01	3.69	1.97	1.87	/	/	/
-10	6.41	1.86	3.44	6.52	2.06	3.16	6.47	2.22	2.92	6.43	2.37	2.71	6.52	2.59	2.52	6.46	2.75	2.35	5.99	2.74	2.19	5.70	2.79	2.04	/	/	/
-7	6.18	1.76	3.52	6.42	1.96	3.27	6.67	2.18	3.06	6.83	2.41	2.83	6.83	2.61	2.62	6.66	2.73	2.44	6.43	2.78	2.31	5.91	2.83	2.09	/	/	/
-5	6.17	1.66	3.72	6.57	1.90	3.45	6.82	2.12	3.21	6.98	2.36	2.96	6.77	2.49	2.72	6.74	2.66	2.53	6.51	2.72	2.39	5.75	2.73	2.11	/	/	/
-2	6.54	1.62	4.04	6.61	1.78	3.71	7.04	2.06	3.42	7.26	2.31	3.14	7.19	2.48	2.90	6.90	2.57	2.68	7.02	2.80	2.51	5.97	2.73	2.19	/	/	/
0	6.65	1.55	4.30	7.08	1.80	3.93	7.14	1.98	3.61	7.50	2.27	3.30	7.33	2.42	3.03	7.19	2.58	2.79	6.96	2.70	2.58	5.84	2.57	2.27	/	/	/
2	6.93	1.51	4.60	7.18	1.72	4.18	7.30	1.91	3.82	7.81	2.25	3.47	7.26	2.29	3.17	7.35	2.53	2.91	7.14	2.66	2.68	6.08	2.59	2.35	/	/	/
5	8.88	1.58	5.62	8.61	1.74	4.94	7.84	1.79	4.39	7.82	1.99	3.92	7.76	2.17	3.57	7.50	2.33	3.22	7.42	2.48	2.99	7.34	2.77	2.65	4.91	2.05	2.40
7	7.95	1.26	6.33	8.36	1.55	5.41	7.93	1.67	4.76	7.70	1.83	4.21	8.12	2.17	3.75	7.99	2.37	3.37	7.86	2.52	3.12	7.70	2.79	2.76	4.89	1.96	2.49
10	7.62	1.03	7.38	7.64	1.24	6.18	7.95	1.50	5.29	7.94	1.72	4.61	7.69	1.89	4.07	7.72	2.13	3.63	8.17	2.44	3.35	7.97	2.72	2.93	5.12	1.96	2.61
12	7.62	0.93	8.23	7.93	1.17	6.76	7.96	1.39	5.71	7.94	1.61	4.93	7.70	1.79	4.31	8.02	2.10	3.81	8.11	2.31	3.51	7.71	2.53	3.05	5.61	2.07	2.71
15	7.91	0.87	9.06	7.61	0.97	7.84	7.63	1.18	6.45	7.60	1.38	5.51	8.05	1.71	4.70	7.97	1.93	4.12	7.79	2.10	3.71	7.92	2.45	3.23	5.76	2.01	2.87
20	7.63	0.73	10.4	7.55	0.86	8.83	8.12	1.12	7.28	8.04	1.33	6.06	7.98	1.49	5.34	7.60	1.70	4.46	7.49	1.77	4.22	6.66	1.81	3.67	/	/	/
25	8.70	0.74	11.7	8.61	0.89	9.72	8.50	1.01	8.38	8.22	1.11	7.38	8.12	1.28	6.34	7.92	1.65	4.80	7.67	1.68	4.57	7.47	1.79	4.17	/	/	/
30	/	/	/	9.89	0.94	10.5	9.40	1.06	8.88	9.37	1.21	7.75	9.24	1.30	7.12	8.97	1.71	5.26	8.54	1.76	4.86	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	9.62	1.91	5.04	/	/	/	/	/	/

Part load: 30%

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	2.33	1.01	2.31	2.29	1.06	2.17	2.34	1.14	2.05	2.35	1.21	1.95	1.94	1.06	1.83	/	/	/	/	/	/	/	/	/	/	/	/	
-20	2.59	0.99	2.61	2.76	1.13	2.44	2.81	1.23	2.29	2.82	1.31	2.16	2.80	1.37	2.04	2.92	1.51	1.93	2.19	1.19	1.84	/	/	/	/	/	/	
-15	3.08	1.04	2.97	3.28	1.19	2.75	3.33	1.30	2.56	3.26	1.36	2.39	3.31	1.48	2.24	3.29	1.56	2.11	3.05	1.53	2.00	3.19	1.72	1.86	/	/	/	
-10	3.63	1.06	3.41	3.86	1.24	3.12	3.92	1.37	2.87	3.83	1.44	2.66	3.80	1.54	2.47	3.83	1.67	2.30	3.39	1.57	2.16	3.31	1.66	2.00	/	/	/	
-7	3.68	1.05	3.52	3.65	1.12	3.25	3.79	1.26	3.01	4.06	1.46	2.79	4.06	1.57	2.58	3.96	1.66	2.39	3.65	1.61	2.27	3.50	1.70	2.06	/	/	/	
-5	3.77	0.98	3.85	3.91	1.11	3.52	3.88	1.20	3.24	4.15	1.42	2.92	3.85	1.42	2.72	3.83	1.52	2.52	3.96	1.69	2.35	3.25	1.57	2.07	/	/	/	
-2	3.65	0.87	4.21	4.04	1.06	3.80	4.19	1.21	3.47	4.13	1.31	3.16	4.09	1.41	2.90	4.03	1.51	2.67	4.17	1.69	2.47	3.47	1.62	2.14	/	/	/	
0	3.90	0.86	4.52	4.21	1.04	4.05	4.36	1.19	3.67	4.27	1.29	3.32	4.28	1.41	3.03	4.40	1.58	2.78	4.26	1.65	2.58	3.63	1.64	2.21	/	/	/	
2	4.11	0.84	4.87	4.19	0.97	4.32	4.25	1.10	3.87	4.65	1.33	3.50	4.25	1.34	3.17	4.17	1.44	2.89	4.12	1.55	2.66	3.85	1.68	2.29	/	/	/	
5	5.29	0.86	6.15	5.13	0.98	5.24	5.16	1.13	4.55	5.02	1.25	4.01	4.99	1.40	3.57	4.91	1.53	3.21	4.80	1.61	2.99	4.65	1.77	2.63	4.50	1.88	2.39	
7	5.56	0.83	6.73	5.54	0.98	5.64	5.48	1.13	4.86	5.33	1.25	4.25	5.26	1.40	3.76	5.09	1.51	3.36	5.14	1.64	3.14	4.81	1.76	2.73	4.73	1.91	2.48	
10	5.99	0.77	7.79	5.97	0.93	6.39	5.81	1.08	5.40	5.81	1.25	4.66	5.73	1.40	4.09	5.54	1.53	3.62	5.55	1.66	3.35	5.23	1.80	2.90	5.12	1.96	2.61	
12	6.36	0.73	8.67	6.24	0.89	6.99	6.20	1.06	5.83	6.06	1.22	4.98	6.09	1.41	4.33	5.86	1.54	3.81	5.86	1.67	3.51	5.52	1.83	3.02	5.61	2.07	2.71	
15	6.69	0.72	9.23	6.58	0.79	8.35	6.47	0.96	6.77	6.41	1.13	5.65	6.34	1.31	4.83	6.25	1.49	4.20	6.18	1.63	3.79	5.81	1.78	3.27	5.76	2.01	2.87	
20	7.63	0.73	10.4	7.55	0.86	8.83	7.47	0.98	7.59	7.37	1.08	6.85	7.12	1.24	5.72	6.96	1.52	4.57	6.85	1.64	4.18	6.66	1.81	3.67	/	/	/	
25	8.70	0.74	11.7	8.61	0.89	9.72	8.50	1.01	8.38	8.22	1.11	7.38	8.12	1.28	6.34	7.92	1.65	4.80	7.67	1.68	4.57	7.47	1.79	4.17	/	/	/	
30	/	/	/	/	9.89	0.94	10.5	9.40	1.06	8.88	9.37	1.21	7.75	9.24	1.30	7.12	8.97	1.71	5.26	8.54	1.76	4.86	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	9.62	1.91	5.04	/	/	/	/	/	/

Part load: Minimum

DB	LWT																											
	25			30			35			40			45			50			55			60			65			
	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	HC	PI	COP	
-25	1.99	0.87	2.28	1.97	0.92	2.13	1.95	0.97	2.01	1.94	1.02	1.91	1.94	1.06	1.83	/	/	/	/	/	/	/	/	/	/	/	/	
-20	2.37	0.92	2.57	2.36	0.99	2.39	2.35	1.04	2.25	2.35	1.11	2.12	2.28	1.14	2.00	2.29	1.21	1.90	2.19	1.19	1.84	/	/	/	/	/	/	
-15	2.83	0.97	2.93	2.83	1.04	2.71	2.79	1.11	2.51	2.74	1.17	2.34	2.73	1.24	2.20	2.69	1.30	2.07	2.59	1.31	1.98	3.19	1.72	1.86	/	/	/	
-10	3.34	0.99	3.38	3.31	1.07	3.08	3.28	1.16	2.83	3.28	1.25	2.62	3.22	1.33	2.43	3.20	1.42	2.26	3.03	1.42	2.14	3.09	1.56	1.98	/	/	/	
-7	3.31	0.95	3.49	3.37	1.05	3.21	3.45	1.16	2.98	3.39	1.24	2.74	3.38	1.33	2.55	3.37	1.42	2.37	3.35	1.49	2.25	3.26	1.59	2.05	/	/	/	
-5	3.47	0.90	3.84	3.53	1.01	3.50	3.57	1.11	3.21	3.56	1.24	2.88	3.45	1.28	2.70	3.50	1.40	2.50	3.55	1.52	2.33	3.25	1.57	2.07	/	/	/	
-2	3.65	0.87	4.21	3.70	0.98	3.79	3.80	1.10	3.45	3.82	1.22	3.14	3.74	1.29	2.89	3.77	1.42	2.66	3.78	1.54	2.45	3.47	1.62	2.14	/	/	/	
0	3.90	0.86	4.52	3.97	0.98	4.04	3.99	1.09	3.65	3.98	1.21	3.30	4.07	1.34	3.03	3.95	1.43	2.77	3.95	1.54	2.57	3.63	1.64	2.21	/	/	/	
2	4.11	0.84	4.87	4.23	0.98	4.32	4.25	1.10	3.87	4.26	1.22	3.48	4.25	1.34	3.17	4.17	1.44	2.89	4.12	1.55	2.66	3.85	1.68	2.29	/	/	/	
5	5.29	0.86	6.15	5.13	0.98	5.24	5.16	1.13	4.55	5.02	1.25	4.01	4.99	1.40	3.57	4.91	1.53	3.21	4.80	1.61	2.99	4.65	1.77	2.63	4.50	1.88	2.39	
7	5.56	0.83	6.73	5.54	0.98	5.64	5.48	1.13	4.86	5.33	1.25	4.25	5.26	1.40	3.76	5.09	1.51	3.36	5.14	1.64	3.14	4.81	1.76	2.73	4.73	1.91	2.48	
10	5.99	0.77	7.79	5.97	0.93	6.39	5.81	1.08	5.40	5.81	1.25	4.66	5.73	1.40	4.09	5.54	1.53	3.62	5.55	1.66	3.35	5.23	1.80	2.90	5.12	1.96	2.61	
12	6.36	0.73	8.67	6.24	0.89	6.99	6.20	1.06	5.83	6.06	1.22	4.98	6.09	1.41	4.33	5.86	1.54	3.81	5.86	1.67	3.51	5.52	1.83	3.02	5.61	2.07	2.71	
15	6.69	0.72	9.23	6.68	0.82	8.17	6.47	0.96	6.77	6.41	1.13	5.65	6.34	1.31	4.83	6.25	1.49	4.20	6.18	1.63	3.79	5.81	1.78	3.27	5.76	2.01	2.87	
20	7.63	0.73	10.4	7.55	0.86	8.83	7.47	0.98	7.59	7.37	1.08	6.85	7.12	1.24	5.72	7.02	1.55	4.52	6.85	1.64	4.18	6.66	1.81	3.67	/	/	/	
25	8.70	0.74	11.7	8.61	0.89	9.72	8.50	1.01	8.38	8.22	1.11	7.38	8.12	1.28	6.34	7.92	1.65	4.80	7.67	1.68	4.57	7.47	1.79	4.17	/	/	/	
30	/	/	/	/	9.89	0.94	10.5	9.40	1.06	8.88	9.37	1.21	7.75	9.24	1.30	7.12	8.97	1.71	5.26	8.54	1.76	4.86	8.65	1.79	4.82	/	/	/
35	/	/	/	/	/	/	/	10.9	1.15	9.48	10.7	1.23	8.70	10.4	1.37	7.60	10.2	1.72	5.90	9.62	1.91	5.04	/	/	/	/	/	/

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

HC: Total heating capacity (kW)

PI: Power input (kW)

5.2 Cooling Capacity Tables (Test standard: EN14511)

MHC-V5WD2N8-C

Part load: Maximum

DB	LWT																							
	5			7			10			15			18			20			25					
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	4.56	0.56	8.21	4.79	0.57	8.41	4.96	0.58	8.60	5.47	0.60	9.04			
0	/	/	/	/	/	/	/	/	/	4.56	0.56	8.21	4.79	0.57	8.41	4.96	0.58	8.60	5.47	0.60	9.04			
5	/	/	/	/	/	/	/	/	/	4.67	0.58	8.13	4.92	0.59	8.31	5.04	0.59	8.51	5.57	0.62	8.91			
10	/	/	/	/	/	/	/	/	/	4.98	0.63	7.84	5.21	0.65	8.02	5.34	0.65	8.20	5.87	0.68	8.57			
15	/	/	/	/	/	/	6.34	0.80	7.97	7.01	0.93	7.55	7.54	1.01	7.48	7.61	0.95	8.02	7.57	0.91	8.29			
20	6.33	1.19	5.32	6.69	1.19	5.64	7.26	1.18	6.17	7.40	1.07	6.95	7.39	1.11	6.66	7.40	0.99	7.49	7.48	0.93	8.03			
25	7.03	1.61	4.38	7.43	1.61	4.60	8.03	1.62	4.97	9.10	1.62	5.64	9.78	1.61	6.07	10.23	1.60	6.38	11.39	1.58	7.19			
30	7.57	2.11	3.59	7.98	2.13	3.75	8.61	2.16	3.99	9.72	2.20	4.42	9.65	1.94	4.97	10.09	1.94	5.19	11.20	1.95	5.75			
35	7.13	2.39	2.98	6.92	2.23	3.11	8.45	2.48	3.40	9.52	2.56	3.72	9.27	2.17	4.27	9.66	2.20	4.40	10.72	2.22	4.83			
40	5.95	2.14	2.78	6.03	2.06	2.93	7.49	2.41	3.11	8.26	2.38	3.46	8.85	2.42	3.66	9.01	2.33	3.87	10.02	2.36	4.24			
43	5.14	1.92	2.68	5.35	1.92	2.79	6.48	2.17	2.99	7.36	2.22	3.31	7.90	2.25	3.51	8.27	2.26	3.65	9.24	2.31	4.01			

Part load: 130%

DB	LWT																							
	5			7			10			15			18			20			25					
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	4.56	0.56	8.21	4.79	0.57	8.41	4.96	0.58	8.60	5.47	0.60	9.04			
0	/	/	/	/	/	/	/	/	/	4.56	0.56	8.21	4.79	0.57	8.41	4.96	0.58	8.60	5.47	0.60	9.04			
5	/	/	/	/	/	/	/	/	/	4.67	0.58	8.13	4.92	0.59	8.31	5.04	0.59	8.51	5.57	0.62	8.91			
10	/	/	/	/	/	/	/	/	/	4.98	0.63	7.84	5.21	0.65	8.02	5.34	0.65	8.20	5.87	0.68	8.57			
15	/	/	/	/	/	/	6.34	0.80	7.97	7.01	0.93	7.55	7.54	1.01	7.48	7.61	0.95	8.02	7.57	0.91	8.29			
20	6.33	1.19	5.32	6.69	1.19	5.64	7.26	1.18	6.17	7.40	1.07	6.95	7.39	1.11	6.66	7.40	0.99	7.49	7.48	0.93	8.02			
25	7.03	1.61	4.38	7.07	1.49	4.75	8.03	1.62	4.97	8.38	1.40	5.99	8.67	1.39	6.22	8.25	1.06	7.76	8.35	1.13	7.41			
30	6.99	1.87	3.74	7.40	1.89	3.92	8.32	2.03	4.09	8.43	1.73	4.87	8.34	1.59	5.24	8.34	1.38	6.05	7.99	1.25	6.42			
35	6.91	2.27	3.04	6.19	1.94	3.19	8.26	2.39	3.46	8.40	2.07	4.05	8.82	2.02	4.37	8.40	1.72	4.87	8.62	1.47	5.87			
40	5.95	2.14	2.78	6.03	2.06	2.93	7.49	2.41	3.11	8.26	2.38	3.46	8.67	2.34	3.71	8.40	2.08	4.05	8.65	1.82	4.76			
43	5.14	1.92	2.68	5.35	1.92	2.79	6.48	2.17	2.99	7.36	2.22	3.31	7.90	2.25	3.51	8.27	2.26	3.65	8.40	1.96	4.29			

Part load: 100%

DB	LWT																							
	5			7			10			15			18			20			25					
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	4.56	0.56	8.21	4.79	0.57	8.41	4.96	0.58	8.60	5.47	0.60	9.04			
0	/	/	/	/	/	/	/	/	/	4.56	0.56	8.21	4.79	0.57	8.41	4.96	0.58	8.60	5.47	0.60	9.04			
5	/	/	/	/	/	/	/	/	/	4.67	0.58	8.13	4.92	0.59	8.31	5.04	0.59	8.51	5.57	0.62	8.91			
10	/	/	/	/	/	/	/	/	/	4.98	0.63	7.84	5.21	0.65	8.02	5.34	0.64	8.37	5.87	0.68	8.57			
15	/	/	/	/	/	/	6.34	0.80	7.97	6.51	0.85	7.62	6.54	0.86	7.57	6.51	0.81	8.07	6.57	0.78	8.37			
20	5.62	1.00	5.62	5.66	0.94	6.00	6.43	1.00	6.44	6.48	0.91	7.11	6.49	0.95	6.86	6.50	0.85	7.61	6.48	0.79	8.22			
25	5.66	1.21	4.67	5.50	1.07	5.12	6.55	1.19	5.52	6.60	0.95	6.96	6.83	1.06	6.43	6.49	0.69	9.39	6.57	0.86	7.60			
30	5.45	1.37	3.99	5.77	1.37	4.20	6.55	1.43	4.57	6.65	1.20	5.55	6.57	1.09	6.01	6.57	0.93	7.07	6.29	0.92	6.86			
35	5.32	1.68	3.16	5.50	1.69	3.25	6.51	1.69	3.85	6.64	1.45	4.57	6.50	1.27	5.10	6.63	1.19	5.58	6.81	1.06	6.43			
40	5.42	1.85	2.93	5.60	1.85	3.02	6.68	2.05	3.26	6.63	1.73	3.84	6.87	1.64	4.19	6.65	1.45	4.58	6.85	1.25	5.50			
43	5.24	1.96	2.68	5.35	1.92	2.79	6.48	2.17	2.99	6.66	1.93	3.45	6.67	1.75	3.81	6.74	1.66	4.06	6.65	1.36	4.90			

Part load: 90%

DB	LWT																							
	5			7			10			15			18			20			25					
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	8.28	1.00	8.28	8.48	1.00	8.48	8.67	1.00	8.67	9.11	1.00	9.11			
0	/	/	/	/	/	/	/	/	/	8.28	1.00	8.28	8.48	1.00	8.48	8.67	1.00	8.67	9.11	1.00	9.11			
5	/	/	/	/	/	/	/	/	/	8.19	1.00	8.19	8.37	1.00	8.37	8.57	0.99	8.67	8.98	1.00	8.98			
10	/	/	/	/	/	/	/	/	/	7.88	1.00	7.88	8.06	1.00	8.06	8.42	1.00	8.42	8.62	1.00	8.62			
15	/	/	/	/	/	/	8.63	1.00	8.63	7.80	1.00	7.80	7.69	1.00	7.69	8.20	1.00	8.20	8.49	1.00	8.49			
20	5.76	1.00	5.76	6.30	1.00	6.30	6.84	1.00	6.84	7.51	1.00	7.51	7.27	1.00	7.27	7.84	1.00	7.84	8.45	1.00	8.45			
25	4.84	1.00	4.84	5.37	1.00	5.37	5.77	1.00	5.77	7.35	1.00	7.35	6.75	1.00	6.75	10.09	1.00	10.09	7.92	1.00	7.92			
30	4.10	1.00	4.10	4.34	1.00	4.34	4.74	1.00	4.74	5.81	1.00	5.81	6.43	0.95	6.75	7.47	1.00	7.47	7.36	1.00	7.36			
35	3.35	1.00	3.35	3.45	1.00	3.45	3.98	1.00	3.98	4.75	1.00	4.75	5.24	1.00	5.24	5.84	1.00	5.84	6.81	1.00	6.81			
40	3.00	1.00	3.00	3.11	1.00	3.11	3.37	1.00	3.37	3.98	1.00	3.98	4.36	0.83	5.24	4.76	1.00	4.76	5.77	1.00	5.77			
43	2.74	1.00	2.74	2.87	1.00	2.87	3.09	1.00	3.09	3.58	1.00	3.58	3.95	0.75	5.24	4.21	1.00	4.21	5.11	1.00	5.11			

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

Part load: 70%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	3.19	0.38	8.49	3.35	0.39	8.68	3.47	0.39	8.89	3.83	0.41	9.32
0	/	/	/	/	/	/	/	/	/	3.19	0.38	8.49	3.35	0.39	8.68	3.47	0.39	8.89	3.83	0.41	9.32
5	/	/	/	/	/	/	/	/	/	3.27	0.39	8.38	3.45	0.40	8.56	3.53	0.40	8.76	3.90	0.43	9.17
10	/	/	/	/	/	/	/	/	/	3.48	0.43	8.01	3.65	0.45	8.19	3.74	0.44	8.55	4.11	0.47	8.75
15	/	/	/	/	/	/	4.56	0.44	10.47	4.65	0.58	7.96	4.49	0.56	7.96	4.66	0.55	8.44	4.51	0.52	8.69
20	3.87	0.61	6.35	4.06	0.58	7.02	4.46	0.57	7.83	4.49	0.58	7.80	4.49	0.58	7.78	4.50	0.55	8.11	4.48	0.51	8.71
25	3.92	0.76	5.19	3.93	0.69	5.72	4.69	0.75	6.30	4.73	0.63	7.55	4.70	0.65	7.23	4.64	0.39	11.96	4.83	0.60	8.12
30	3.78	0.87	4.34	4.00	0.87	4.63	4.70	0.92	5.10	4.77	0.75	6.36	4.52	0.67	6.71	4.51	0.54	8.42	4.67	0.59	7.86
35	3.92	1.08	3.64	3.85	1.04	3.71	4.54	1.07	4.25	4.61	0.90	5.12	5.03	0.88	5.73	4.57	0.71	6.42	4.89	0.67	7.31
40	4.19	1.34	3.14	4.46	1.36	3.28	4.81	1.35	3.57	4.77	1.13	4.24	4.78	1.02	4.70	4.79	0.93	5.13	4.72	0.74	6.36
43	4.10	1.43	2.87	4.33	1.44	3.01	4.68	1.43	3.27	4.65	1.22	3.81	4.65	1.10	4.22	4.68	1.03	4.53	4.59	0.82	5.56

Part load: 50%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	2.95	0.33	9.08	3.23	0.34	9.52
0	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	2.95	0.33	9.08	3.23	0.34	9.52
5	/	/	/	/	/	/	/	/	/	2.96	0.35	8.48	3.07	0.35	8.66	3.01	0.34	8.92	3.27	0.35	9.34
10	/	/	/	/	/	/	/	/	/	2.95	0.36	8.16	3.06	0.37	8.33	2.83	0.33	8.58	3.14	0.35	8.94
15	/	/	/	/	/	/	3.37	0.45	7.45	3.89	0.50	7.82	4.19	0.53	7.97	4.52	0.54	8.36	5.12	0.58	8.81
20	2.77	0.39	7.15	2.98	0.37	8.03	3.27	0.47	7.01	3.80	0.52	7.35	4.12	0.54	7.62	4.38	0.55	7.92	4.96	0.59	8.37
25	2.94	0.53	5.57	2.89	0.47	6.18	3.40	0.49	6.92	3.67	0.51	7.23	3.99	0.53	7.56	4.20	0.33	12.87	4.83	0.60	8.12
30	2.83	0.62	4.57	3.00	0.61	4.92	3.27	0.60	5.48	3.54	0.51	6.87	3.84	0.54	7.10	4.04	0.45	9.04	4.67	0.59	7.86
35	2.94	0.77	3.81	2.88	0.74	3.89	3.26	0.73	4.49	3.31	0.60	5.51	3.69	0.59	6.27	3.88	0.57	6.86	4.49	0.61	7.31
40	3.04	0.94	3.24	3.34	0.98	3.42	3.37	0.90	3.75	3.31	0.74	4.48	3.61	0.72	5.02	3.72	0.68	5.44	4.30	0.65	6.66
43	3.06	1.03	2.96	3.24	1.04	3.12	3.27	0.96	3.41	3.50	0.88	4.01	3.51	0.79	4.47	3.62	0.75	4.81	4.18	0.72	5.78

Part load: 30%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	2.95	0.33	9.08	3.23	0.34	9.52
0	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	2.95	0.33	9.08	3.23	0.34	9.52
5	/	/	/	/	/	/	/	/	/	2.96	0.35	8.48	3.07	0.35	8.66	3.01	0.34	8.92	3.27	0.35	9.34
10	/	/	/	/	/	/	/	/	/	2.95	0.36	8.16	3.06	0.37	8.33	2.83	0.33	8.58	3.14	0.35	8.94
15	/	/	/	/	/	/	3.37	0.45	7.45	3.89	0.50	7.82	4.19	0.53	7.97	4.52	0.54	8.36	5.12	0.58	8.81
20	2.80	0.39	7.25	3.00	0.44	6.87	3.27	0.47	7.01	3.80	0.52	7.35	4.12	0.54	7.62	4.38	0.55	7.92	4.96	0.59	8.37
25	2.71	0.48	5.66	2.89	0.47	6.18	3.14	0.51	6.14	3.67	0.51	7.23	3.99	0.53	7.56	4.20	0.33	12.87	4.83	0.60	8.12
30	2.61	0.57	4.61	2.78	0.56	4.98	3.05	0.55	5.58	3.54	0.51	6.87	3.84	0.54	7.10	4.04	0.45	9.04	4.67	0.59	7.86
35	2.51	0.65	3.86	2.67	0.65	4.12	2.93	0.64	4.56	3.31	0.60	5.51	3.69	0.59	6.27	3.88	0.57	6.86	4.49	0.61	7.31
40	2.41	0.74	3.25	2.57	0.74	3.46	2.81	0.74	3.81	3.31	0.74	4.48	3.61	0.72	5.02	3.72	0.68	5.44	4.30	0.65	6.66
43	2.32	0.78	2.97	2.50	0.79	3.15	2.74	0.79	3.45	3.50	0.88	4.01	3.51	0.79	4.47	3.62	0.75	4.81	4.18	0.72	5.78

Part load: Minimum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	2.95	0.33	9.08	3.23	0.34	9.52
0	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	2.95	0.33	9.08	3.23	0.34	9.52
5	/	/	/	/	/	/	/	/	/	2.96	0.35	8.48	3.07	0.35	8.66	3.01	0.34	8.92	3.27	0.35	9.34
10	/	/	/	/	/	/	/	/	/	2.95	0.36	8.16	3.06	0.37	8.33	2.83	0.33	8.58	3.14	0.35	8.94
15	/	/	/	/	/	/	3.37	0.45	7.45	3.89	0.50	7.82	4.19	0.53	7.97	4.52	0.54	8.36	5.12	0.58	8.81
20	2.80	0.39	7.25	3.00	0.44	6.87	3.27	0.47	7.01	3.80	0.52	7.35	4.12	0.54	7.62	4.38	0.55	7.92	4.96	0.59	8.37
25	2.71	0.48	5.66	2.89	0.47	6.18	3.14	0.51	6.14	3.67	0.51	7.23	3.99	0.53	7.56	4.20	0.33	12.87	4.83	0.60	8.12
30	2.61	0.57	4.61	2.78	0.56	4.98	3.05	0.55	5.58	3.54	0.51	6.87	3.84	0.54	7.10	4.04	0.45	9.04	4.67	0.59	7.86
35	2.51	0.65	3.86	2.67	0.65	4.12	2.93	0.64	4.56	3.31	0.60	5.51	3.69	0.59	6.27	3.88	0.57	6.86	4.49	0.61	7.31
40	2.41	0.74	3.25	2.57	0.74	3.46	2.81	0.74	3.81	3.31	0.74	4.48	3.61	0.72	5.02	3.72	0.68	5.44	4.30	0.65	6.66
43	2.32	0.78	2.97	2.50	0.79	3.15	2.74	0.79	3.45	3.50	0.88	4.01	3.51	0.79	4.47	3.62	0.75	4.81	4.18	0.72	5.78

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

MHC-V7WD2N8-C

Part load: Maximum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	4.84	0.59	8.15	5.09	0.61	8.35	5.27	0.62	8.55	5.81	0.65	8.98
0	/	/	/	/	/	/	/	/	/	4.84	0.59	8.15	5.09	0.61	8.35	5.27	0.62	8.55	5.81	0.65	8.98
5	/	/	/	/	/	/	/	/	/	4.97	0.62	8.07	5.23	0.63	8.26	5.35	0.63	8.45	5.92	0.67	8.86
10	/	/	/	/	/	/	/	/	/	5.27	0.68	7.79	5.51	0.69	7.97	5.66	0.69	8.15	6.21	0.73	8.53
15	/	/	/	/	/	/	6.96	0.87	8.04	7.71	1.05	7.38	8.29	1.13	7.32	8.67	1.13	7.65	8.59	1.02	8.42
20	7.06	1.35	5.22	7.47	1.35	5.52	8.08	1.34	6.03	8.94	1.35	6.63	9.10	1.44	6.34	9.11	1.28	7.10	9.42	1.20	7.87
25	7.72	1.80	4.30	8.18	1.81	4.51	8.80	1.80	4.88	9.99	1.81	5.51	10.70	1.80	5.94	11.20	1.80	6.22	11.67	1.68	6.96
30	8.26	2.36	3.50	8.70	2.38	3.65	10.35	2.85	3.63	10.36	2.35	4.40	10.86	2.27	4.78	11.11	2.18	5.10	11.49	1.91	6.01
35	8.27	2.76	2.99	8.72	2.80	3.11	9.40	2.85	3.29	9.93	2.62	3.79	10.41	2.55	4.09	10.64	2.45	4.34	11.03	2.14	5.14
40	7.04	2.53	2.78	7.42	2.56	2.90	8.02	2.61	3.08	9.04	2.66	3.40	9.70	2.70	3.60	10.13	2.72	3.73	10.55	2.43	4.34
43	6.31	2.39	2.64	6.66	2.42	2.76	7.23	2.46	2.93	8.17	2.51	3.25	8.77	2.54	3.45	9.20	2.56	3.59	9.98	2.49	4.02

Part load: 130%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	4.84	0.59	8.15	5.09	0.61	8.35	5.27	0.62	8.55	5.81	0.65	8.98
0	/	/	/	/	/	/	/	/	/	4.84	0.59	8.15	5.09	0.61	8.35	5.27	0.62	8.55	5.81	0.65	8.98
5	/	/	/	/	/	/	/	/	/	4.97	0.62	8.07	5.23	0.63	8.26	5.35	0.63	8.45	5.92	0.67	8.86
10	/	/	/	/	/	/	/	/	/	5.27	0.68	7.79	5.51	0.69	7.97	5.66	0.69	8.15	6.21	0.73	8.53
15	/	/	/	/	/	/	6.96	0.99	7.04	7.71	1.09	7.08	8.29	1.13	7.32	8.67	1.13	7.65	8.59	1.02	8.42
20	7.06	1.35	5.22	7.47	1.35	5.52	8.08	1.34	6.03	8.94	1.41	6.34	9.10	1.44	6.34	9.11	1.28	7.10	9.42	1.20	7.87
25	7.72	1.80	4.30	8.18	1.81	4.51	8.80	1.80	4.88	9.99	1.81	5.51	10.70	1.80	5.94	10.77	1.70	6.32	10.61	1.49	7.13
30	8.26	2.36	3.50	8.70	2.38	3.65	10.35	2.85	3.63	10.36	2.35	4.40	10.57	2.15	4.91	10.58	1.97	5.37	10.58	1.70	6.22
35	8.27	2.76	2.99	8.72	2.80	3.11	9.40	2.85	3.29	9.93	2.62	3.79	10.41	2.55	4.09	10.57	2.42	4.37	10.59	1.99	5.32
40	7.04	2.53	2.78	7.42	2.56	2.90	8.02	2.61	3.08	9.04	2.66	3.40	9.70	2.70	3.60	10.13	2.72	3.73	10.52	2.42	4.35
43	6.31	2.39	2.64	6.66	2.42	2.76	7.23	2.46	2.93	8.17	2.51	3.25	8.77	2.54	3.45	9.20	2.56	3.59	9.98	2.49	4.02

Part load: 100%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	4.84	0.59	8.15	5.09	0.61	8.35	5.27	0.62	8.55	5.81	0.65	8.98
0	/	/	/	/	/	/	/	/	/	4.84	0.59	8.15	5.09	0.61	8.35	5.27	0.62	8.55	5.81	0.65	8.98
5	/	/	/	/	/	/	/	/	/	4.97	0.62	8.07	5.23	0.63	8.26	5.35	0.63	8.45	5.92	0.67	8.86
10	/	/	/	/	/	/	/	/	/	5.27	0.68	7.79	5.51	0.69	7.97	5.66	0.69	8.15	6.21	0.73	8.53
15	/	/	/	/	/	/	6.96	0.99	7.04	7.71	1.09	7.08	8.29	1.13	7.32	8.37	1.07	7.84	8.32	0.99	8.40
20	7.13	1.34	5.31	7.47	1.35	5.52	8.08	1.34	6.03	8.32	1.28	6.52	8.31	1.29	6.45	8.32	1.15	7.25	8.41	1.06	7.96
25	7.38	1.72	4.28	7.39	1.60	4.61	8.35	1.72	4.86	8.38	1.40	5.99	8.39	1.39	6.02	8.40	1.26	6.65	8.30	1.10	7.56
30	7.36	1.99	3.70	7.38	1.86	3.97	8.29	1.95	4.25	8.32	1.62	5.13	8.33	1.53	5.46	8.34	1.36	6.11	8.27	1.29	6.40
35	7.38	2.32	3.18	7.40	2.35	3.15	8.30	2.32	3.57	8.33	1.96	4.26	8.30	1.71	4.85	8.36	1.64	5.09	8.37	1.33	6.27
40	7.04	2.53	2.78	7.42	2.56	2.90	8.02	2.61	3.08	8.42	2.37	3.55	8.32	2.11	3.94	8.33	1.98	4.21	8.34	1.65	5.06
43	6.31	2.39	2.64	6.66	2.42	2.76	7.23	2.46	2.93	8.33	2.58	3.22	8.40	2.38	3.53	8.36	2.22	3.77	8.37	1.87	4.47

Part load: 90%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	4.22	0.51	8.23	4.43	0.53	8.42	4.59	0.53	8.62	5.06	0.56	9.05
0	/	/	/	/	/	/	/	/	/	4.22	0.51	8.23	4.43	0.53	8.42	4.59	0.53	8.62	5.06	0.56	9.05
5	/	/	/	/	/	/	/	/	/	4.33	0.53	8.14	4.56	0.55	8.32	4.66	0.55	8.52	5.15	0.58	8.92
10	/	/	/	/	/	/	/	/	/	4.74	0.61	7.84	4.96	0.62	8.02	5.09	0.62	8.20	5.59	0.65	8.57
15	/	/	/	/	/	/	6.16	0.85	7.25	7.02	0.97	7.25	7.55	1.02	7.43	7.63	0.96	7.97	7.58	0.89	8.52
20	6.41	1.17	5.46	6.78	1.17	5.81	7.34	1.15	6.40	7.42	1.08	6.87	6.92	1.01	6.83	7.42	0.99	7.47	7.40	0.91	8.18
25	6.51	1.50	4.34	6.38	1.36	4.68	7.51	1.52	4.94	7.37	1.18	6.26	7.36	1.14	6.47	7.35	1.07	6.85	7.32	0.94	7.78
30	6.68	1.73	3.85	6.30	1.53	4.13	7.39	1.67	4.42	7.55	1.41	5.36	7.56	1.24	6.10	7.37	1.17	6.32	7.51	1.11	6.75
35	6.59	1.99	3.30	6.72	1.91	3.52	7.55	2.02	3.74	7.57	1.71	4.44	7.59	1.54	4.92	7.41	1.39	5.32	7.60	1.15	6.61
40	6.28	2.19	2.87	6.62	2.21	3.00	7.17	2.24	3.21	7.66	2.08	3.69	7.57	1.85	4.10	7.57	1.72	4.39	7.58	1.43	5.30
43	5.73	2.13	2.70	6.05	2.14	2.82	6.57	2.18	3.02	7.44	2.22	3.35	7.49	2.04	3.67	7.44	1.89	3.93	7.42	1.58	4.68

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

Part load: 70%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	3.39	0.40	8.43	3.56	0.41	8.63	3.69	0.42	8.83	4.06	0.44	9.26
0	/	/	/	/	/	/	/	/	/	3.39	0.40	8.43	3.56	0.41	8.63	3.69	0.42	8.83	4.06	0.44	9.26
5	/	/	/	/	/	/	/	/	/	3.48	0.42	8.32	3.66	0.43	8.50	3.75	0.43	8.71	4.14	0.45	9.11
10	/	/	/	/	/	/	/	/	/	3.54	0.44	7.97	3.71	0.46	8.14	3.80	0.46	8.33	4.18	0.48	8.70
15	/	/	/	/	/	/	4.95	0.67	7.36	5.33	0.71	7.51	5.74	0.75	7.70	5.80	0.71	8.20	5.76	0.66	8.72
20	4.90	0.83	5.89	5.19	0.82	6.33	5.62	0.79	7.09	5.97	0.84	7.07	5.96	0.83	7.16	5.97	0.77	7.73	6.02	0.71	8.44
25	5.14	1.08	4.76	5.28	1.02	5.17	5.98	1.07	5.58	5.99	0.88	6.78	5.80	0.86	6.78	6.00	0.85	7.06	6.00	0.75	8.01
30	5.28	1.30	4.06	5.15	1.18	4.36	5.78	1.20	4.81	5.77	0.97	5.93	5.95	0.94	6.34	5.95	0.90	6.59	5.95	0.82	7.28
35	5.28	1.50	3.51	5.16	1.38	3.75	5.81	1.44	4.03	5.80	1.20	4.84	5.99	1.10	5.46	5.99	1.01	5.96	5.77	0.82	7.03
40	5.06	1.69	2.99	5.34	1.70	3.15	5.66	1.66	3.40	5.90	1.47	4.02	5.81	1.29	4.49	5.80	1.20	4.84	5.77	0.97	5.96
43	4.52	1.59	2.84	4.77	1.60	2.99	5.19	1.61	3.22	6.00	1.65	3.64	5.89	1.47	4.01	5.84	1.36	4.31	6.01	1.15	5.21

Part load: 50%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.82	0.32	8.88	2.95	0.33	9.08	3.23	0.34	9.52
0	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.82	0.32	8.88	2.95	0.33	9.08	3.23	0.34	9.52
5	/	/	/	/	/	/	/	/	/	2.96	0.35	8.48	2.90	0.33	8.72	3.01	0.34	8.92	3.27	0.35	9.34
10	/	/	/	/	/	/	/	/	/	2.95	0.36	8.16	2.76	0.33	8.38	2.83	0.33	8.58	3.14	0.35	8.94
15	/	/	/	/	/	/	3.61	0.47	7.64	4.04	0.52	7.78	4.36	0.55	7.99	4.41	0.52	8.49	5.12	0.58	8.81
20	3.66	0.55	6.63	3.88	0.54	7.25	4.21	0.57	7.38	4.38	0.60	7.29	4.37	0.58	7.54	4.21	0.53	7.96	4.96	0.59	8.37
25	3.71	0.71	5.24	3.70	0.65	5.73	4.37	0.69	6.36	4.38	0.63	6.91	4.38	0.62	7.07	4.17	0.55	7.52	4.23	0.52	8.16
30	3.82	0.88	4.36	3.82	0.81	4.70	4.17	0.80	5.21	4.15	0.63	6.55	4.14	0.62	6.69	4.12	0.59	7.02	4.69	0.62	7.60
35	3.72	1.01	3.69	3.72	0.94	3.95	4.34	1.00	4.32	4.35	0.83	5.25	4.36	0.73	5.94	4.36	0.67	6.55	4.51	0.62	7.31
40	3.55	1.12	3.16	3.75	1.12	3.35	4.07	1.12	3.65	4.42	1.03	4.30	4.19	0.87	4.82	4.17	0.80	5.23	4.33	0.66	6.58
43	3.29	1.13	2.92	3.47	1.13	3.08	3.78	1.13	3.35	4.39	1.13	3.87	4.42	1.03	4.29	4.39	0.95	4.62	4.18	0.74	5.68

Part load: 30%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.82	0.32	8.88	2.95	0.33	9.08	3.23	0.34	9.52
0	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.82	0.32	8.88	2.95	0.33	9.08	3.23	0.34	9.52
5	/	/	/	/	/	/	/	/	/	2.96	0.35	8.48	2.90	0.33	8.72	3.01	0.34	8.92	3.27	0.35	9.34
10	/	/	/	/	/	/	/	/	/	2.95	0.36	8.16	2.76	0.33	8.38	2.83	0.33	8.58	3.14	0.35	8.94
15	/	/	/	/	/	/	3.37	0.45	7.45	3.89	0.50	7.82	4.19	0.53	7.97	4.52	0.54	8.36	5.12	0.58	8.81
20	2.82	0.39	7.22	3.00	0.44	6.87	3.27	0.47	7.01	3.80	0.52	7.35	4.12	0.54	7.62	4.38	0.55	7.92	4.96	0.59	8.37
25	2.72	0.48	5.66	2.87	0.46	6.19	3.14	0.51	6.14	3.69	0.53	7.02	3.98	0.56	7.15	4.22	0.56	7.50	4.23	0.52	8.16
30	2.61	0.58	4.48	2.82	0.58	4.84	3.03	0.55	5.48	3.55	0.52	6.87	3.89	0.57	6.78	4.13	0.59	7.01	4.69	0.62	7.60
35	2.50	0.66	3.77	2.64	0.65	4.04	2.91	0.65	4.50	3.41	0.62	5.46	3.72	0.61	6.11	3.87	0.59	6.52	4.51	0.62	7.31
40	2.40	0.76	3.16	2.57	0.76	3.37	2.82	0.76	3.72	3.27	0.74	4.42	3.59	0.73	4.94	3.78	0.71	5.34	4.33	0.66	6.58
43	2.37	0.82	2.90	2.47	0.80	3.07	2.72	0.81	3.37	3.18	0.80	3.97	3.46	0.79	4.40	3.64	0.77	4.73	4.18	0.74	5.68

Part load: Minimum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.82	0.32	8.88	2.95	0.33	9.08	3.23	0.34	9.52
0	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.82	0.32	8.88	2.95	0.33	9.08	3.23	0.34	9.52
5	/	/	/	/	/	/	/	/	/	2.96	0.35	8.48	2.90	0.33	8.72	3.01	0.34	8.92	3.27	0.35	9.34
10	/	/	/	/	/	/	/	/	/	2.95	0.36	8.16	2.76	0.33	8.38	2.83	0.33	8.58	3.14	0.35	8.94
15	/	/	/	/	/	/	3.37	0.45	7.45	3.89	0.50	7.82	4.19	0.53	7.97	4.52	0.54	8.36	5.12	0.58	8.81
20	2.82	0.39	7.22	3.00	0.44	6.87	3.27	0.47	7.01	3.80	0.52	7.35	4.12	0.54	7.62	4.38	0.55	7.92	4.96	0.59	8.37
25	2.72	0.48	5.66	2.87	0.46	6.19	3.14	0.51	6.14	3.69	0.53	7.02	3.98	0.56	7.15	4.22	0.56	7.50	4.23	0.52	8.16
30	2.61	0.58	4.48	2.82	0.58	4.84	3.03	0.55	5.48	3.55	0.52	6.87	3.89	0.57	6.78	4.13	0.59	7.01	4.69	0.62	7.60
35	2.50	0.66	3.77	2.64	0.65	4.04	2.91	0.65	4.50	3.41	0.62	5.46	3.72	0.61	6.11	3.87	0.59	6.52	4.51	0.62	7.31
40	2.40	0.76	3.16	2.57	0.76	3.37	2.82	0.76	3.72	3.27	0.74	4.42	3.59	0.73	4.94	3.78	0.71	5.34	4.33	0.66	6.58
43	2.37	0.82	2.90	2.47	0.80	3.07	2.72	0.81	3.37	3.18	0.80	3.97	3.46	0.79	4.40	3.64	0.77	4.73	4.18	0.74	5.68

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

MHC-V9WD2N8-C

Part load: Maximum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	5.13	0.63	8.10	5.39	0.65	8.30	5.58	0.66	8.50	6.15	0.69	8.92
0	/	/	/	/	/	/	/	/	/	5.13	0.63	8.10	5.39	0.65	8.30	5.58	0.66	8.50	6.15	0.69	8.92
5	/	/	/	/	/	/	/	/	/	5.26	0.66	8.02	5.54	0.68	8.20	5.67	0.67	8.40	6.27	0.71	8.80
10	/	/	/	/	/	/	/	/	/	5.86	0.76	7.75	6.13	0.77	7.93	6.29	0.78	8.11	6.91	0.81	8.48
15	/	/	/	/	/	/	8.05	1.18	6.81	9.12	1.27	7.19	9.80	1.37	7.13	10.24	1.37	7.46	11.47	1.44	7.97
20	7.81	1.53	5.10	8.25	1.53	5.40	8.92	1.51	5.90	10.08	1.48	6.83	10.83	1.76	6.14	11.36	1.69	6.72	12.34	1.71	7.23
25	8.54	2.12	4.04	9.00	2.13	4.22	9.74	2.16	4.50	10.71	2.08	5.14	11.20	1.99	5.63	11.46	1.93	5.95	11.95	1.82	6.56
30	9.17	2.78	3.30	9.65	2.82	3.43	10.00	2.69	3.73	10.34	2.35	4.41	10.83	2.26	4.79	11.09	2.17	5.11	11.49	1.85	6.20
35	9.12	3.21	2.84	9.58	3.26	2.94	9.58	2.95	3.25	9.94	2.62	3.79	10.38	2.53	4.10	10.62	2.44	4.35	11.02	2.14	5.15
40	7.04	2.53	2.78	7.42	2.59	2.86	8.02	2.61	3.08	9.07	2.67	3.39	9.70	2.70	3.60	10.15	2.72	3.73	10.52	2.42	4.35
43	6.31	2.39	2.64	6.66	2.42	2.76	7.20	2.45	2.94	8.17	2.51	3.25	8.78	2.54	3.45	9.18	2.56	3.59	10.21	2.58	3.95

Part load: 130%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	5.13	0.63	8.10	5.39	0.65	8.30	5.58	0.66	8.50	6.15	0.69	8.92
0	/	/	/	/	/	/	/	/	/	5.13	0.63	8.10	5.39	0.65	8.30	5.58	0.66	8.50	6.15	0.69	8.92
5	/	/	/	/	/	/	/	/	/	5.26	0.66	8.02	5.54	0.68	8.20	5.67	0.67	8.40	6.27	0.71	8.80
10	/	/	/	/	/	/	/	/	/	5.86	0.76	7.75	6.13	0.77	7.93	6.29	0.78	8.11	6.91	0.81	8.48
15	/	/	/	/	/	/	8.05	1.18	6.81	9.12	1.27	7.19	9.80	1.37	7.13	10.24	1.37	7.46	11.47	1.44	7.97
20	7.81	1.53	5.10	8.25	1.53	5.40	8.92	1.51	5.90	10.08	1.48	6.83	10.83	1.76	6.14	11.36	1.69	6.72	12.34	1.71	7.23
25	8.54	2.12	4.04	9.00	2.13	4.22	9.74	2.16	4.50	10.71	2.08	5.14	11.20	1.99	5.63	11.46	1.93	5.95	11.95	1.82	6.56
30	9.17	2.78	3.30	9.65	2.82	3.43	10.00	2.69	3.73	10.34	2.35	4.41	10.83	2.26	4.79	11.09	2.17	5.11	11.49	1.85	6.20
35	9.12	3.21	2.84	9.58	3.26	2.94	9.58	2.95	3.25	9.94	2.62	3.79	10.38	2.53	4.10	10.62	2.44	4.35	11.02	2.14	5.15
40	7.04	2.53	2.78	7.42	2.59	2.86	8.02	2.61	3.08	9.07	2.67	3.39	9.70	2.70	3.60	10.15	2.72	3.73	10.52	2.42	4.35
43	6.31	2.39	2.64	6.66	2.42	2.76	7.20	2.45	2.94	8.17	2.51	3.25	8.78	2.54	3.45	9.18	2.56	3.59	10.21	2.58	3.95

Part load: 100%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	5.13	0.63	8.10	5.39	0.65	8.30	5.58	0.66	8.50	6.15	0.69	8.92
0	/	/	/	/	/	/	/	/	/	5.13	0.63	8.10	5.39	0.65	8.30	5.58	0.66	8.50	6.15	0.69	8.92
5	/	/	/	/	/	/	/	/	/	5.26	0.66	8.02	5.54	0.68	8.20	5.67	0.67	8.40	6.27	0.71	8.80
10	/	/	/	/	/	/	/	/	/	5.86	0.76	7.75	6.13	0.77	7.93	6.29	0.78	8.11	6.91	0.81	8.48
15	/	/	/	/	/	/	8.05	1.18	6.81	9.12	1.27	7.19	9.80	1.37	7.13	10.24	1.37	7.46	11.47	1.44	7.97
20	7.81	1.53	5.10	8.25	1.53	5.40	8.92	1.51	5.90	10.08	1.48	6.83	10.83	1.76	6.14	11.36	1.69	6.72	12.34	1.71	7.23
25	8.54	2.12	4.04	9.00	2.13	4.22	9.74	2.16	4.50	10.71	2.08	5.14	11.20	1.99	5.63	11.46	1.93	5.95	11.95	1.82	6.56
30	9.17	2.78	3.30	9.65	2.82	3.43	10.00	2.69	3.73	10.34	2.35	4.41	10.83	2.26	4.79	11.09	2.17	5.11	11.49	1.85	6.20
35	9.12	3.21	2.84	9.58	3.26	2.94	9.58	2.95	3.25	9.94	2.62	3.79	10.38	2.53	4.10	10.62	2.44	4.35	11.02	2.14	5.15
40	7.04	2.53	2.78	7.42	2.59	2.86	8.02	2.61	3.08	9.07	2.67	3.39	9.70	2.70	3.60	10.15	2.72	3.73	10.52	2.42	4.35
43	6.31	2.39	2.64	6.66	2.42	2.76	7.20	2.45	2.94	8.17	2.51	3.25	8.78	2.54	3.45	9.18	2.56	3.59	10.21	2.58	3.95

Part load: 90%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	4.61	0.56	8.17	4.85	0.58	8.37	4.87	0.57	8.57	5.53	0.62	8.99
0	/	/	/	/	/	/	/	/	/	4.61	0.56	8.17	4.85	0.58	8.37	4.87	0.57	8.57	5.53	0.62	8.99
5	/	/	/	/	/	/	/	/	/	4.73	0.59	8.08	4.98	0.60	8.27	5.10	0.60	8.46	5.64	0.64	8.86
10	/	/	/	/	/	/	/	/	/	5.27	0.68	7.80	5.51	0.69	7.97	5.66	0.69	8.15	6.21	0.73	8.52
15	/	/	/	/	/	/	7.16	1.02	7.01	8.30	1.13	7.36	8.93	1.23	7.24	9.33	1.23	7.58	9.01	1.08	8.33
20	7.02	1.34	5.23	7.42	1.34	5.54	7.86	1.30	6.07	8.88	1.29	6.86	9.02	1.37	6.57	9.01	1.26	7.16	9.10	1.15	7.91
25	7.76	1.81	4.28	8.18	1.81	4.51	8.86	1.82	4.86	9.08	1.61	5.65	8.56	1.40	6.12	8.99	1.41	6.38	8.91	1.25	7.13
30	8.22	2.36	3.48	8.33	2.22	3.75	8.97	2.26	3.98	9.23	1.92	4.82	9.06	1.66	5.47	8.87	1.49	5.95	9.03	1.37	6.60
35	8.31	2.78	2.99	8.15	2.54	3.21	8.60	2.49	3.45	9.06	2.23	4.06	9.46	2.14	4.41	9.06	1.88	4.82	9.23	1.55	5.94
40	6.28	2.19	2.87	6.62	2.21	3.00	7.17	2.24	3.21	8.11	2.27	3.58	8.84	2.31	3.82	9.26	2.32	3.99	9.07	1.90	4.76
43	5.73	2.13	2.70	6.05	2.14	2.82	6.55	2.17	3.02	7.44	2.20	3.38	7.53	2.09	3.61	7.87	2.09	3.77	8.87	2.10	4.23

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

Part load: 70%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	3.45	0.41	8.38	3.62	0.42	8.57	3.75	0.43	8.77	4.13	0.45	9.20
0	/	/	/	/	/	/	/	/	/	3.45	0.41	8.38	3.62	0.42	8.57	3.75	0.43	8.77	4.13	0.45	9.20
5	/	/	/	/	/	/	/	/	/	3.53	0.43	8.27	3.72	0.44	8.44	3.81	0.44	8.65	4.21	0.47	9.05
10	/	/	/	/	/	/	/	/	/	4.10	0.52	7.92	4.29	0.53	8.10	4.40	0.53	8.28	4.83	0.56	8.66
15	/	/	/	/	/	/	5.74	0.80	7.15	6.33	0.84	7.51	6.81	0.91	7.50	7.12	0.91	7.80	7.26	0.85	8.52
20	5.39	0.95	5.67	5.69	0.94	6.06	6.15	0.94	6.51	7.13	1.00	7.12	7.06	1.00	7.03	7.05	0.95	7.41	7.25	0.89	8.16
25	6.10	1.32	4.63	6.29	1.28	4.91	6.82	1.27	5.36	7.24	1.10	6.59	6.98	1.07	6.55	7.04	1.05	6.73	7.09	0.95	7.48
30	6.62	1.71	3.86	6.34	1.53	4.14	6.81	1.52	4.49	7.33	1.35	5.43	7.28	1.21	6.01	7.28	1.16	6.29	7.06	1.00	7.06
35	6.61	1.99	3.32	6.57	1.86	3.54	6.53	1.70	3.85	7.04	1.56	4.53	7.53	1.51	4.98	7.34	1.34	5.46	7.28	1.12	6.53
40	5.06	1.69	2.99	5.34	1.70	3.15	5.66	1.66	3.40	6.42	1.66	3.88	7.05	1.68	4.20	7.38	1.66	4.43	7.33	1.35	5.45
43	4.52	1.59	2.84	4.77	1.60	2.99	5.04	1.56	3.22	5.73	1.57	3.66	6.17	1.56	3.96	6.46	1.55	4.17	7.33	1.53	4.80

Part load: 50%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	3.13	0.35	9.02	3.42	0.36	9.46
0	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	3.13	0.35	9.02	3.42	0.36	9.46
5	/	/	/	/	/	/	/	/	/	2.96	0.35	8.48	3.07	0.35	8.66	3.19	0.36	8.87	3.46	0.37	9.28
10	/	/	/	/	/	/	/	/	/	2.95	0.36	8.16	3.06	0.37	8.33	3.14	0.37	8.53	3.49	0.39	8.89
15	/	/	/	/	/	/	4.03	0.56	7.23	4.59	0.60	7.62	4.94	0.63	7.79	5.18	0.64	8.08	5.08	0.58	8.73
20	3.89	0.61	6.41	4.11	0.63	6.48	4.45	0.66	6.72	5.22	0.72	7.24	5.31	0.73	7.25	5.10	0.67	7.63	5.06	0.61	8.28
25	4.42	0.88	5.04	4.52	0.84	5.40	4.91	0.83	5.89	5.25	0.78	6.78	5.06	0.73	6.91	5.31	0.75	7.11	5.07	0.65	7.76
30	4.80	1.14	4.20	4.65	1.03	4.53	5.26	1.06	4.98	5.15	0.84	6.16	5.32	0.80	6.63	5.13	0.76	6.72	5.09	0.70	7.31
35	4.80	1.34	3.58	4.64	1.21	3.83	5.04	1.20	4.20	5.23	1.04	5.03	5.47	0.97	5.63	5.33	0.86	6.21	5.33	0.77	6.94
40	3.55	1.12	3.16	3.75	1.12	3.35	4.07	1.12	3.65	4.78	1.13	4.25	5.13	1.10	4.67	5.20	1.04	4.99	5.16	0.83	6.19
43	3.29	1.13	2.92	4.77	1.60	2.99	3.77	1.12	3.35	4.30	1.11	3.88	4.46	1.05	4.26	4.67	1.03	4.54	5.38	1.00	5.40

Part load: 30%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	3.13	0.35	9.02	3.42	0.36	9.46
0	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	3.13	0.35	9.02	3.42	0.36	9.46
5	/	/	/	/	/	/	/	/	/	2.96	0.35	8.48	3.07	0.35	8.66	3.19	0.36	8.87	3.46	0.37	9.28
10	/	/	/	/	/	/	/	/	/	2.95	0.36	8.16	3.06	0.37	8.33	3.12	0.37	8.54	3.49	0.39	8.89
15	/	/	/	/	/	/	3.37	0.45	7.45	3.89	0.50	7.82	4.19	0.53	7.97	4.52	0.54	8.36	5.08	0.58	8.73
20	2.82	0.39	7.22	3.00	0.44	6.87	3.27	0.47	7.01	3.80	0.52	7.35	4.12	0.54	7.62	4.38	0.55	7.92	5.06	0.61	8.28
25	2.72	0.48	5.66	2.88	0.47	6.18	3.14	0.51	6.14	3.69	0.53	7.02	3.98	0.56	7.15	4.22	0.56	7.50	4.23	0.52	8.16
30	2.82	0.63	4.46	2.80	0.58	4.83	3.08	0.57	5.45	3.62	0.53	6.84	3.89	0.57	6.78	4.13	0.59	7.01	4.69	0.62	7.60
35	2.95	0.78	3.76	2.93	0.73	4.03	2.95	0.66	4.48	3.34	0.61	5.48	3.69	0.59	6.21	3.87	0.59	6.52	4.51	0.62	7.31
40	2.40	0.76	3.16	2.57	0.76	3.37	2.82	0.76	3.72	3.27	0.74	4.42	3.57	0.72	4.94	3.78	0.71	5.34	4.33	0.66	6.58
43	2.37	0.82	2.90	3.47	1.13	3.08	2.75	0.81	3.37	3.18	0.80	3.97	3.43	0.78	4.40	3.64	0.77	4.73	4.21	0.74	5.73

Part load: Minimum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	3.13	0.35	9.02	3.42	0.36	9.46
0	/	/	/	/	/	/	/	/	/	2.87	0.33	8.63	2.99	0.34	8.82	3.13	0.35	9.02	3.42	0.36	9.46
5	/	/	/	/	/	/	/	/	/	2.96	0.35	8.48	3.07	0.35	8.66	3.19	0.36	8.87	3.46	0.37	9.28
10	/	/	/	/	/	/	/	/	/	2.95	0.36	8.16	3.06	0.37	8.33	3.12	0.37	8.54	3.49	0.39	8.89
15	/	/	/	/	/	/	3.37	0.45	7.45	3.89	0.50	7.82	4.19	0.53	7.97	4.52	0.54	8.36	5.08	0.58	8.73
20	2.82	0.39	7.22	3.00	0.44	6.87	3.27	0.47	7.01	3.80	0.52	7.35	4.12	0.54	7.62	4.38	0.55	7.92	5.06	0.61	8.28
25	2.72	0.48	5.66	2.88	0.47	6.18	3.14	0.51	6.14	3.69	0.53	7.02	3.98	0.56	7.15	4.22	0.56	7.50	4.23	0.52	8.16
30	2.61	0.58	4.48	2.80	0.58	4.83	3.08	0.57	5.45	3.62	0.53	6.84	3.89	0.57	6.78	4.13	0.59	7.01	4.69	0.62	7.60
35	2.50	0.66	3.77	2.69	0.67	4.04	2.95	0.66	4.48	3.34	0.61	5.48	3.69	0.59	6.21	3.87	0.59	6.52	4.51	0.62	7.31
40	2.40	0.76	3.16	2.57	0.76	3.37	2.82	0.76	3.72	3.27	0.74	4.42	3.57	0.72	4.94	3.78	0.71	5.34	4.33	0.66	6.58
43	2.37	0.82	2.90	2.50	0.81	3.08	2.75	0.81	3.37	3.18	0.80	3.97	3.43	0.78	4.40	3.64	0.77	4.73	4.21	0.74	5.73

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

MHC-V12WD2N8-C, MHC-V12WD2RN8-C

Part load: Maximum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	10.28	1.47	7.00	10.92	1.55	7.04	11.60	1.49	7.77	12.49	1.79	6.99
0	/	/	/	/	/	/	/	/	/	10.53	1.30	8.08	10.92	1.55	7.04	11.70	1.44	8.15	12.49	1.79	6.97
5	/	/	/	/	/	/	/	/	/	10.53	1.31	8.03	11.11	1.44	7.69	11.60	1.51	7.70	12.61	1.73	7.29
10	/	/	/	/	/	/	/	/	/	11.16	1.47	7.59	11.89	1.48	8.02	12.29	1.61	7.64	13.33	1.94	6.87
15	/	/	/	/	/	/	11.19	1.51	7.43	12.88	1.77	7.27	13.63	1.91	7.12	14.34	1.93	7.44	15.24	2.40	6.36
20	11.70	2.31	5.07	12.37	2.31	5.36	13.43	2.31	5.81	14.36	2.76	5.20	15.88	2.19	7.25	16.06	2.99	5.38	17.78	3.01	5.91
25	13.00	3.16	4.11	13.33	3.09	4.32	14.44	3.13	4.62	15.55	3.94	3.95	17.78	3.42	5.20	18.05	3.26	5.54	20.33	3.61	5.63
30	13.70	4.08	3.36	14.70	4.22	3.48	15.86	4.32	3.67	17.83	4.50	3.96	17.26	3.81	4.53	18.38	3.94	4.67	20.28	4.02	5.04
35	13.79	4.79	2.88	14.13	4.69	3.01	15.22	4.83	3.15	17.31	5.12	3.38	16.51	4.24	3.89	17.58	4.40	4.00	18.34	4.11	4.46
40	12.53	4.86	2.58	13.17	4.88	2.70	12.96	4.38	2.96	12.95	3.78	3.43	13.22	3.52	3.76	13.22	3.30	4.01	13.62	2.91	4.68
43	9.76	3.77	2.59	9.96	3.65	2.73	9.96	3.36	2.96	9.93	2.90	3.43	10.21	2.72	3.76	10.21	2.55	4.01	10.21	2.16	4.72

Part load: 130%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	10.28	1.47	7.00	10.92	1.55	7.04	11.60	1.49	7.77	12.49	1.79	6.99
0	/	/	/	/	/	/	/	/	/	10.53	1.30	8.08	10.92	1.55	7.04	11.70	1.44	8.15	12.49	1.79	6.97
5	/	/	/	/	/	/	/	/	/	10.53	1.31	8.03	11.11	1.44	7.69	11.60	1.51	7.70	12.61	1.73	7.29
10	/	/	/	/	/	/	/	/	/	11.16	1.47	7.59	11.89	1.48	8.02	12.29	1.61	7.64	13.33	1.94	6.87
15	/	/	/	/	/	/	11.19	1.51	7.43	12.88	1.77	7.27	13.63	1.91	7.12	14.34	1.93	7.44	14.73	2.20	6.69
20	11.70	2.31	5.07	12.37	2.31	5.36	13.43	2.31	5.81	14.36	2.76	5.20	14.78	1.90	7.76	14.56	2.54	5.74	14.73	2.17	6.79
25	13.00	3.16	4.11	13.33	3.09	4.32	14.44	3.13	4.62	14.60	3.53	4.14	14.76	2.36	6.26	14.85	2.22	6.68	15.16	1.94	7.82
30	13.70	4.08	3.36	14.47	4.10	3.53	14.99	3.93	3.81	15.12	3.37	4.49	15.27	3.02	5.05	14.93	2.73	5.46	15.00	2.24	6.71
35	13.79	4.79	2.88	14.13	4.69	3.01	15.29	4.81	3.18	14.97	3.91	3.83	14.43	3.47	4.16	15.33	3.44	4.46	14.94	2.78	5.37
40	12.53	4.86	2.58	13.17	4.88	2.70	12.96	4.38	2.96	12.95	3.78	3.43	13.22	3.52	3.76	13.22	3.30	4.01	13.62	2.91	4.68
43	9.76	3.77	2.59	9.96	3.65	2.73	9.96	3.36	2.96	9.93	2.90	3.43	10.21	2.72	3.76	10.21	2.55	4.01	10.21	2.16	4.72

Part load: 100%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	10.28	1.47	7.00	10.92	1.55	7.04	11.60	1.49	7.77	11.19	1.39	8.03
0	/	/	/	/	/	/	/	/	/	10.53	1.30	8.08	11.11	1.43	7.76	11.70	1.44	8.15	11.17	1.42	7.88
5	/	/	/	/	/	/	/	/	/	10.53	1.31	8.03	11.11	1.44	7.69	11.60	1.51	7.70	11.24	1.38	8.16
10	/	/	/	/	/	/	/	/	/	10.54	1.31	8.06	11.89	1.48	8.02	11.63	1.48	7.87	11.26	1.36	8.25
15	/	/	/	/	/	/	11.19	1.51	7.43	11.81	1.52	7.76	11.96	1.44	8.33	11.91	1.30	9.16	11.44	1.25	9.12
20	11.70	2.31	5.07	11.45	2.06	5.57	11.93	1.91	6.23	11.40	1.80	6.33	11.58	1.21	9.59	11.39	1.69	6.72	11.61	1.36	8.56
25	11.31	2.63	4.30	11.49	2.48	4.63	11.54	2.25	5.13	11.96	2.37	5.04	11.84	1.61	7.36	11.95	1.51	7.93	11.83	1.22	9.69
30	10.96	2.98	3.68	11.18	2.84	3.93	12.05	2.82	4.27	12.19	2.39	5.11	12.07	2.08	5.80	12.07	1.90	6.34	11.76	1.46	8.08
35	11.31	3.58	3.16	11.60	3.74	3.10	12.14	3.35	3.62	11.87	2.76	4.30	12.20	2.65	4.60	12.16	2.38	5.11	11.75	1.86	6.31
40	11.56	4.27	2.71	11.36	3.96	2.87	12.24	4.00	3.06	11.34	3.11	3.65	12.26	3.14	3.90	12.26	2.95	4.16	10.77	2.07	5.21
43	9.76	3.77	2.59	9.96	3.65	2.73	9.96	3.36	2.96	9.93	2.90	3.43	10.21	2.72	3.76	10.21	2.55	4.01	10.21	2.16	4.72

Part load: 90%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	9.10	1.15	7.89	10.02	1.25	8.00	10.29	1.14	8.99	10.67	1.13	9.42
0	/	/	/	/	/	/	/	/	/	9.29	1.02	9.09	10.17	1.16	8.76	10.35	1.11	9.32	10.61	1.17	9.06
5	/	/	/	/	/	/	/	/	/	9.27	1.04	8.89	10.14	1.19	8.55	10.24	1.19	8.62	10.66	1.15	9.27
10	/	/	/	/	/	/	/	/	/	9.27	1.04	8.90	10.86	1.21	8.96	10.58	1.20	8.81	10.67	1.14	9.33
15	/	/	/	/	/	/	9.90	1.41	7.02	10.74	1.25	8.58	10.91	1.17	9.30	10.82	1.04	10.38	10.83	1.04	10.39
20	10.38	1.96	5.29	10.13	1.74	5.82	10.54	1.61	6.56	10.75	1.30	8.26	10.47	1.01	10.40	10.32	1.44	7.18	10.94	1.17	9.36
25	10.42	2.33	4.47	10.18	2.12	4.81	10.46	1.95	5.37	11.44	1.77	6.48	10.69	1.39	7.71	10.49	1.23	8.55	11.14	1.04	10.68
30	10.14	2.68	3.79	10.38	2.56	4.05	10.68	2.42	4.42	11.08	2.08	5.33	10.97	1.81	6.07	10.97	1.65	6.66	11.06	1.28	8.63
35	10.48	3.22	3.25	10.26	2.97	3.46	10.78	2.88	3.74	10.79	2.42	4.46	11.06	2.24	4.94	11.05	2.07	5.35	11.04	1.66	6.66
40	9.90	3.55	2.79	10.31	3.49	2.95	11.15	3.53	3.16	10.31	2.73	3.77	11.17	2.76	4.05	11.16	2.58	4.33	10.15	1.87	5.43
43	9.03	3.42	2.64	9.25	3.32	2.79	9.03	2.98	3.03	9.00	2.56	3.51	9.28	2.40	3.86	8.96	2.17	4.13	9.61	1.97	4.89

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

Part load: 70%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	7.60	0.70	10.87	8.11	0.72	11.30	8.64	0.64	13.51	8.74	0.60	14.60
0	/	/	/	/	/	/	/	/	/	7.71	0.62	12.47	8.18	0.68	12.11	8.64	0.64	13.40	8.65	0.67	13.00
5	/	/	/	/	/	/	/	/	/	7.67	0.66	11.59	8.12	0.72	11.22	8.52	0.74	11.50	8.65	0.68	12.77
10	/	/	/	/	/	/	/	/	/	7.66	0.67	11.44	8.69	0.73	11.89	8.41	0.72	11.73	8.64	0.68	12.71
15	/	/	/	/	/	/	8.13	0.96	8.46	8.85	0.80	11.04	8.73	0.71	12.31	8.57	0.60	14.40	8.75	0.60	14.47
20	8.12	1.42	5.73	7.93	1.25	6.35	8.25	1.13	7.28	8.79	0.91	9.71	8.18	0.65	12.51	8.13	0.97	8.34	8.71	0.75	11.56
25	8.25	1.72	4.80	8.23	1.59	5.18	8.47	1.45	5.84	9.04	1.25	7.25	8.48	0.95	8.95	8.25	0.81	10.14	8.85	0.65	13.52
30	7.97	2.00	3.99	7.97	1.86	4.28	8.68	1.84	4.72	8.78	1.52	5.77	8.34	1.25	6.65	8.31	1.13	7.36	8.77	0.88	9.93
35	8.09	2.37	3.42	8.08	2.22	3.64	8.50	2.14	3.98	8.56	1.79	4.78	8.78	1.64	5.34	8.42	1.45	5.82	8.35	1.13	7.42
40	8.15	2.78	2.93	8.14	2.63	3.10	8.87	2.65	3.35	8.19	2.06	3.98	8.88	2.05	4.34	8.88	1.91	4.66	8.06	1.38	5.86
43	7.12	2.60	2.74	7.12	2.46	2.90	7.35	2.33	3.15	7.36	2.01	3.67	7.36	1.82	4.04	7.36	1.70	4.34	7.70	1.48	5.20

Part load: 50%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	6.76	0.51	13.37	7.36	0.54	13.63	7.95	0.48	16.47	8.74	0.60	14.60
0	/	/	/	/	/	/	/	/	/	6.84	0.45	15.33	7.40	0.51	14.41	7.93	0.50	15.88	8.65	0.67	13.00
5	/	/	/	/	/	/	/	/	/	6.79	0.50	13.64	7.34	0.57	12.88	7.81	0.60	13.03	8.65	0.68	12.77
10	/	/	/	/	/	/	/	/	/	6.77	0.51	13.34	7.43	0.50	14.93	7.85	0.57	13.81	8.64	0.68	12.71
15	/	/	/	/	/	/	5.99	0.54	11.07	6.85	0.45	15.38	7.45	0.48	15.45	8.00	0.46	17.51	8.75	0.60	14.47
20	6.10	0.96	6.35	5.96	0.84	7.13	5.92	0.70	8.41	6.76	0.58	11.64	7.47	0.53	14.17	7.56	0.84	8.96	8.64	0.74	11.63
25	5.99	1.16	5.18	5.73	1.01	5.66	6.17	0.95	6.50	6.59	0.78	8.45	7.21	0.73	9.89	7.51	0.69	10.82	8.78	0.64	13.63
30	5.73	1.38	4.15	5.97	1.34	4.46	6.04	1.21	4.98	6.39	1.03	6.20	6.99	0.99	7.09	7.29	0.95	7.71	8.62	0.86	10.03
35	5.83	1.64	3.55	5.82	1.54	3.78	6.39	1.53	4.17	6.24	1.24	5.05	6.72	1.18	5.68	7.00	1.15	6.11	8.27	1.09	7.60
40	6.10	2.02	3.02	6.11	1.91	3.20	6.48	1.86	3.49	5.97	1.45	4.13	6.49	1.42	4.58	6.70	1.37	4.89	7.91	1.35	5.88
43	5.13	1.83	2.80	5.35	1.81	2.95	5.36	1.66	3.22	5.66	1.51	3.75	6.37	1.55	4.11	6.72	1.53	4.39	7.70	1.48	5.20

Part load: 30%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	6.76	0.51	13.37	7.36	0.54	13.63	7.95	0.48	16.47	8.74	0.60	14.60
0	/	/	/	/	/	/	/	/	/	6.84	0.45	15.33	7.40	0.51	14.41	7.93	0.50	15.88	8.65	0.67	13.00
5	/	/	/	/	/	/	/	/	/	6.79	0.50	13.64	7.34	0.57	12.88	7.81	0.60	13.03	8.65	0.68	12.77
10	/	/	/	/	/	/	/	/	/	6.77	0.51	13.34	7.43	0.50	14.93	7.85	0.57	13.81	8.64	0.68	12.71
15	/	/	/	/	/	/	5.99	0.54	11.07	6.85	0.45	15.38	7.45	0.48	15.45	8.00	0.46	17.51	8.75	0.60	14.47
20	5.05	0.76	6.62	5.31	0.72	7.42	6.04	0.71	8.52	6.76	0.58	11.64	7.47	0.53	14.17	7.56	0.84	8.96	8.64	0.74	11.63
25	4.87	0.91	5.36	5.12	0.87	5.88	5.69	0.85	6.67	6.53	0.77	8.49	7.21	0.73	9.89	7.51	0.69	10.82	8.78	0.64	13.63
30	4.72	1.13	4.18	4.96	1.10	4.51	5.64	1.12	5.04	6.33	1.02	6.21	6.99	0.99	7.09	7.29	0.95	7.71	8.62	0.86	10.03
35	4.67	1.30	3.58	4.77	1.25	3.82	5.42	1.28	4.22	6.08	1.20	5.07	6.72	1.18	5.68	7.00	1.15	6.11	8.27	1.09	7.60
40	4.34	1.43	3.03	4.56	1.42	3.21	5.19	1.47	3.52	5.82	1.41	4.14	6.43	1.40	4.58	6.70	1.37	4.89	7.91	1.35	5.88
43	4.25	1.52	2.79	4.44	1.51	2.95	5.05	1.57	3.22	5.66	1.51	3.75	6.37	1.55	4.11	6.72	1.53	4.39	7.70	1.48	5.20

Part load: Minimum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	6.76	0.51	13.37	7.36	0.54	13.63	7.95	0.48	16.47	8.74	0.60	14.60
0	/	/	/	/	/	/	/	/	/	6.84	0.45	15.33	7.40	0.51	14.41	7.93	0.50	15.88	8.65	0.67	13.00
5	/	/	/	/	/	/	/	/	/	6.79	0.50	13.64	7.34	0.57	12.88	7.81	0.60	13.03	8.65	0.68	12.77
10	/	/	/	/	/	/	/	/	/	6.77	0.51	13.34	7.43	0.50	14.93	7.85	0.57	13.81	8.64	0.68	12.71
15	/	/	/	/	/	/	5.99	0.54	11.07	6.85	0.45	15.38	7.45	0.48	15.45	8.00	0.46	17.51	8.75	0.60	14.47
20	5.05	0.76	6.62	5.31	0.72	7.42	6.04	0.71	8.52	6.76	0.58	11.64	7.47	0.53	14.17	7.56	0.84	8.96	8.64	0.74	11.63
25	4.87	0.91	5.36	5.12	0.87	5.88	5.69	0.85	6.67	6.53	0.77	8.49	7.21	0.73	9.89	7.51	0.69	10.82	8.78	0.64	13.63
30	4.72	1.13	4.18	4.96	1.10	4.51	5.64	1.12	5.04	6.33	1.02	6.21	6.99	0.99	7.09	7.29	0.95	7.71	8.62	0.86	10.03
35	4.67	1.30	3.58	4.77	1.25	3.82	5.42	1.28	4.22	6.08	1.20	5.07	6.72	1.18	5.68	7.00	1.15	6.11	8.27	1.09	7.60
40	4.34	1.43	3.03	4.56	1.42	3.21	5.19	1.47	3.52	5.82	1.41	4.14	6.43	1.40	4.58	6.70	1.37	4.89	7.91	1.35	5.88
43	4.25	1.52	2.79	4.44	1.51	2.95	5.05	1.57	3.22	5.66	1.51	3.75	6.37	1.55	4.11	6.72	1.53	4.39	7.70	1.48	5.20

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

MHC-V14WD2N8-C, MHC-V14WD2RN8-C

Part load: Maximum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	10.76	1.62	6.66	11.51	1.72	6.68	12.08	1.73	6.99	13.20	2.00	6.60
0	/	/	/	/	/	/	/	/	/	11.02	1.44	7.64	11.51	1.73	6.66	12.29	1.60	7.68	13.20	2.01	6.58
5	/	/	/	/	/	/	/	/	/	11.02	1.45	7.60	11.70	1.61	7.27	12.29	1.61	7.64	13.33	1.94	6.87
10	/	/	/	/	/	/	/	/	/	11.63	1.62	7.19	12.49	1.65	7.57	12.97	1.71	7.58	13.84	2.13	6.50
15	/	/	/	/	/	/	12.19	1.75	6.97	14.44	1.82	7.94	14.58	2.02	7.22	15.83	2.11	7.52	16.35	2.78	5.89
20	13.01	2.70	4.82	13.67	2.69	5.08	14.95	2.76	5.41	16.71	2.73	6.12	17.92	2.74	6.53	17.31	3.68	4.70	18.87	3.40	5.55
25	13.83	3.50	3.95	14.99	3.68	4.07	16.09	3.72	4.33	17.52	3.74	4.68	17.78	3.42	5.20	18.55	3.45	5.37	20.13	3.72	5.41
30	15.08	4.77	3.16	15.84	4.84	3.27	16.98	4.95	3.43	18.91	5.12	3.69	17.26	3.81	4.53	18.38	3.94	4.67	20.28	4.02	5.04
35	14.98	5.53	2.71	15.48	5.55	2.79	16.61	5.65	2.94	18.08	5.61	3.22	16.51	4.24	3.89	17.58	4.40	4.00	18.34	4.11	4.46
40	12.84	5.00	2.57	13.17	4.88	2.70	12.96	4.38	2.96	12.95	3.78	3.43	13.22	3.52	3.76	13.22	3.30	4.01	13.62	2.91	4.68
43	9.76	3.77	2.59	9.96	3.65	2.73	9.96	3.36	2.96	9.93	2.90	3.43	10.21	2.72	3.76	10.21	2.55	4.01	10.21	2.16	4.72

Part load: 130%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	10.76	1.62	6.66	11.51	1.72	6.68	12.08	1.73	6.99	13.20	2.00	6.60
0	/	/	/	/	/	/	/	/	/	11.02	1.44	7.64	11.51	1.73	6.66	12.29	1.60	7.68	13.20	2.01	6.58
5	/	/	/	/	/	/	/	/	/	11.02	1.45	7.60	11.70	1.61	7.27	12.29	1.61	7.64	13.33	1.94	6.87
10	/	/	/	/	/	/	/	/	/	11.63	1.62	7.19	12.49	1.65	7.57	12.97	1.71	7.58	13.84	2.13	6.50
15	/	/	/	/	/	/	12.19	1.75	6.97	14.44	1.82	7.94	14.58	2.02	7.22	15.83	2.11	7.52	14.10	2.56	5.50
20	13.01	2.70	4.82	13.67	2.69	5.08	14.95	2.76	5.41	16.71	2.73	6.12	16.13	2.35	6.85	17.21	3.64	4.73	17.26	2.93	5.89
25	13.83	3.50	3.95	14.99	3.68	4.07	16.09	3.72	4.33	15.89	4.19	3.79	17.43	3.13	5.57	17.62	3.04	5.79	17.62	2.75	6.41
30	15.08	4.77	3.16	15.84	4.84	3.27	16.98	4.95	3.43	16.59	3.94	4.21	16.79	3.63	4.63	17.10	3.43	4.98	17.44	2.93	5.96
35	14.98	5.53	2.71	15.48	5.55	2.79	16.61	5.65	2.94	17.03	4.95	3.44	16.51	4.24	3.89	16.73	4.07	4.11	17.01	3.54	4.81
40	12.84	5.00	2.57	13.17	4.88	2.70	12.96	4.38	2.96	12.95	3.78	3.43	13.22	3.52	3.76	13.22	3.30	4.01	13.62	2.91	4.68
43	9.76	3.77	2.59	9.96	3.65	2.73	9.96	3.36	2.96	9.93	2.90	3.43	10.21	2.72	3.76	10.21	2.55	4.01	10.21	2.16	4.72

Part load: 100%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	10.76	1.62	6.66	11.51	1.72	6.68	12.08	1.73	6.99	13.20	2.00	6.60
0	/	/	/	/	/	/	/	/	/	11.02	1.44	7.64	11.51	1.73	6.66	12.29	1.60	7.68	13.20	2.01	6.58
5	/	/	/	/	/	/	/	/	/	11.02	1.45	7.60	11.70	1.61	7.27	12.29	1.61	7.64	13.33	1.94	6.87
10	/	/	/	/	/	/	/	/	/	11.63	1.62	7.19	12.49	1.65	7.57	12.97	1.71	7.58	13.84	2.13	6.50
15	/	/	/	/	/	/	12.19	1.75	6.97	13.98	1.74	8.02	13.89	1.78	7.80	13.53	1.89	7.15	14.10	2.56	5.50
20	13.01	2.70	4.82	13.28	2.57	5.16	13.56	2.35	5.77	13.57	1.90	7.16	13.58	1.58	8.58	13.63	2.43	5.61	13.80	1.83	7.56
25	13.44	3.32	4.05	13.35	3.10	4.31	12.87	2.71	4.75	13.82	2.40	5.76	13.70	2.07	6.63	13.55	1.94	6.99	13.92	1.75	7.96
30	13.22	3.79	3.49	12.88	3.45	3.73	13.55	3.34	4.06	13.39	2.74	4.88	13.24	2.43	5.44	13.23	2.24	5.91	13.85	1.89	7.34
35	13.02	4.38	2.97	13.40	4.57	2.93	13.58	3.97	3.42	13.28	3.29	4.04	13.90	3.16	4.40	13.24	2.75	4.82	13.84	2.39	5.79
40	12.84	5.00	2.57	13.17	4.88	2.70	12.96	4.38	2.96	12.68	3.66	3.46	13.22	3.52	3.76	13.22	3.30	4.01	12.67	2.60	4.88
43	9.76	3.77	2.59	9.96	3.65	2.73	9.96	3.36	2.96	9.93	2.90	3.43	10.21	2.72	3.76	10.21	2.55	4.01	10.21	2.16	4.72

Part load: 90%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	9.86	1.32	7.49	10.57	1.39	7.58	11.11	1.38	8.03	11.26	1.35	8.32
0	/	/	/	/	/	/	/	/	/	10.07	1.18	8.57	10.54	1.42	7.44	11.26	1.29	8.76	11.22	1.39	8.09
5	/	/	/	/	/	/	/	/	/	10.05	1.20	8.40	10.69	1.32	8.08	11.24	1.31	8.58	11.28	1.36	8.31
10	/	/	/	/	/	/	/	/	/	10.62	1.34	7.92	11.41	1.35	8.45	12.39	1.54	8.04	11.26	1.37	8.23
15	/	/	/	/	/	/	10.78	1.64	6.56	12.65	1.71	7.41	11.91	1.65	7.21	12.38	1.55	7.99	10.99	1.53	7.18
20	11.82	2.34	5.05	12.07	2.22	5.43	12.04	1.97	6.11	12.56	1.67	7.52	12.34	1.32	9.33	12.07	2.00	6.02	12.17	1.47	8.30
25	12.13	2.88	4.21	12.15	2.69	4.52	12.44	2.49	5.00	12.57	2.05	6.13	12.39	1.78	6.95	12.30	1.62	7.57	12.28	1.40	8.75
30	12.02	3.32	3.62	11.93	3.08	3.87	12.06	2.85	4.23	12.18	2.38	5.11	12.01	2.09	5.74	11.99	1.92	6.26	12.19	1.54	7.89
35	12.05	3.86	3.12	12.06	3.65	3.30	12.09	3.40	3.56	12.36	2.92	4.23	12.62	2.71	4.66	12.36	2.44	5.07	12.60	2.04	6.17
40	11.70	4.33	2.70	12.01	4.24	2.83	11.55	3.75	3.08	11.80	3.28	3.60	12.05	3.07	3.93	11.72	2.79	4.20	11.17	2.18	5.13
43	9.24	3.50	2.64	9.25	3.32	2.79	9.27	3.06	3.03	9.00	2.56	3.51	9.28	2.40	3.86	8.96	2.17	4.13	9.61	1.97	4.89

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

Part load: 70%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	7.97	0.78	10.22	8.57	0.81	10.61	8.63	0.74	11.64	10.73	1.09	9.81
0	/	/	/	/	/	/	/	/	/	8.09	0.70	11.63	8.51	0.86	9.88	8.70	0.70	12.44	10.66	1.14	9.32
5	/	/	/	/	/	/	/	/	/	8.04	0.74	10.85	8.58	0.81	10.54	8.64	0.75	11.56	10.69	1.13	9.45
10	/	/	/	/	/	/	/	/	/	8.15	0.81	10.05	8.79	0.79	11.13	9.97	0.93	10.70	10.67	1.15	9.31
15	/	/	/	/	/	/	8.84	1.12	7.90	10.15	1.07	9.45	9.49	1.03	9.18	9.95	0.95	10.50	10.41	1.30	7.98
20	9.33	1.70	5.50	9.53	1.60	5.96	9.44	1.38	6.82	9.98	1.12	8.90	9.75	0.87	11.15	9.56	1.36	7.02	10.04	0.98	10.28
25	9.64	2.10	4.59	9.61	1.96	4.91	9.56	1.74	5.49	9.63	1.40	6.89	9.86	1.21	8.14	9.71	1.07	9.04	10.11	0.93	10.90
30	9.55	2.47	3.87	9.47	2.28	4.15	9.79	2.14	4.58	9.36	1.67	5.60	9.81	1.54	6.36	9.44	1.35	7.01	10.02	1.09	9.19
35	9.59	2.88	3.33	9.60	2.71	3.54	9.77	2.54	3.85	9.54	2.07	4.60	10.05	1.96	5.12	9.84	1.76	5.60	9.63	1.38	6.99
40	9.33	3.25	2.87	9.58	3.17	3.02	9.35	2.84	3.29	9.12	2.36	3.86	9.61	2.26	4.25	9.28	2.04	4.56	9.19	1.63	5.63
43	7.33	2.68	2.74	7.34	2.53	2.90	7.35	2.33	3.15	7.36	2.01	3.67	7.36	1.82	4.04	7.36	1.70	4.34	7.70	1.48	5.20

Part load: 50%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	6.77	0.50	13.58	7.38	0.52	14.13	7.91	0.51	15.51	8.79	0.57	15.52
0	/	/	/	/	/	/	/	/	/	6.84	0.44	15.38	7.30	0.59	12.39	7.94	0.49	16.21	8.69	0.64	13.53
5	/	/	/	/	/	/	/	/	/	6.78	0.50	13.54	7.34	0.57	12.99	7.87	0.55	14.27	8.67	0.66	13.11
10	/	/	/	/	/	/	/	/	/	6.77	0.51	13.17	7.43	0.50	14.97	7.91	0.52	15.11	8.64	0.68	12.67
15	/	/	/	/	/	/	6.49	0.63	10.27	7.12	0.52	13.60	7.34	0.57	12.99	7.88	0.54	14.49	8.43	0.82	10.26
20	6.56	1.07	6.14	6.96	1.03	6.75	7.11	0.90	7.92	6.95	0.63	11.03	7.47	0.53	14.17	7.48	0.90	8.29	8.66	0.73	11.80
25	6.77	1.36	4.99	6.76	1.24	5.43	6.91	1.12	6.19	7.28	0.90	8.07	7.21	0.73	9.89	7.51	0.69	10.82	8.71	0.69	12.57
30	6.97	1.70	4.09	6.65	1.51	4.39	7.15	1.46	4.90	7.06	1.16	6.08	7.16	1.02	7.04	7.29	0.95	7.71	8.62	0.86	10.03
35	6.78	1.94	3.50	6.77	1.82	3.73	7.34	1.79	4.10	6.88	1.39	4.95	7.35	1.32	5.58	7.00	1.15	6.11	8.27	1.09	7.60
40	6.83	2.28	3.00	7.01	2.21	3.17	7.02	2.02	3.47	6.58	1.61	4.08	7.04	1.55	4.53	6.70	1.37	4.89	7.91	1.35	5.88
43	5.13	1.83	2.80	5.35	1.81	2.95	5.36	1.66	3.22	5.66	1.51	3.75	6.37	1.55	4.11	6.72	1.53	4.39	7.70	1.48	5.20

Part load: 30%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	6.77	0.50	13.58	7.38	0.52	14.13	7.91	0.51	15.51	8.79	0.57	15.52
0	/	/	/	/	/	/	/	/	/	6.84	0.44	15.38	7.30	0.59	12.39	7.94	0.49	16.21	8.69	0.64	13.53
5	/	/	/	/	/	/	/	/	/	6.78	0.50	13.54	7.34	0.57	12.99	7.87	0.55	14.27	8.67	0.66	13.11
10	/	/	/	/	/	/	/	/	/	6.77	0.51	13.17	7.43	0.50	14.97	7.91	0.52	15.11	8.64	0.68	12.67
15	/	/	/	/	/	/	5.99	0.54	11.07	6.85	0.45	15.38	7.34	0.57	12.99	7.88	0.54	14.49	8.43	0.82	10.26
20	5.05	0.76	6.62	5.31	0.72	7.42	6.04	0.71	8.52	6.76	0.58	11.64	7.47	0.53	14.17	7.48	0.90	8.29	8.66	0.73	11.80
25	4.87	0.91	5.36	5.12	0.87	5.88	5.69	0.85	6.67	6.53	0.77	8.49	7.21	0.73	9.89	7.51	0.69	10.82	8.71	0.69	12.57
30	4.72	1.13	4.18	4.96	1.10	4.51	5.64	1.12	5.04	6.33	1.02	6.21	6.99	0.99	7.09	7.29	0.95	7.71	8.62	0.86	10.03
35	4.67	1.30	3.58	4.77	1.25	3.82	5.42	1.28	4.22	6.08	1.20	5.07	6.72	1.18	5.68	7.00	1.15	6.11	8.27	1.09	7.60
40	4.34	1.43	3.03	4.56	1.42	3.21	5.19	1.47	3.52	5.82	1.41	4.14	6.43	1.40	4.58	6.70	1.37	4.89	7.91	1.35	5.88
43	4.25	1.52	2.79	4.44	1.51	2.95	5.05	1.57	3.22	5.66	1.51	3.75	6.37	1.55	4.11	6.72	1.53	4.39	7.70	1.48	5.20

Part load: Minimum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	6.77	0.50	13.58	7.38	0.52	14.13	7.91	0.51	15.51	8.79	0.57	15.52
0	/	/	/	/	/	/	/	/	/	6.84	0.44	15.38	7.30	0.59	12.39	7.94	0.49	16.21	8.69	0.64	13.53
5	/	/	/	/	/	/	/	/	/	6.78	0.50	13.54	7.34	0.57	12.99	7.87	0.55	14.27	8.67	0.66	13.11
10	/	/	/	/	/	/	/	/	/	6.77	0.51	13.17	7.43	0.50	14.97	7.91	0.52	15.11	8.64	0.68	12.67
15	/	/	/	/	/	/	5.99	0.54	11.07	6.85	0.45	15.38	7.34	0.57	12.99	7.88	0.54	14.49	8.43	0.82	10.26
20	5.05	0.76	6.62	5.31	0.72	7.42	6.04	0.71	8.52	6.76	0.58	11.64	7.47	0.53	14.17	7.48	0.90	8.29	8.66	0.73	11.80
25	4.87	0.91	5.36	5.12	0.87	5.88	5.69	0.85	6.67	6.53	0.77	8.49	7.21	0.73	9.89	7.51	0.69	10.82	8.71	0.69	12.57
30	4.72	1.13	4.18	4.96	1.10	4.51	5.64	1.12	5.04	6.33	1.02	6.21	6.99	0.99	7.09	7.29	0.95	7.71	8.62	0.86	10.03
35	4.67	1.30	3.58	4.77	1.25	3.82	5.42	1.28	4.22	6.08	1.20	5.07	6.72	1.18	5.68	7.00	1.15	6.11	8.27	1.09	7.60
40	4.34	1.43	3.03	4.56	1.42	3.21	5.19	1.47	3.52	5.82	1.41	4.14	6.43	1.40	4.58	6.70	1.37	4.89	7.91	1.35	5.88
43	4.25	1.52	2.79	4.44	1.51	2.95	5.05	1.57	3.22	5.66	1.51	3.75	6.37	1.55	4.11	6.72	1.53	4.39	7.70	1.48	5.20

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

MHC-V16WD2N8-C, MHC-V16WD2RN8-C

Part load: Maximum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	11.45	1.73	6.62	12.19	1.84	6.63	12.64	1.91	6.63	13.71	2.19	6.25
0	/	/	/	/	/	/	/	/	/	11.63	1.61	7.23	12.19	1.84	6.62	12.75	1.84	6.92	13.71	2.20	6.23
5	/	/	/	/	/	/	/	/	/	11.63	1.62	7.19	12.39	1.72	7.22	12.86	1.78	7.22	13.84	2.13	6.50
10	/	/	/	/	/	/	/	/	/	12.24	1.79	6.83	13.08	1.83	7.16	13.54	1.89	7.16	14.60	2.27	6.43
15	/	/	/	/	/	/	13.14	1.96	6.70	14.95	1.95	7.65	15.14	2.21	6.84	16.11	2.37	6.80	17.31	2.73	6.35
20	13.09	2.75	4.76	13.73	2.74	5.01	15.27	2.86	5.33	17.19	2.88	5.96	17.89	2.79	6.41	18.45	3.01	6.12	19.65	3.47	5.67
25	14.97	3.99	3.75	15.35	3.91	3.93	16.55	3.99	4.15	18.65	4.24	4.40	17.78	3.42	5.20	18.55	3.45	5.37	19.65	3.47	5.67
30	15.65	5.10	3.07	16.17	5.10	3.17	17.28	5.20	3.32	19.17	5.37	3.57	17.26	3.81	4.53	18.38	3.94	4.67	20.28	4.02	5.04
35	15.62	5.96	2.62	16.01	5.91	2.71	16.90	5.91	2.86	18.32	5.89	3.11	16.51	4.24	3.89	17.58	4.40	4.00	18.34	4.11	4.46
40	12.84	5.00	2.57	13.17	4.88	2.70	12.96	4.38	2.96	12.95	3.78	3.43	13.22	3.52	3.76	13.22	3.30	4.01	13.62	2.91	4.68
43	9.76	3.77	2.59	9.96	3.65	2.73	9.96	3.36	2.96	9.93	2.90	3.43	10.21	2.72	3.76	10.21	2.55	4.01	10.21	2.16	4.72

Part load: 130%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	11.45	1.73	6.62	12.19	1.84	6.63	12.64	1.91	6.63	13.71	2.19	6.25
0	/	/	/	/	/	/	/	/	/	11.63	1.61	7.23	12.19	1.84	6.62	12.75	1.84	6.92	13.71	2.20	6.23
5	/	/	/	/	/	/	/	/	/	11.63	1.62	7.19	12.39	1.72	7.22	12.86	1.78	7.22	13.84	2.13	6.50
10	/	/	/	/	/	/	/	/	/	12.24	1.79	6.83	13.08	1.83	7.16	13.54	1.89	7.16	14.60	2.27	6.43
15	/	/	/	/	/	/	13.14	1.96	6.70	14.95	1.95	7.65	15.14	2.21	6.84	16.11	2.37	6.80	15.95	2.96	5.38
20	13.09	2.75	4.76	13.73	2.74	5.01	15.27	2.86	5.33	17.19	2.88	5.96	17.89	2.79	6.41	18.45	3.01	6.12	18.95	3.28	5.77
25	14.97	3.99	3.75	15.35	3.91	3.93	16.55	3.99	4.15	18.65	4.24	4.40	17.78	3.42	5.20	18.39	3.39	5.43	19.16	3.19	6.01
30	15.65	5.10	3.07	16.17	5.10	3.17	17.28	5.20	3.32	18.44	4.93	3.74	17.26	3.81	4.53	18.38	3.94	4.67	18.91	3.53	5.35
35	15.62	5.96	2.62	16.01	5.91	2.71	16.90	5.91	2.86	18.32	5.89	3.11	16.51	4.24	3.89	17.58	4.40	4.00	18.86	4.36	4.33
40	12.84	5.00	2.57	13.17	4.88	2.70	12.96	4.38	2.96	12.95	3.78	3.43	13.22	3.52	3.76	13.22	3.30	4.01	13.62	2.91	4.68
43	9.76	3.77	2.59	9.96	3.65	2.73	9.96	3.36	2.96	9.93	2.90	3.43	10.21	2.72	3.76	10.21	2.55	4.01	10.21	2.16	4.72

Part load: 100%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	11.45	1.73	6.62	12.19	1.84	6.63	12.64	1.91	6.63	13.71	2.19	6.25
0	/	/	/	/	/	/	/	/	/	11.63	1.61	7.23	12.19	1.84	6.62	12.75	1.84	6.92	13.71	2.20	6.23
5	/	/	/	/	/	/	/	/	/	11.63	1.62	7.19	12.39	1.72	7.22	12.86	1.78	7.22	13.84	2.13	6.50
10	/	/	/	/	/	/	/	/	/	12.24	1.79	6.83	13.08	1.83	7.16	13.54	1.89	7.16	14.60	2.27	6.43
15	/	/	/	/	/	/	13.14	1.96	6.70	14.95	1.95	7.65	15.14	2.21	6.84	16.11	2.37	6.80	15.95	2.96	5.38
20	13.09	2.75	4.76	13.73	2.74	5.01	15.27	2.86	5.33	17.19	2.88	5.96	17.89	2.79	6.41	18.45	3.01	6.12	18.95	3.28	5.77
25	14.97	3.99	3.75	15.35	3.91	3.93	16.55	3.99	4.15	18.65	4.24	4.40	17.78	3.42	5.20	18.39	3.39	5.43	19.16	3.19	6.01
30	15.65	5.10	3.07	16.17	5.10	3.17	17.28	5.20	3.32	18.44	4.93	3.74	17.26	3.81	4.53	18.38	3.94	4.67	18.91	3.53	5.35
35	15.62	5.96	2.62	16.01	5.91	2.71	16.90	5.91	2.86	18.32	5.89	3.11	16.51	4.24	3.89	17.58	4.40	4.00	18.86	4.36	4.33
40	12.84	5.00	2.57	13.17	4.88	2.70	12.96	4.38	2.96	12.95	3.78	3.43	13.22	3.52	3.76	13.22	3.30	4.01	13.62	2.91	4.68
43	9.76	3.77	2.59	9.96	3.65	2.73	9.96	3.36	2.96	9.93	2.90	3.43	10.21	2.72	3.76	10.21	2.55	4.01	10.21	2.16	4.72

Part load: 90%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	10.50	1.40	7.48	11.20	1.48	7.56	11.63	1.53	7.60	12.46	1.77	7.05
0	/	/	/	/	/	/	/	/	/	10.64	1.31	8.11	11.17	1.51	7.42	11.70	1.49	7.84	12.43	1.79	6.95
5	/	/	/	/	/	/	/	/	/	10.62	1.33	7.96	11.33	1.41	8.06	11.77	1.45	8.10	12.52	1.74	7.19
10	/	/	/	/	/	/	/	/	/	11.18	1.49	7.52	11.96	1.50	7.99	13.06	1.80	7.24	12.64	1.67	7.57
15	/	/	/	/	/	/	11.35	1.81	6.28	12.87	1.82	7.07	13.30	2.11	6.31	12.90	1.91	6.77	12.53	1.74	7.22
20	11.63	2.33	4.99	12.46	2.36	5.28	13.34	2.35	5.68	13.56	1.95	6.95	13.56	1.62	8.39	13.41	1.64	8.16	13.85	1.64	8.44
25	12.46	3.02	4.12	11.96	2.71	4.42	13.83	2.93	4.72	13.70	2.40	5.71	13.42	2.09	6.41	13.12	1.83	7.18	13.83	1.65	8.38
30	12.57	3.53	3.56	12.34	3.25	3.80	13.41	3.32	4.04	13.28	2.74	4.84	13.69	2.53	5.41	14.01	2.42	5.79	13.59	1.87	7.28
35	12.35	4.02	3.07	12.35	3.80	3.25	13.76	4.06	3.39	13.63	3.37	4.04	13.72	3.12	4.40	13.93	2.93	4.75	13.63	2.37	5.74
40	11.50	4.26	2.70	11.79	4.17	2.83	11.55	3.75	3.08	11.77	3.30	3.57	12.05	3.07	3.93	11.72	2.79	4.20	12.04	2.44	4.94
43	9.03	3.42	2.64	9.25	3.32	2.79	9.03	2.98	3.03	9.00	2.56	3.51	9.28	2.40	3.86	8.96	2.17	4.13	9.61	1.97	4.89

Abbreviations:

LWT: Leaving water temperature (°C)

DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

Part load: 70%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	8.16	0.79	10.28	8.73	0.82	10.67	9.09	0.83	10.91	11.44	1.39	8.22
0	/	/	/	/	/	/	/	/	/	8.22	0.75	10.91	8.66	0.87	9.94	9.09	0.84	10.84	11.38	1.43	7.96
5	/	/	/	/	/	/	/	/	/	8.17	0.80	10.22	8.74	0.82	10.60	9.10	0.84	10.84	11.43	1.40	8.14
10	/	/	/	/	/	/	/	/	/	8.62	0.91	9.51	9.60	0.92	10.47	10.46	1.09	9.57	11.53	1.34	8.59
15	/	/	/	/	/	/	9.30	1.23	7.57	10.60	1.18	9.01	10.65	1.33	8.01	10.33	1.18	8.72	11.43	1.41	8.11
20	9.33	1.71	5.45	10.05	1.73	5.82	11.00	1.72	6.39	10.73	1.30	8.27	11.02	1.10	10.02	10.61	1.05	10.08	11.07	1.03	10.71
25	10.10	2.23	4.52	10.06	2.09	4.82	10.96	2.10	5.23	10.79	1.67	6.47	10.63	1.40	7.58	10.39	1.21	8.61	11.05	1.05	10.54
30	9.76	2.55	3.83	9.76	2.39	4.09	10.62	2.40	4.43	10.51	1.95	5.38	10.91	1.79	6.09	10.80	1.64	6.60	10.74	1.25	8.58
35	9.78	2.97	3.29	9.79	2.80	3.50	11.19	3.01	3.72	10.88	2.44	4.45	11.21	2.28	4.91	11.12	2.09	5.33	11.19	1.69	6.61
40	9.33	3.25	2.87	9.35	3.10	3.02	9.35	2.84	3.29	9.31	2.42	3.84	9.61	2.26	4.25	9.28	2.04	4.56	9.91	1.81	5.48
43	7.12	2.60	2.74	7.12	2.46	2.90	7.35	2.33	3.15	7.36	2.01	3.67	7.36	1.82	4.04	7.36	1.70	4.34	7.70	1.48	5.20

Part load: 50%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	6.84	0.44	15.46	7.45	0.46	16.06	7.93	0.50	16.02	9.68	0.77	12.53
0	/	/	/	/	/	/	/	/	/	6.85	0.43	15.77	7.37	0.54	13.68	7.90	0.53	15.00	9.58	0.84	11.34
5	/	/	/	/	/	/	/	/	/	6.79	0.50	13.66	7.40	0.52	14.22	7.88	0.55	14.33	9.57	0.86	11.16
10	/	/	/	/	/	/	/	/	/	6.77	0.51	13.21	7.43	0.50	14.99	7.66	0.52	14.69	9.63	0.82	11.81
15	/	/	/	/	/	/	6.54	0.67	9.80	7.49	0.58	12.82	8.16	0.73	11.18	7.55	0.60	12.58	9.54	0.88	10.83
20	6.99	1.15	6.09	7.07	1.07	6.61	7.76	1.04	7.48	8.10	0.79	10.27	7.68	0.58	13.19	7.67	0.57	13.40	8.79	0.64	13.69
25	7.11	1.44	4.93	7.36	1.37	5.36	8.04	1.35	5.95	7.82	1.02	7.64	8.05	0.87	9.24	7.51	0.69	10.82	8.76	0.66	13.31
30	7.06	1.74	4.06	7.05	1.62	4.36	7.69	1.60	4.81	7.60	1.28	5.93	7.63	1.12	6.83	8.17	1.08	7.53	8.62	0.86	10.03
35	7.32	2.10	3.49	7.33	1.98	3.71	7.95	1.97	4.03	7.97	1.64	4.85	7.89	1.45	5.44	7.81	1.31	5.95	8.27	1.09	7.60
40	6.83	2.28	3.00	7.01	2.21	3.17	7.02	2.02	3.47	7.03	1.73	4.07	7.04	1.55	4.53	6.70	1.37	4.89	7.91	1.35	5.88
43	5.13	1.83	2.80	5.35	1.81	2.95	5.36	1.66	3.22	5.66	1.51	3.75	6.37	1.55	4.11	6.72	1.53	4.39	7.70	1.48	5.20

Part load: 30%

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	6.84	0.44	15.46	7.45	0.46	16.06	7.93	0.50	16.02	8.81	0.55	15.89
0	/	/	/	/	/	/	/	/	/	6.85	0.43	15.77	7.37	0.54	13.68	7.90	0.53	15.00	8.70	0.64	13.66
5	/	/	/	/	/	/	/	/	/	6.79	0.50	13.66	7.40	0.52	14.22	7.88	0.55	14.33	8.67	0.66	13.10
10	/	/	/	/	/	/	/	/	/	6.77	0.51	13.21	7.43	0.50	14.99	7.91	0.52	15.09	8.72	0.63	13.90
15	/	/	/	/	/	/	5.99	0.54	11.07	6.85	0.45	15.38	7.33	0.58	12.74	7.80	0.61	12.87	8.63	0.69	12.49
20	5.05	0.76	6.62	5.31	0.72	7.42	6.04	0.71	8.52	6.76	0.58	11.64	7.47	0.53	14.17	7.92	0.58	13.62	8.79	0.64	13.69
25	4.87	0.91	5.36	5.12	0.87	5.88	5.69	0.85	6.67	6.53	0.77	8.49	7.21	0.73	9.89	7.51	0.69	10.82	8.76	0.66	13.31
30	4.72	1.13	4.18	4.96	1.10	4.51	5.64	1.12	5.04	6.33	1.02	6.21	6.99	0.99	7.09	7.29	0.95	7.71	8.62	0.86	10.03
35	4.50	1.26	3.58	4.77	1.25	3.82	5.42	1.28	4.22	6.08	1.20	5.07	6.72	1.18	5.68	7.00	1.15	6.11	8.27	1.09	7.60
40	4.34	1.43	3.03	4.56	1.42	3.21	5.19	1.47	3.52	5.82	1.41	4.14	6.43	1.40	4.58	6.70	1.37	4.89	7.91	1.35	5.88
43	4.25	1.52	2.79	4.44	1.51	2.95	5.05	1.57	3.22	5.66	1.51	3.75	6.37	1.55	4.11	6.72	1.53	4.39	7.70	1.48	5.20

Part load: Minimum

DB	LWT																				
	5			7			10			15			18			20			25		
	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER	CC	PI	EER
-5	/	/	/	/	/	/	/	/	/	6.84	0.44	15.46	7.45	0.46	16.06	7.93	0.50	16.02	8.81	0.55	15.89
0	/	/	/	/	/	/	/	/	/	6.85	0.43	15.77	7.37	0.54	13.68	7.90	0.53	15.00	8.70	0.64	13.66
5	/	/	/	/	/	/	/	/	/	6.79	0.50	13.66	7.40	0.52	14.22	7.88	0.55	14.33	8.67	0.66	13.10
10	/	/	/	/	/	/	/	/	/	6.77	0.51	13.21	7.43	0.50	14.99	7.91	0.52	15.09	8.72	0.63	13.90
15	/	/	/	/	/	/	5.99	0.54	11.07	6.85	0.45	15.38	7.33	0.58	12.74	7.80	0.61	12.87	8.63	0.69	12.49
20	5.05	0.76	6.62	5.31	0.72	7.42	6.04	0.71	8.52	6.76	0.58	11.64	7.47	0.53	14.17	7.92	0.58	13.62	8.79	0.64	13.69
25	4.87	0.91	5.36	5.12	0.87	5.88	5.69	0.85	6.67	6.53	0.77	8.49	7.21	0.73	9.89	7.51	0.69	10.82	8.76	0.66	13.31
30	4.72	1.13	4.18	4.96	1.10	4.51	5.64	1.12	5.04	6.33	1.02	6.21	6.99	0.99	7.09	7.29	0.95	7.71	8.62	0.86	10.03
35	4.50	1.26	3.58	4.77	1.25	3.82	5.42	1.28	4.22	6.08	1.20	5.07	6.72	1.18	5.68	7.00	1.15	6.11	8.27	1.09	7.60
40	4.34	1.43	3.03	4.56	1.42	3.21	5.19	1.47	3.52	5.82	1.41	4.14	6.43	1.40	4.58	6.70	1.37	4.89	7.91	1.35	5.88
43	4.25	1.52	2.79	4.44	1.51	2.95	5.05	1.57	3.22	5.66	1.51	3.75	6.37	1.55	4.11	6.72	1.53	4.39	7.70	1.48	5.20

Abbreviations:

LWT: Leaving water temperature (°C)

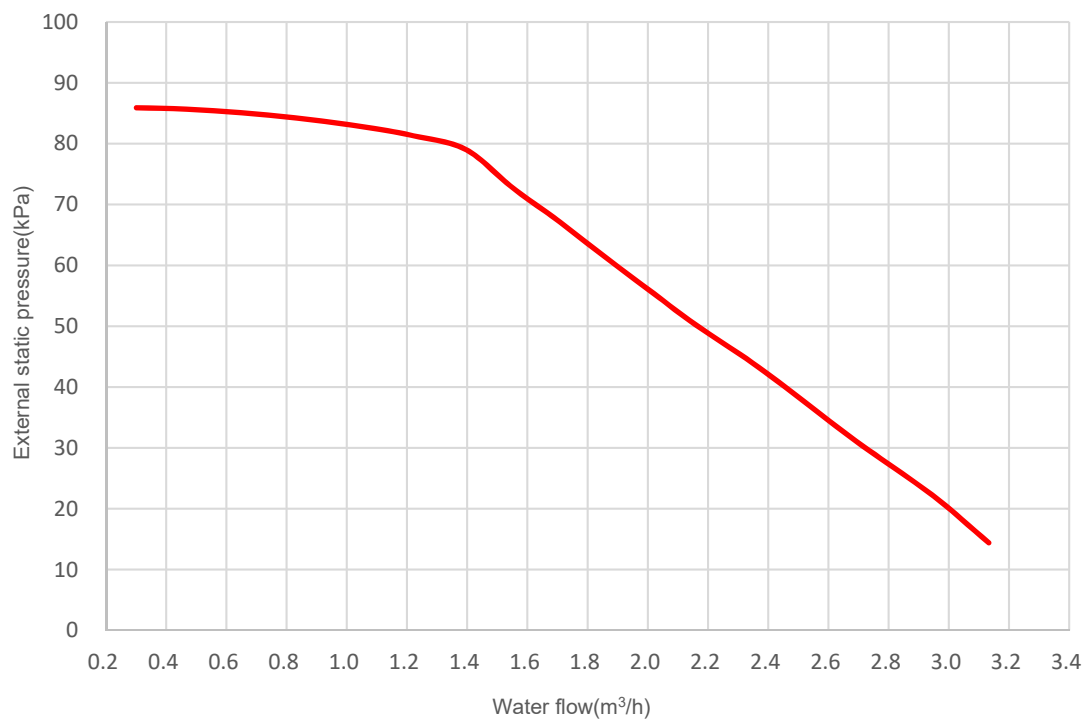
DB: Dry-bulb temperature for Outdoor air temperature (°C)

CC: Total cooling capacity (kW)

PI: Power input (kW)

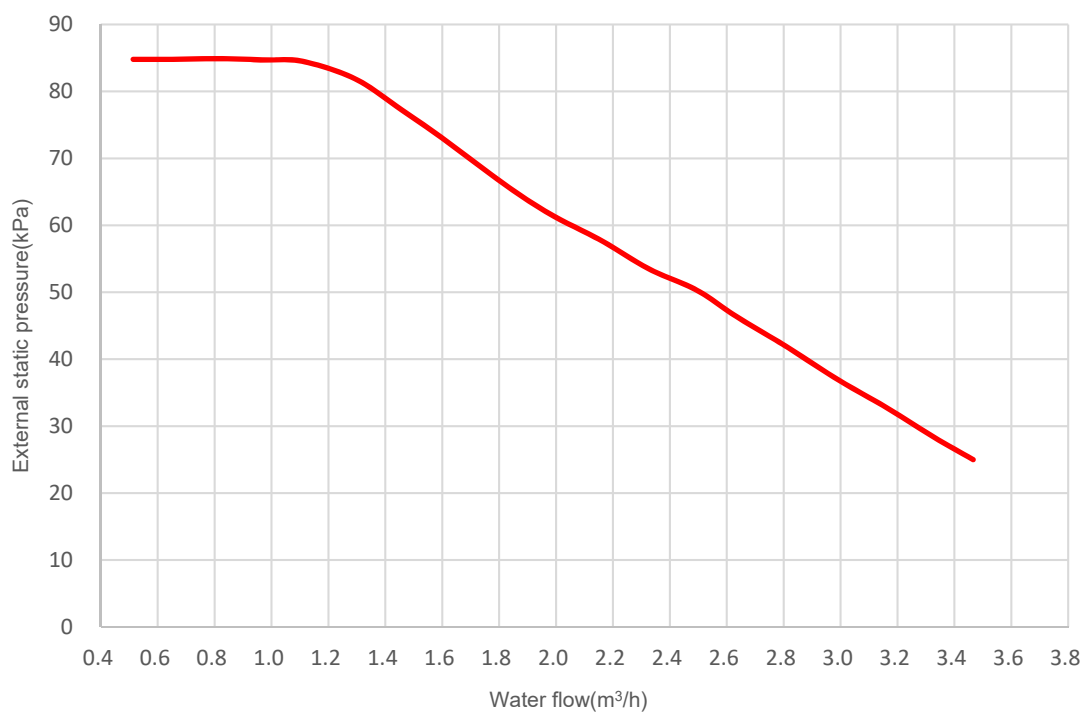
6 Hydronic Performance

MHC-V5WD2N8-C / MHC-V7WD2N8-C / MHC-V9WD2N8-C



MHC-V12WD2N8-C / MHC-V14WD2N8-C / MHC-V16WD2N8-C

MHC-V12WD2RN8-C / MHC-V14WD2RN8-C / MHC-V16WD2RN8-C



7 Sound Levels

7.1 Overall

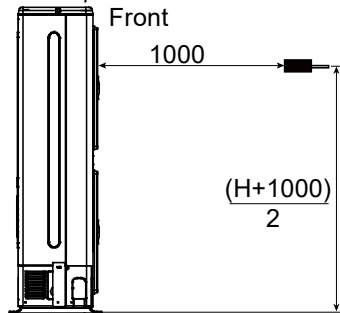
Table 2-8.1: Sound pressure levels¹

Model name	dB(A) ²
MHC-V5WD2N8-C	48
MHC-V7WD2N8-C	51
MHC-V9WD2N8-C	53
MHC-V12WD2N8-C	56
MHC-V14WD2N8-C	58
MHC-V16WD2N8-C	58
MHC-V12WD2RN8-C	57
MHC-V14WD2RN8-C	59
MHC-V16WD2RN8-C	59

Notes:

1. Sound pressure level is measured at a position 1m in front of the unit and $(1+H)/2$ m (where H is the height of the unit) above the floor in a semi-anechoic chamber. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.

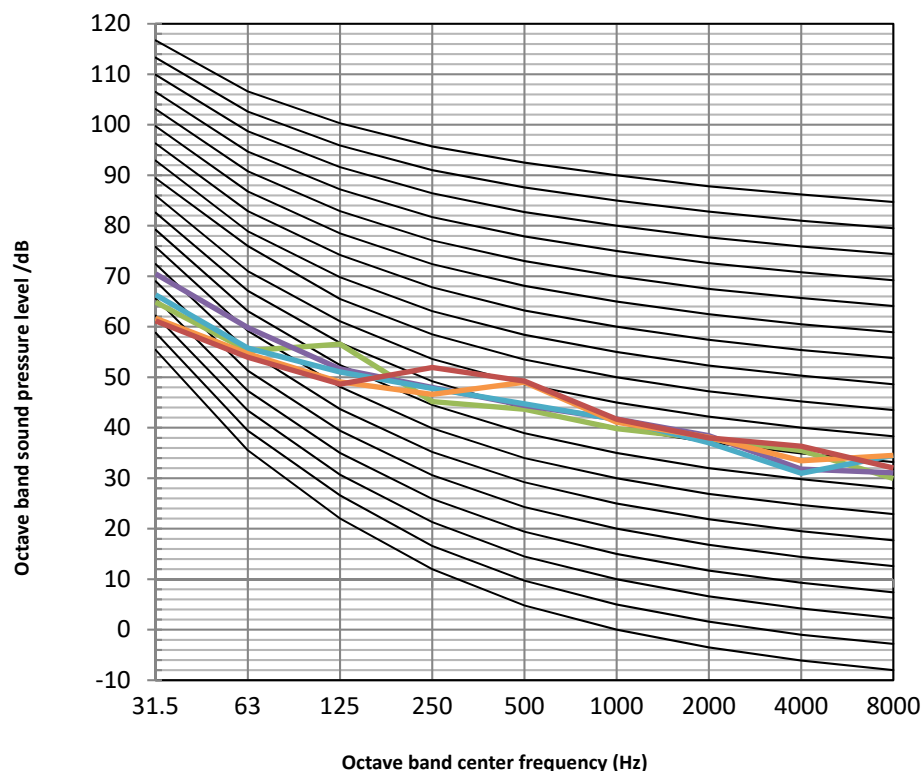
Figure 2-8.1: Sound pressure level measurement (unit: mm)



2. dB(A) is the maximum value tested under the conditions below:
Outdoor air temperature 7°C DB, 6°C WB; EWT 30°C, LWT 35°C. Free compressor frequency.
Outdoor air temperature 7°C DB, 6°C WB; EWT 47°C, LWT 55°C. Free compressor frequency.

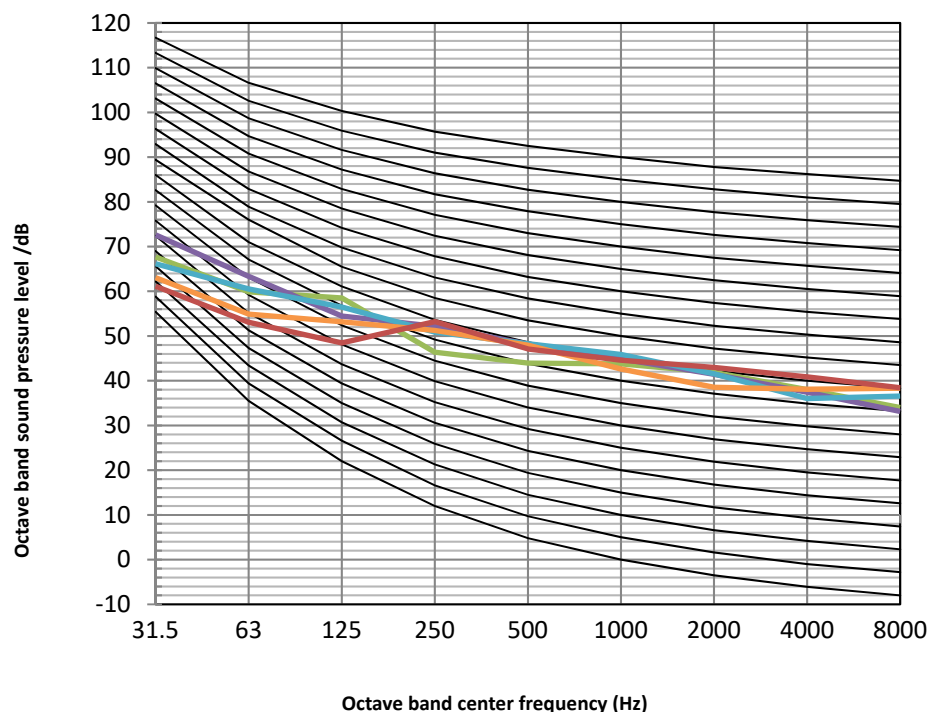
7.2 Octave Band Levels(NR)

MHC-V5WD2N8-C octave band levels



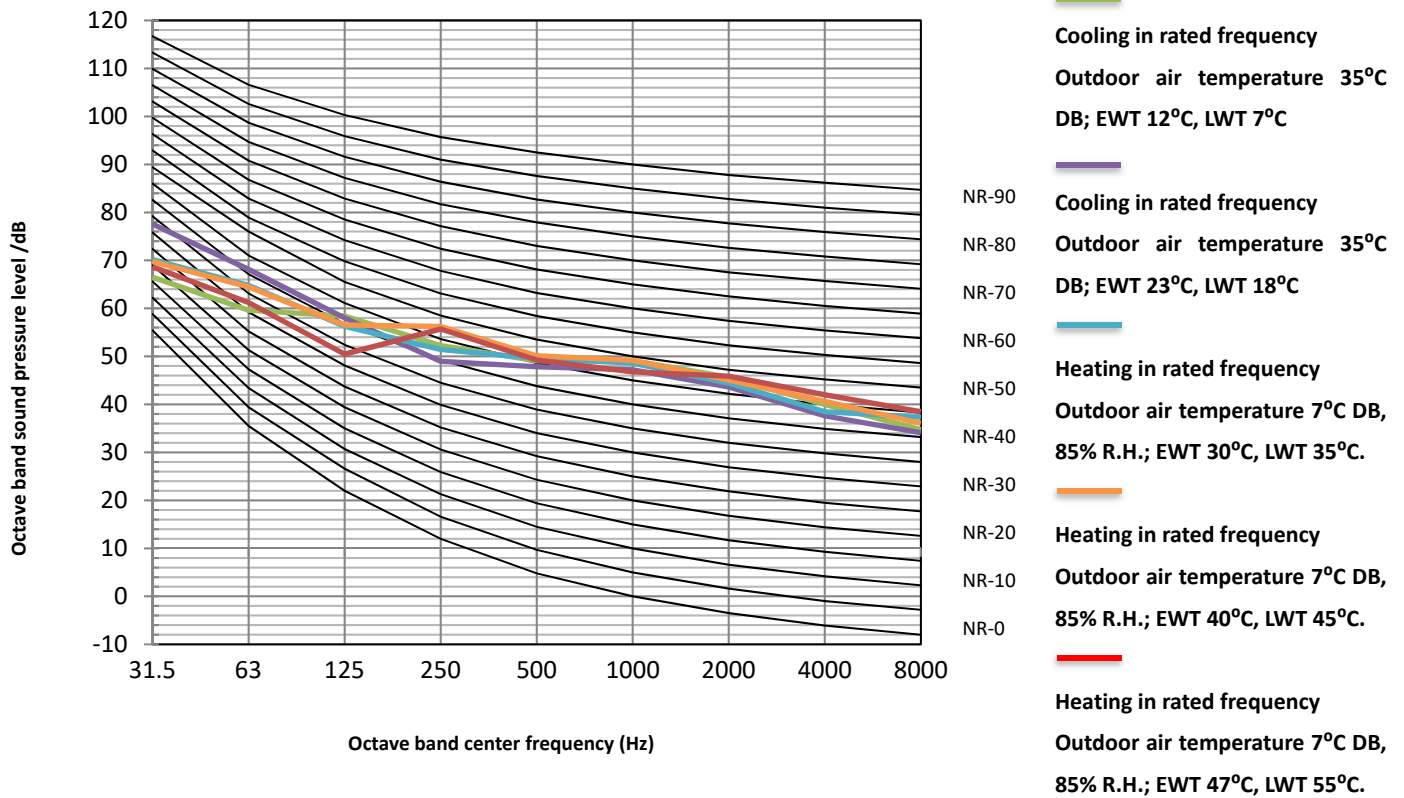
- Cooling in rated frequency
Outdoor air temperature 35°C
DB; EWT 12°C, LWT 7°C
- NR-90
- Cooling in rated frequency
Outdoor air temperature 35°C
DB; EWT 23°C, LWT 18°C
- NR-80
- NR-70
- NR-60
- Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 30°C, LWT 35°C.
- NR-50
- NR-40
- NR-30
- NR-20
- Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 40°C, LWT 45°C.
- NR-10
- NR-0
- Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 47°C, LWT 55°C.

MHC-V7WD2N8-C octave band levels

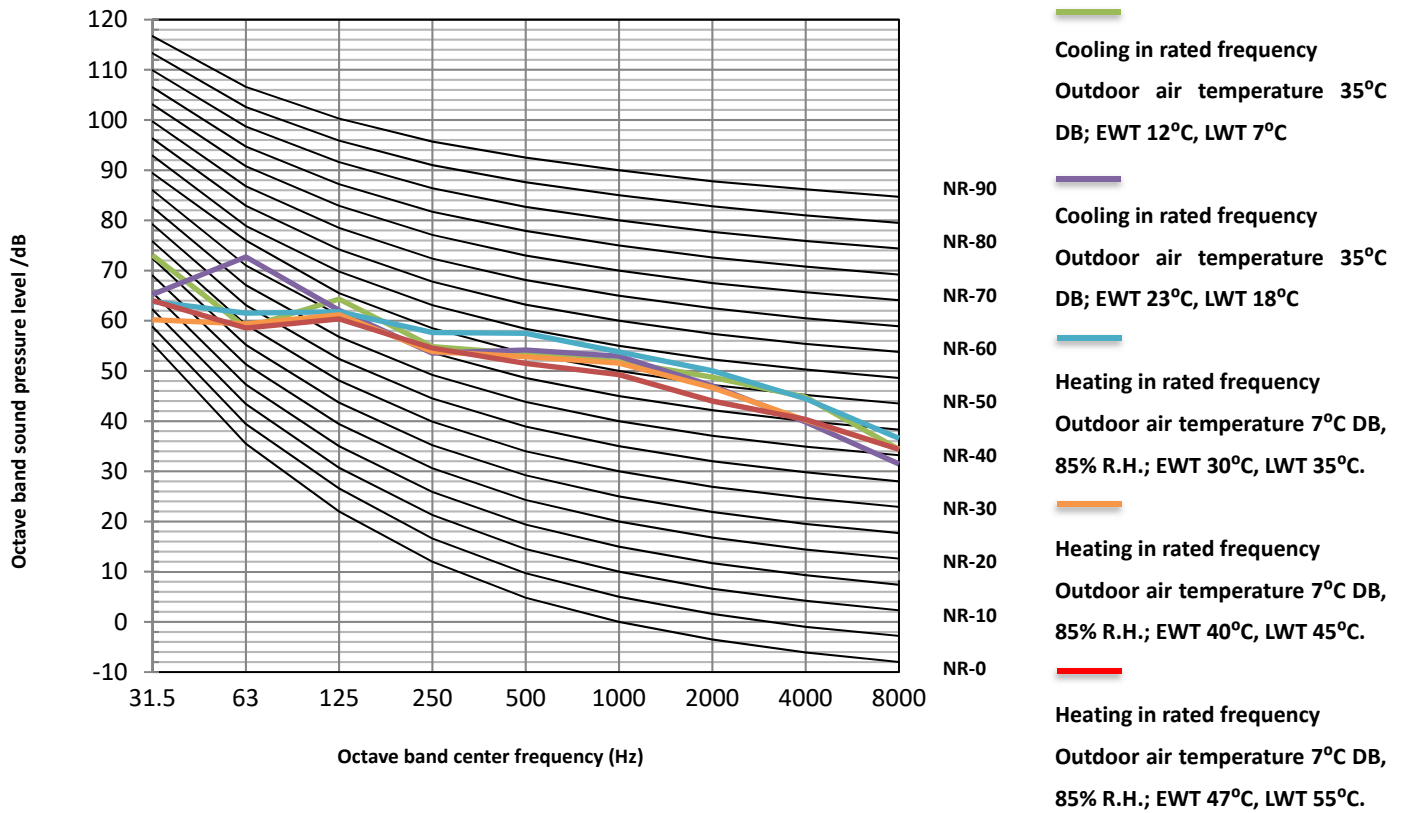


- Cooling in rated frequency
Outdoor air temperature 35°C
DB; EWT 12°C, LWT 7°C
- NR-90
- Cooling in rated frequency
Outdoor air temperature 35°C
DB; EWT 23°C, LWT 18°C
- NR-80
- NR-70
- NR-60
- Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 30°C, LWT 35°C.
- NR-50
- NR-40
- NR-30
- NR-20
- Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 40°C, LWT 45°C.
- NR-10
- NR-0
- Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 47°C, LWT 55°C.

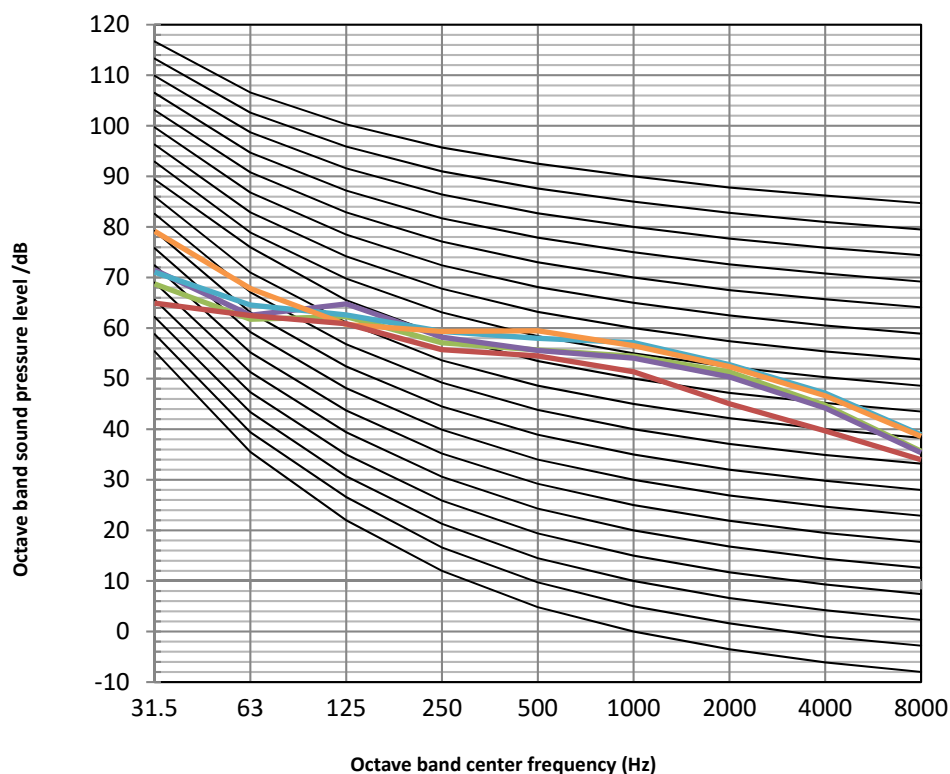
MHC-V9WD2N8-C octave band levels



MHC-V12WD2N8-C octave band levels

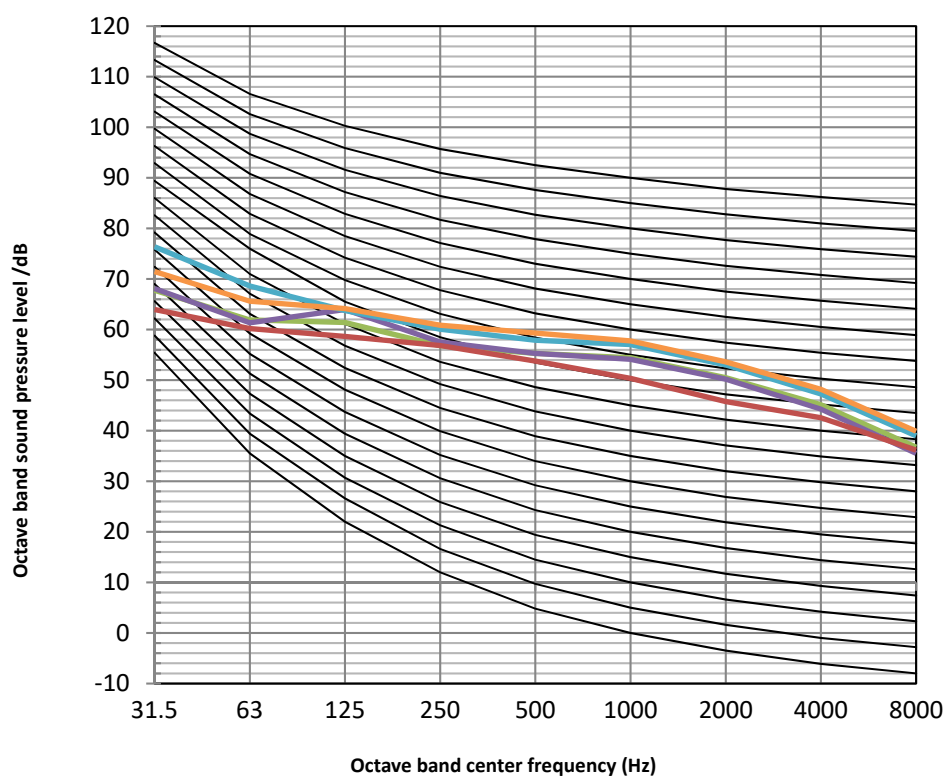


MHC-V14WD2N8-C octave band levels



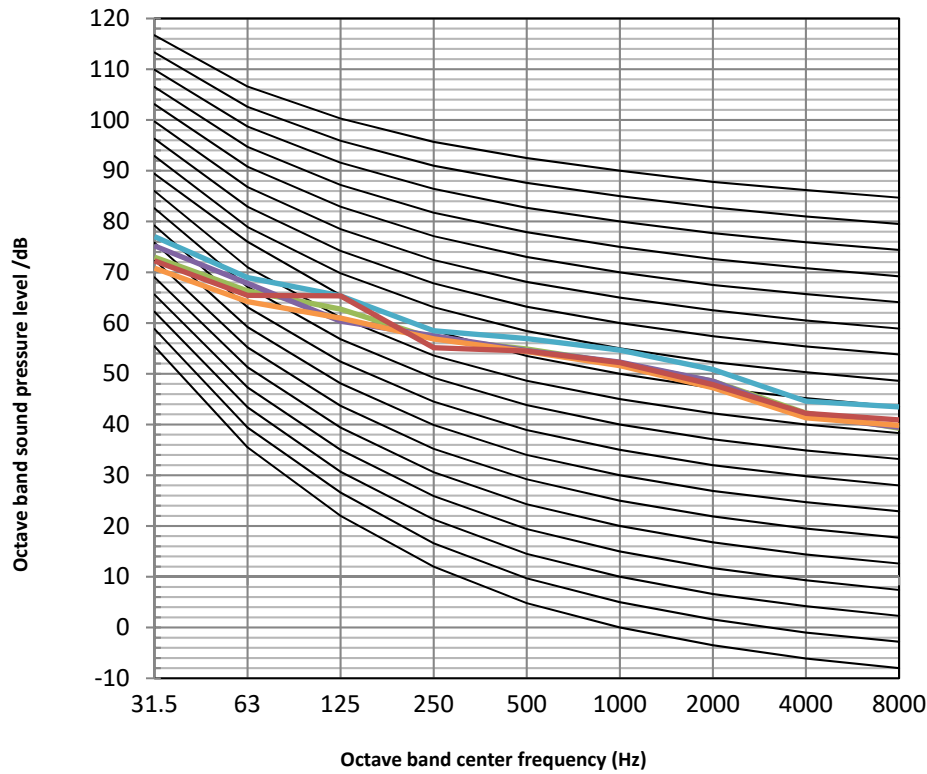
- Cooling in rated frequency
Outdoor air temperature 35°C DB;
EWT 12°C, LWT 7°C
- NR-90 Cooling in rated frequency
Outdoor air temperature 35°C DB;
EWT 23°C, LWT 18°C
- NR-80 Cooling in rated frequency
Outdoor air temperature 35°C DB;
EWT 23°C, LWT 18°C
- NR-70 Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 30°C, LWT 35°C.
- NR-60 Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 40°C, LWT 45°C.
- NR-50 Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 47°C, LWT 55°C.
- NR-40
- NR-30
- NR-20
- NR-10
- NR-0

MHC-V16WD2N8-C octave band levels



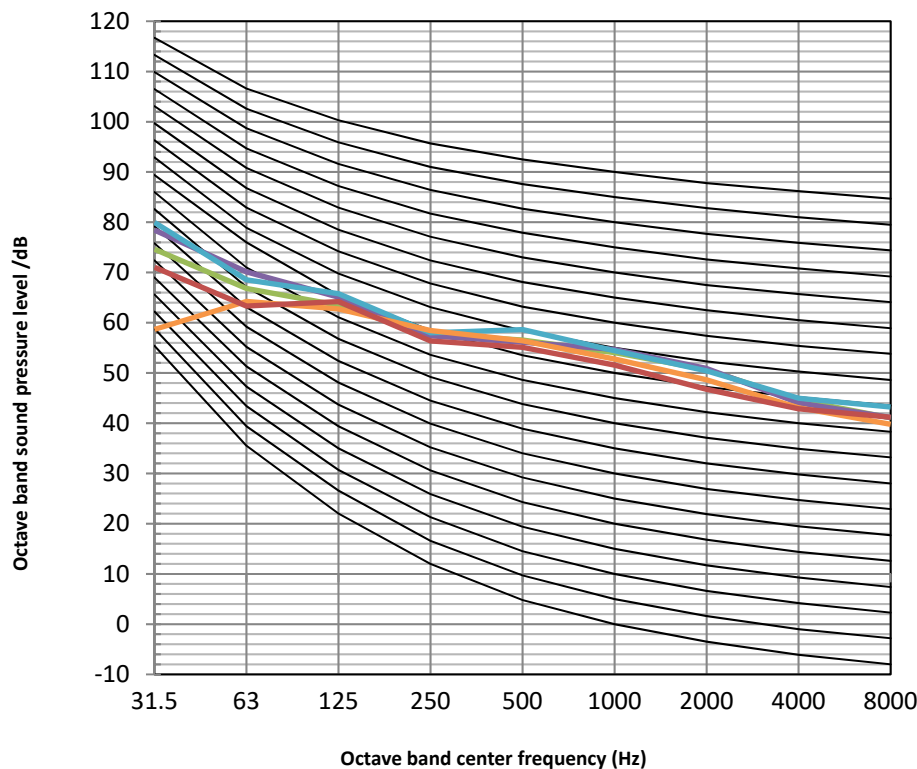
- Cooling in rated frequency
Outdoor air temperature 35°C DB;
EWT 12°C, LWT 7°C
- NR-90 Cooling in rated frequency
Outdoor air temperature 35°C DB;
EWT 23°C, LWT 18°C
- NR-80 Cooling in rated frequency
Outdoor air temperature 35°C DB;
EWT 23°C, LWT 18°C
- NR-70 Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 30°C, LWT 35°C.
- NR-60 Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 40°C, LWT 45°C.
- NR-50 Heating in rated frequency
Outdoor air temperature 7°C DB,
85% R.H.; EWT 47°C, LWT 55°C.
- NR-40
- NR-30
- NR-20
- NR-10
- NR-0

MHC-V12WD2RN8-C octave band levels



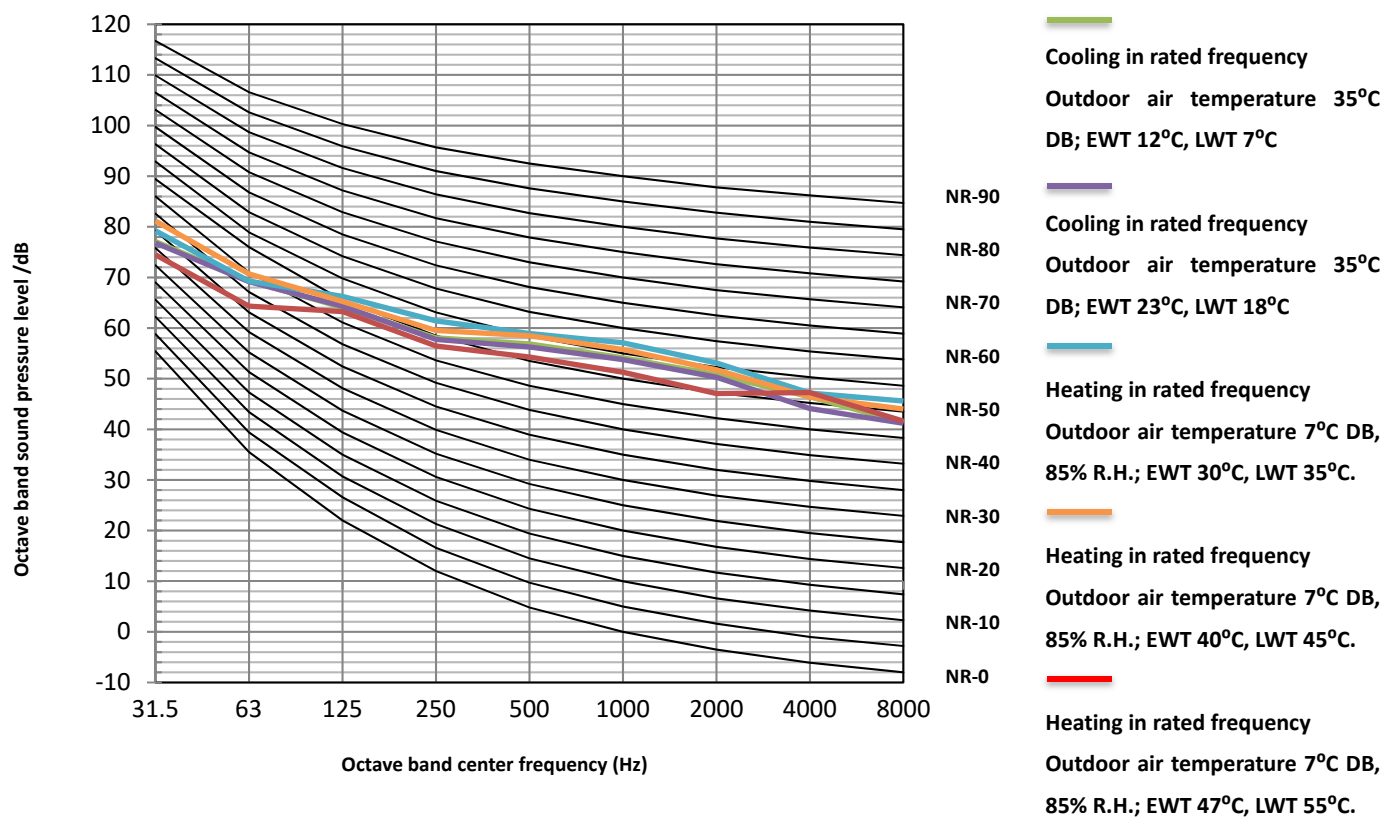
- Cooling in rated frequency
Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C
- NR-90
- Cooling in rated frequency
Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C
- NR-80
- NR-70
- NR-60
- Heating in rated frequency
Outdoor air temperature 7°C DB, 85% R.H.; EWT 30°C, LWT 35°C.
- NR-50
- NR-40
- NR-30
- Heating in rated frequency
Outdoor air temperature 7°C DB, 85% R.H.; EWT 40°C, LWT 45°C.
- NR-20
- NR-10
- NR-0
- Heating in rated frequency
Outdoor air temperature 7°C DB, 85% R.H.; EWT 47°C, LWT 55°C.

MHC-V14WD2RN8-C octave band levels



- Cooling in rated frequency
Outdoor air temperature 35°C DB; EWT 12°C, LWT 7°C
- NR-90
- Cooling in rated frequency
Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C
- NR-80
- NR-70
- NR-60
- Heating in rated frequency
Outdoor air temperature 7°C DB, 85% R.H.; EWT 30°C, LWT 35°C.
- NR-50
- NR-40
- NR-30
- Heating in rated frequency
Outdoor air temperature 7°C DB, 85% R.H.; EWT 40°C, LWT 45°C.
- NR-20
- NR-10
- NR-0
- Heating in rated frequency
Outdoor air temperature 7°C DB, 85% R.H.; EWT 47°C, LWT 55°C.

MHC-V16WD2RN8-C octave band levels



8 Climate Related Curves

The climate related curves can be selected in the user interface, **MENU > PRESET TEMPERATURE > WEATHER TEMP. SET.**

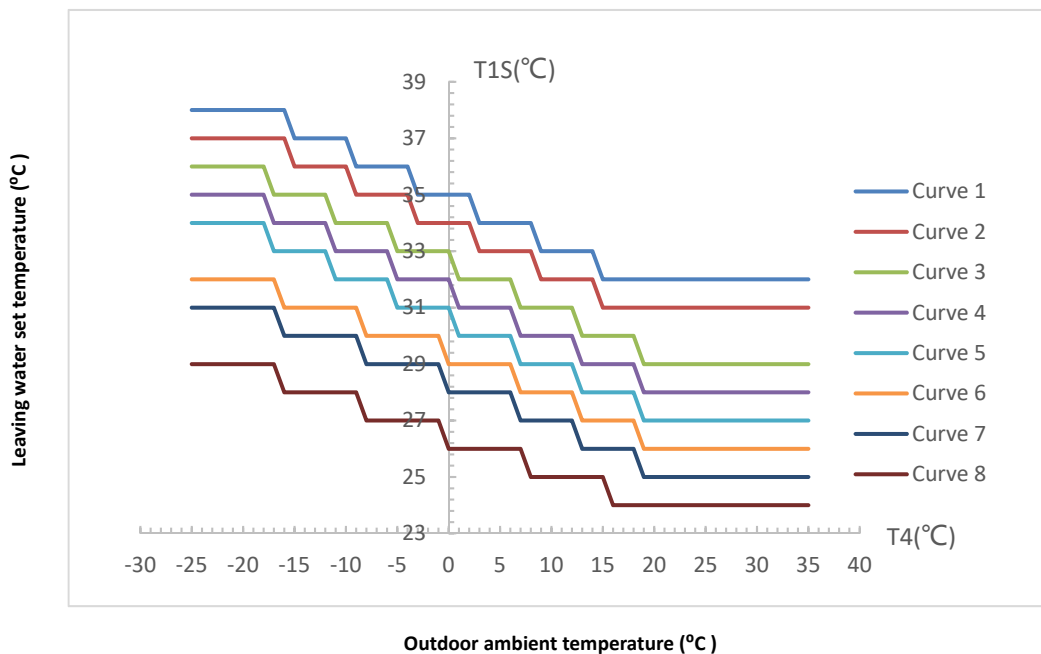
If WEATHER TEMP. SET is active, the leaving water set temperature (T1s) will automatically change as outdoor ambient temperature (T4) changes. Totally 32 weather temperature curves are already set by experienced engineer and one personalized curve is available, which meets the diversified requirements of temperature.

The relationship between outdoor ambient temperature (T4) and leaving water set temperature (T1s) is described as below.

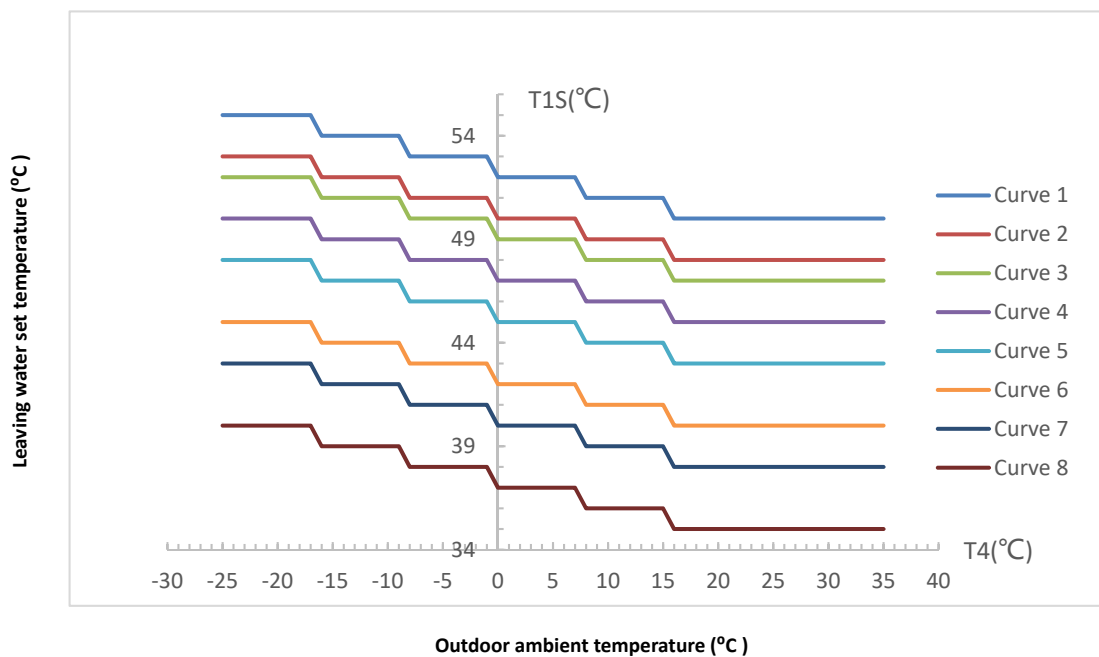
WEATHER TEMP. SET menu

PRESET TEMPERATURE		
PRESET TEMP.	WEATHER TEMP. SET	ECO MODE
ZONE1 C-MODE LOWTEMP.		OFF
ZONE1 H-MODE LOWTEMP.		OFF
ZONE2 C-MODE LOWTEMP.		OFF
ZONE2 H-MODE LOWTEMP.		OFF
ON/OFF		

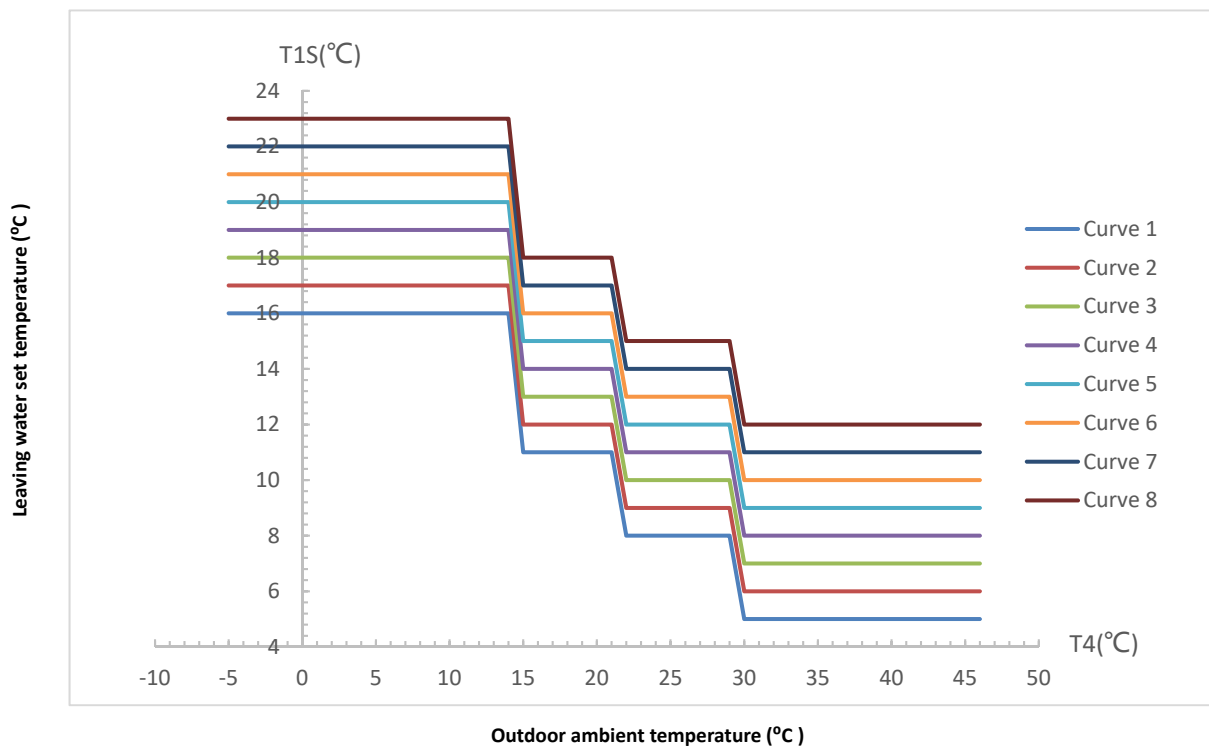
Low temperature curves for heating mode¹



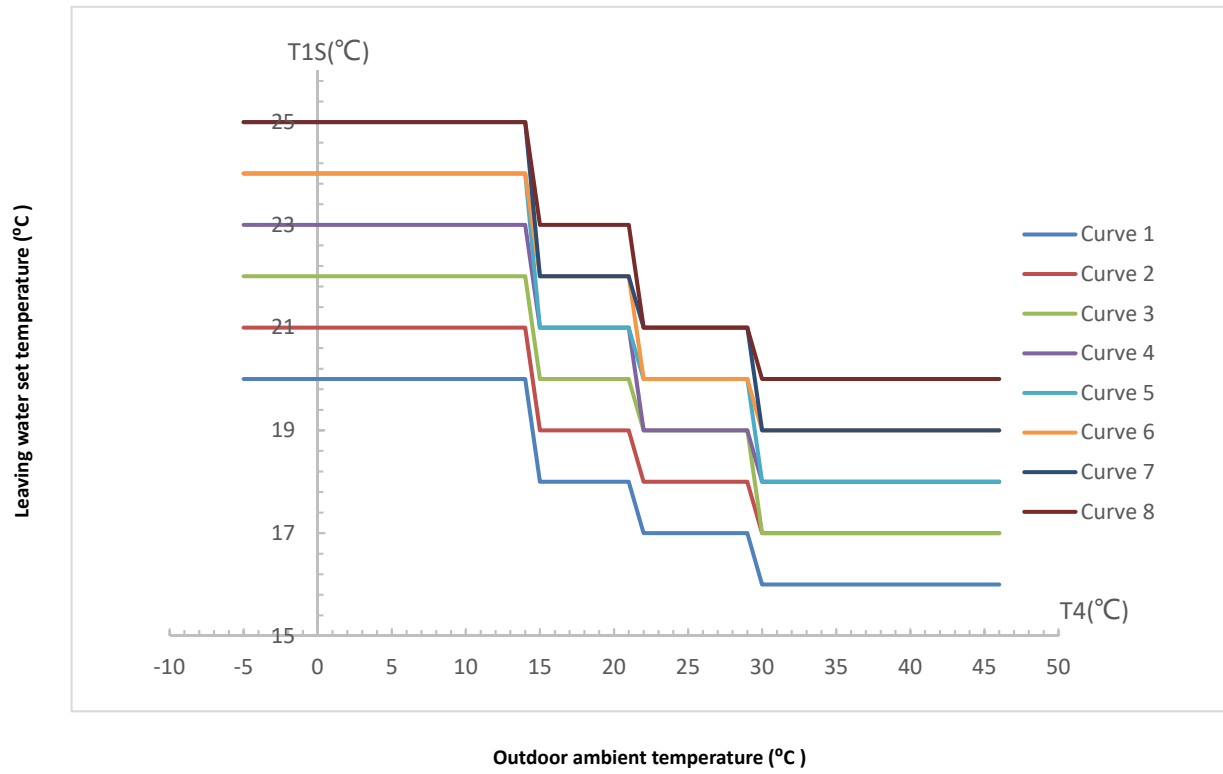
High temperature curves for heating mode¹



Low temperature curves for cooling mode¹

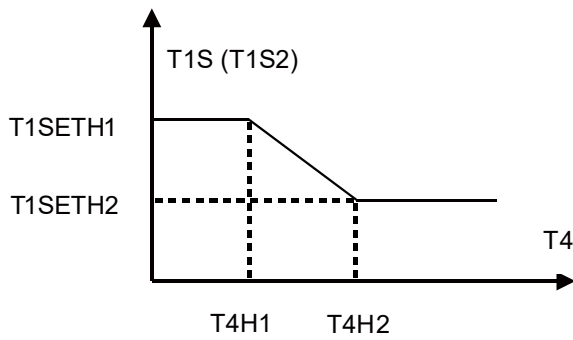


High temperature curves for cooling mode¹

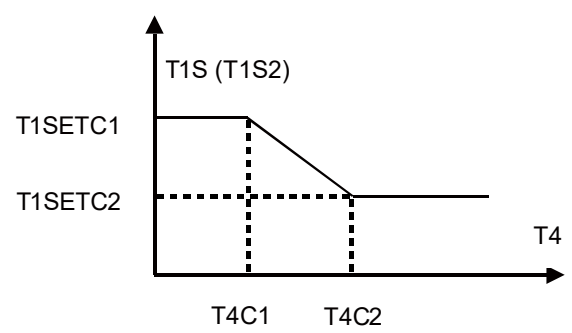


The automatic setting curves are the ninth curve for cooling and heating mode.

Automatic setting curve for heating mode



Automatic setting curve for cooling mode



Part 3

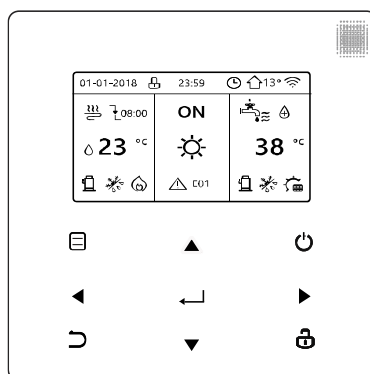
Installation and Field Settings

1 User Interface Field Settings	60
2 Operation parameter.....	79

1 User Interface Field Settings

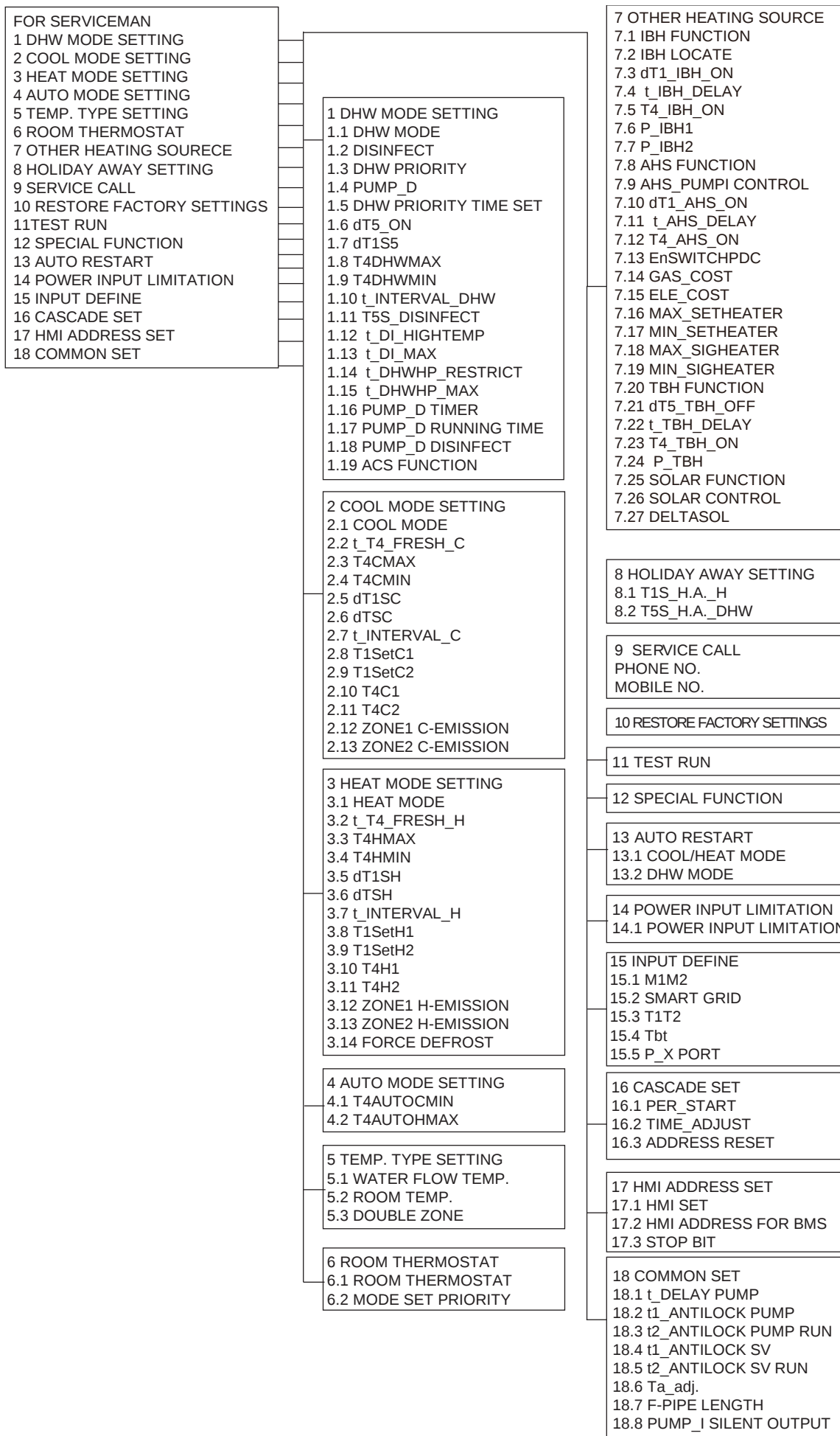
1.1 Introduction

During installation, the settings and parameters should be configured by the installer to suit the installation configuration, climate conditions and end-user preferences. The relevant settings are accessible and programmable through the **FOR SERVICEMAN** menu on the user interface. The user interface menus and settings can be navigated using the user interface's touch-sensitive keys, as shown below:



Keys	Function
	Go to the menu structure(on the home page)
	Navigate the cursor on the display
	Navigate in the menu structure
	Adjust settings
	Turn on/off the space heating/cooling operation or DHW mode Turn on/off functions in the menu structure
	Come back to the up level
	Long press for unlock/lock the controller Unlock /lock some functions such as "DHW temperature adjusting"
	Go to the next step when programming a schedule in the menu structure and confirm a selection to enter in the submenu of the menu structure.

1.2 Menu Structure



1.3 FOR SERVICEMAN Menu

FOR SERVICEMAN allows installers to input the system configuration and set the system parameters. To enter **FOR SERVICEMAN**, go to **MENU > FOR SERVICEMAN**.

Enter the password, using ◀ ▶ to navigate between digits and using ▼ ▲ to adjust the numerical values. The password is 234.

Then the following pages will be displayed after putting the password.

FOR SERVICEMAN
Please input password:
2 3 4
ENTER ADJUST

FOR SERVICEMAN menu

FOR SERVICEMAN 1/3	FOR SERVICEMAN 2/3	FOR SERVICEMAN 3/3
1. DHW MODE SETTING	7. OTHER HEATING SOURCE	13. AUTO RESTART
2. COOL MODE SETTING	8. HOLIDAY AWAY SETTING	14. POWER INPUT LIMITATION
3. HEAT MODE SETTING	9. SERVICE CALL SETTING	15. INPUT DEFINE
4. AUTO MODE SETTING	10. RESTORE FACTORY SETTINGS	16. CASCADE SET
5. TEMP.TYPE SETTING	11. TEST RUN	17. HMI ADDRESS SET
6. ROOM THERMOSTAT	12. SPECIAL FUNCTION	18. COMMON SET
ENTER ADJUST	ENTER ADJUST	ENTER ADJUST

1.4 DHW MODE SETTING Menu

1.4.1 DHW MODE SETTING menu overview

MENU > FOR SERVICEMAN > DHW MODE SETTING

DHW MODE SETTING menu

1 DHW MODE SETTING 1/4	1 DHW MODE SETTING 2/4	1 DHW MODE SETTING 3/4
1.1 DHW MODE YES	1.6 dT5_ON 5 °C	1.11 T5S_DISINFECT 65 °C
1.2 DISINFECT YES	1.7 dT1S5 10°C	1.12 t_DI_HIGHTEMP. 15MIN
1.3 DHW PRIORITY YES	1.8 T4DHWMAX 43°C	1.13 t_DI_MAX 210 MIN
1.4 PUMP_D YES	1.9 T4DHWMIN -10°C	1.14 t_DHWHP_RESTRICT 30MIN
1.5 DHW PRIORITY TIME SET NON	1.10 t_INTERVAL_DHW 5 MIN	1.15 t_DHWHP_MAX 120MIN
ADJUST	ADJUST	ADJUST

1 DHW MODE SETTING 4/4
1.16 PUMP_D TIMER YES
1.17 PUMP_D RUNNING TIME 5 MIN
1.18 PUMP_D DISINFECT NON
1.19 ACS FUNCTION NON
ADJUST

DHW MODE enables or disables DHW mode. For installations with DHW tanks, select **YES** to enable DHW mode. For installations without DHW tanks, select **NON** to disable DHW mode.

DISINFECT sets whether or not the disinfection operation is performed.

DHW PRIORITY sets whether domestic hot water heating or space heating/cooling takes priority. If **NON** is selected in the **DHW PRIORITY** mode, heat pump will change from DHW mode to heating/cooling mode immediately if heating/cooling

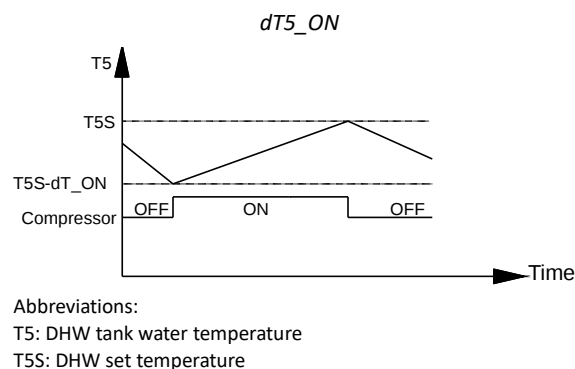
mode is on. If DHW mode is available and the space heating/cooling is OFF, then heat pump will change to DHW mode. If **YES** is selected in the **DHW PRIORITY** mode, then a maximum of three parameters(DHW PRIORITY TIME SET, t_{DHWHP} RESTRICT, $t_{\text{DHWHP MAX}}$) are needed to be set. Please refer to the behind introduction.

PUMP_D sets whether or not the DHW pump is controlled by heat pump. If the DHW pump is controlled by heat pump, select **YES**. If the DHW pump is not controlled by heat pump, select **NON**.

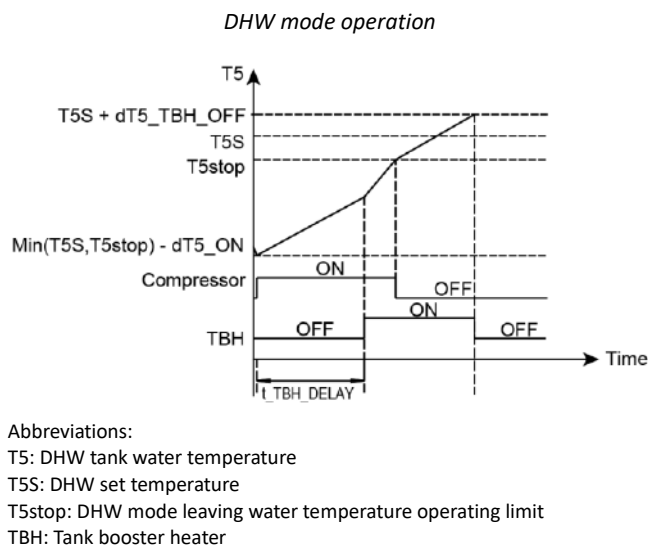
DHW PRIORITY TIME SET sets whether $t_{\text{DHWHP_RESTRICT}}$ (the operation time of heating/cooling mode) is to be considered before switching to DHW mode and whether $t_{\text{DHWHP_MAX}}$ (the operation time of DHW mode) is to be considered before switching to heating/cooling mode.

dT5_ON sets the temperature difference between the DHW set temperature (T5S) and the DHW tank water temperature (T5) above which the heat pump providing hot water to the DHW tank. When $T5S - T5 \geq dT5_ON$, heat pump provides hot water to the DHW tank.

Note: When the heat pump leaving water temperature is above the DHW mode leaving water temperature operating limit (T5stop), the heat pump does not provide hot water to the DHW tank.



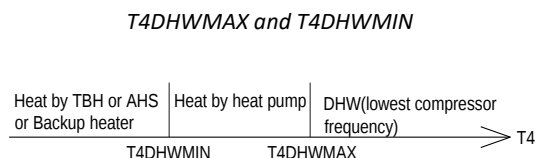
DHW mode operation illustrates the operation of the heat pump and tank booster heater(optional) in DHW mode. If the DHW tank water temperature (T5) is less than the minimum of the DHW set temperature (T5S) and the heat pump leaving water temperature operating limit (T5stop) less **dT5_ON**, the heat pump starts providing hot water to the DHW tank. After **t_TBH_delay** minutes have elapsed, the tank booster heater is turned on. If T5 reaches T5stop, the heat pump stops but the tank booster heater continues running until T5 has reached $T5S + dT5_TBH_OFF$



dT1S5 sets the heat pump leaving water set temperature (T1S) relative to DHW tank water temperature (T5). For DHW mode, the user sets the DHW set temperature (T5S) on the main screen and cannot manually set T1S. T1S is set as $T1S = T5 + dT1S5$.

T4DHWMAX sets the ambient temperature above which the heat pump will operate in DHW mode with lowest compressor frequency.

T4DHWMIN sets the ambient temperature below which the heat pump will not operate in DHW mode.



t_INTERVAL_DHW sets the compressor re-start delay. When the compressor stops running, it will not re-start until at least **t_INTERVAL_DHW** minutes has elapsed.

Abbreviations:
TBH: DWH tank tank booster heater
AHS: Additional heating source

T5S_DISINFECT sets target water temperature of water tank of disinfect function.

T5S_DI sets the DHW tank disinfection operation target temperature. Caution: during the disinfection operation (duration: **t_DI_MAX**) the domestic hot water temperature at the hot water taps will at times be equal to the value set for **T5S_DI**.

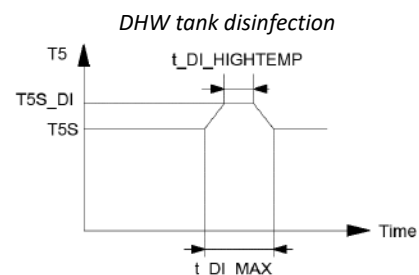
t_DI_HIGHTEMP sets that length of time that the DHW tank disinfection operation target temperature is maintained.

t_DI_MAX sets the total duration of the DHW tank disinfect operation.

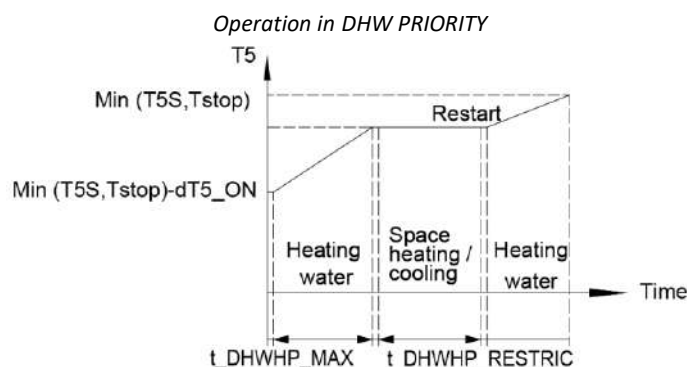
t_DHWHP_RESTRICT sets the maximum length of time that the heat pump will run in space heating or space cooling modes before switching to DHW mode, if a requirement for DHW mode exists. When running in space heating mode or space cooling mode, the heat pump becomes available for DHW mode either as soon as the space heating/cooling set temperatures have been reached or after **t_DHWHP_MAX** minutes have elapsed.

t_DHWHP_MAX sets the maximum length of time that the heat pump will run in DWH mode before switching to space heating/cooling mode if a requirement for space heating/cooling modes exists. When running in DHW mode, the heat pump becomes available for space heating/cooling either as soon as the DHW tank water temperature (T5) reaches the DHW set temperature (T5S) or after **t_DHWHP_MAX** minutes have elapsed.

Diagram below illustrates the effects of **t_DHWHP_MAX** and **t_DHWHP_RESTRICT** when **DHW PRIORITY** is enabled. The heat pump initially runs in DWH mode. After **t_DHWHP_MAX** minutes, T5 has not reached



Abbreviations:
 T5: DHW tank water temperature
 T5S: DHW set temperature



Abbreviations:
 T5: DHW tank water temperature
 T5S: DHW set temperature
 T5stop: DHW mode leaving water temperature operating limit

DHW PRIORITY	DHW PRIORITY TIME SET	t_DHWHP_RESTRICT	t_DHWHP_MAX	Heating/Cooling turns to DHW	DHW turns to Heating/Cooling
YES	YES	A min	B min	&& DHW mode ON && $T5 < \text{MIN}(T5S, T5STOP) - dT5_ON$ && Heating/Cooling mode operates for A mins	DHW mode OFF $T5 \geq \text{MIN}(T5S, T5STOP)$ DHW mode operates for B mins && Heating/Cooling mode ON
YES	NO	-	-	&& DHW mode ON && $T5 < \text{MIN}(T5S, T5STOP) - dT5_ON$	DHW mode OFF $T5 \geq \text{MIN}(T5S, T5STOP)$ && Heating/Cooling mode ON
NO	-	-	-	&& DHW mode ON && $T5 < \text{MIN}(T5S, T5STOP) - 1$ && Heating/Cooling mode OFF	Heating/Cooling mode ON

PUMP_D TIMER enable or disable the DHW pump run as timed and keeps running for PUMP_D RUNNING TIME

PUMP_D RUNNING TIME set the certain time that the DHW pump will keep running

PUMP_D DISINFECT enable or disable the DHW pump operates when heat pump is in disinfect mode and $T5_DI - T5 \leq 2$

ACS FUNCTION enable or disable the second water tank control T5_2

1.5 COOL MODE SETTING Menu

MENU > FOR SERVICEMAN > COOL MODE SETTING

COOL MODE SETTING menu

2 COOL MODE SETTING 1/3	2 COOL MODE SETTING 2/3	2 COOL MODE SETTING 3/3
2.1 COOL MODE YES	2.6 dTSC 2°C	2.11 T4C2 25°C
2.2 t_T4_FRESH_C 2.0Hrs	2.7 t_INTERVAL_C 5MIN	2.12 ZONE1 C-EMISSION FCU
2.3 T4CMAX 43°C	2.8 T1SetC1 10°C	2.13 ZONE2 C-EMISSION FHL
2.4 T4CMIN 20°C	2.9 T1SetC2 16°C	
2.5 dT1SC 5°C	2.10 T4C1 35°C	
⬆️ ADJUST ⬅️	⬆️ ADJUST ⬅️	⬆️ ADJUST ⬅️

COOL MODE enables or disables cooling mode. For installations with space cooling terminals, select **YES** to enable cooling mode. For installations without space cooling terminals, select **NON** to disable cooling mode.

t_T4_FRESH_C sets the refresh time of cooling mode climate temperature curve.

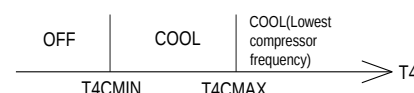
T4CMAX sets the ambient temperature above which the heat pump will operate in cooling mode with lowest compressor frequency.

T4CMIN sets the ambient temperature below which the heat pump will not operate in cooling mode.

dT1SC sets the minimum temperature difference between the heat pump leaving water temperature (T1) and the heat pump leaving water set temperature (T1S) at which the heat pump provides chilled water to the space cooling terminals. When $T1 - T1S \geq dT1SC$ the heat pump provides chilled water to the space cooling terminals and when $T1 \leq T1S$ the heat pump does not provide chilled water to the space cooling terminals.

dTSC sets the temperature difference between the actual room temperature (Ta) and set room temperature (TS) above which the heat pump provides chilled water to the space cooling terminals. When $Ta - TS \geq dTSC$ the heat pump provides chilled water to the space cooling terminals and when $Ta \leq TS$ the heat pump does not provide chilled water to the space cooling terminals. **dTSC** is only applicable if **YES** is selected for **ROOM TEMP** in the 5 **TEMP. TYPE SETTING** menu.

T4CMAX, T4CMIN



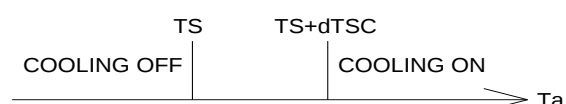
Abbreviations:
T4: Outdoor ambient temperature

dT1SC



Abbreviations:
T1: Heat pump leaving water temperature
T1S: Heat pump leaving water set temperature

dTSC



t_INTERVAL_C sets the cooling mode compressor re-start delay. When the compressor stops running, it will not re-start until at least **t_INTERVAL_C** minutes have elapsed.

T1SetC1 sets the water temperature 1 of personalized setting curve for cooling mode.

T1SetC2 sets the water temperature 2 of personalized setting curve for cooling mode.

T4C1 sets the ambient temperature 1 of personalized setting curve for cooling mode.

T4C2 sets the ambient temperature 2 of personalized setting curve for cooling mode.

ZONE1 C-EMISSION sets the emission type of zone1 for cooling mode. (FCU: Fan coil unit; FHL: Floor heating loop; RAD.: Radiator)

ZONE2 C-EMISSION sets the emission type of zone2 for cooling mode. (FCU: Fan coil unit; FHL: Floor heating loop; RAD.: Radiator)

1.6 HEAT MODE SETTING Menu

MENU > FOR SERVICEMAN > HEAT MODE SETTING

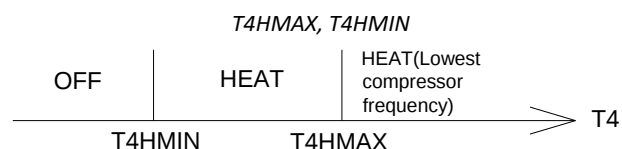
HEAT MODE SETTING menu

3 HEAT MODE SETTING 1/3	3 HEAT MODE SETTING 2/3	3 HEAT MODE SETTING 3/3
3.1 HEAT MODE YES	3.6 dTSH 2°C	3.11 T4H2 7°C
3.2 t_T4_FRESH_H 2.0Hrs	3.7 t_INTERVAL_H 5MIN	3.12 ZONE1 H-EMISSION RAD.
3.3 T4HMAX 16°C	3.8 T1SetH1 35°C	3.13 ZONE2 H-EMISSION FHL
3.4 T4HMIN -15°C	3.9 T1SetH2 28°C	3.14 FORCE DEFROST NON
3.5 dT1SH 5°C	3.10 T4H1 -5°C	
⬇️ ADJUST ⬅️	⬇️ ADJUST ⬅️	⬇️ ADJUST ⬅️

HEAT MODE enables or disables heating mode.

t_T4_FRESH_H sets the refresh time of heating mode climate temperature curve.

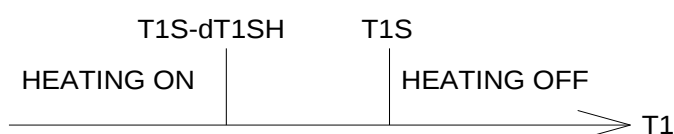
T4HMAX sets the ambient temperature above which the heat pump will operate heating mode with lowest compressor frequency.



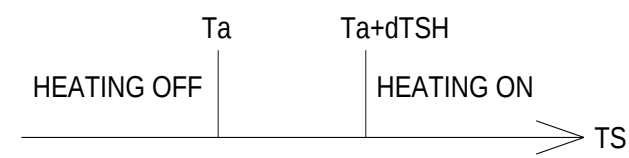
Abbreviations:
 T4: Outdoor ambient temperature

T4HMIN sets the ambient temperature below which the heat pump will not operate in heating mode.

dT1SH sets the temperature difference between the heat pump leaving water temperature (T1) and the heat pump leaving water set temperature (T1S) above which the heat pump provides hot water to the space heating terminals.



dTSH sets the temperature difference between the actual room temperature (T_a) and set room temperature (T_S) above which the heat pump provides hot water to the space heating terminals. When $T_S - T_a \geq dTSH$ the heat pump provides hot water to the space heating terminals and when $T_a \geq T_S$ the heat pump does not provide hot water to the space heating terminals. **dTSH** is only relevant if **YES** is selected for **ROOM TEMP** in the 5 **TEMP. TYPE SETTING** menu.



t_INTERVAL_H sets the heating mode compressor re-start delay. When the compressor stops running, it will not re-start until at least **t_INTERVAL_H** minutes have elapsed.

T1SetH1 sets the water temperature 1 of automatic setting curve for heating mode.

T1SetH2 sets the water temperature 2 of automatic setting curve for heating mode.

T4H1 sets the ambient temperature 1 of automatic setting curve for heating mode.

T4H2 sets the ambient temperature 2 of automatic setting curve for heating mode.

ZONE1 H-EMISSION sets the emission type for heating mode. (FCU: Fan coil unit; FHL: Floor heating loop; RAD.: Radiator)

ZONE2 H-EMISSION sets the emission type for heating mode. (FCU: Fan coil unit; FHL: Floor heating loop; RAD.: Radiator)

FORCE DEFROST enable heat pump enters defrost mode by manual operation when heat pump runs for 10min and air side heat exchanger outlet temperature $T_3 < 0^\circ\text{C}$ lasts for more than 6min.

1.7 AUTO MODE SETTING Menu

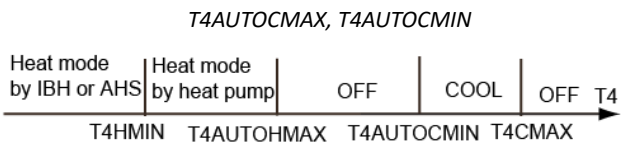
MENU > FOR SERVICEMAN > AUTO MODE SETTING

T4AUTOCMIN sets the ambient temperature below which the heat pump will not provide chilled water for space cooling in auto mode.

T4AUTOHMAX sets the ambient temperature above which the heat pump will not provide hot water for space heating in auto mode.

AUTO MODE SETTING menu

4 AUTO. MODE SETTING	
4.1 T4AUTOCMIN	25°C
4.2 T4AUTOHMAX	17°C
ADJUST	



Abbreviations:
 AHS: Additional heating source
 IBH: Backup electric heater
 T4CMAX: The ambient temperature above which the heat pump will not operate in cooling mode.
 T4HMIN: The ambient temperature below which the heat pump will not operate in heating mode.

1.8 TEMP. TYPE SETTING Menu

MENU > FOR SERVICEMAN > TEMP. TYPE SETTING

TEMP. TYPE SETTING menu

The TEMP. TYPE SETTING is used for selecting whether the water flow temperature or room temperature is used to control the ON/OFF of the heat pump.

When ROOM TEMP. is enabled, the target water flow temperature will be calculated from climate curves.

For installations without room thermostats, space heating and cooling modes can be controlled in one of two different ways:

5 TEMP. TYPE SETTING	
5.1 WATER FLOW TEMP.	YES
5.2 ROOM TEMP.	NON
5.3 DOUBLE ZONE	NON
◀ ADJUST ▶	

- **WATER FLOW TEMP.** sets whether space heating/cooling modes are controlled according to the leaving water temperature. If **YES** is selected, the user is able to set the leaving water temperature on the user interface's main screen.

01-01-2018 23:59 13°	01-01-2018 23:59 13°
 ON  35 °C  38 °C	 ON  35 °C 

DHW mode is available

DHW mode is unavailable

- **ROOM TEMP.** sets whether space heating/cooling modes are controlled according to the room temperature detected by the temperature sensor inside the wired controller. If **YES** is selected, the user is able to set the room temperature on the user interface's main screen, no matter what is the setting of **WATER FLOW TEMP.**

01-01-2018 23:59 13°	01-01-2018 23:59 13°
 ON 23.5 °C  38 °C	 ON 23.5 °C 

DHW mode is available

DHW mode is unavailable

DOUBLE ZONE sets whether there are two zones.

WATER FLOW TEMP.		ROOM TEMP.	DOUBLE ZONE		Double zones control
YES		YES	YES	NO	Zone 1: Water temperature control
					Zone 2: Climate curve control
YES	NO	NO	YES		Zone 1: Water temperature control
					Zone 2: Water temperature control
YES	NO	YES	YES		Zone 1: Water temperature control
					Zone 2: Climate curve control

1.9 ROOM THERMOSTAT Menu

MENU > FOR SERVICEMAN > ROOM THERMOSTAT

As an alternative to control space heating/cooling modes according to the leaving water temperature and/or the room temperature detected by the temperature sensor inside the user interface, separate room thermostat can be installed and used to control space heating/cooling modes.

ROOM THERMOSTAT sets whether or not room thermostats are installed:

ROOM THERMOSTAT = NON: No room thermostat.

ROOM THERMOSTAT=ONE ZONE: Room thermostat provides the switch signal to unit.

ROOM THERMOSTAT=DOUBLE ZONE: Indoor unit is connected with two room thermostat.

ROOM THERMOSTAT = MODE SET: Room thermostat can control heating and cooling individually.

If **ROOM THERMOSTAT** is set as MODE SET, the interface appears:

6 ROOM THERMOSTAT
6.1 ROOM THERMOSTAT MODE SET
6.2. MODE SET PRIORITY HEAT
ADJUST

ROOM THERMOSTAT menu

6 ROOM THERMOSTAT
6.1 ROOM THERMOSTAT NON
ADJUST

MODE SET PRIORITY sets whether cooling mode or heating mode takes priority. When CL port and HL port close at the same time, heat pump will run corresponding to the MODE SET PRIORITY setting.

1.10 OTHER HEATING SOURCE Menu

1.10.1 OTHER HEATING SOURCE menu overview

MENU > FOR SERVICEMAN > OTHER HEATING SOURCE

OTHER HEATING SOURCE menu

7 OTHER HEATING SOURCE 1/6	7 OTHER HEATING SOURCE 2/6	7 OTHER HEATING SOURCE 3/6
7.1 IBH FUNCTION HEAT	7.6 P_IBH1 0.0kW	7.11 t_AHS_DELAY 30MIN
7.2 IBH LOCATE PIPE LOOP	7.7 P_IBH2 0.0kW	7.12 T4_AHS_ON -5°C
7.3 dT1_IBH_ON 5°C	7.8 AHS FUNCTION NON	7.13 EnSWITCHPDC NON
7.4 t_IBH_DELAY 30MIN	7.9 AHS_PUMPI CONTROL RUN	7.14 GAS_COST 0.85
7.5 T4_IBH_ON -5°C	7.10 dT1_AHS_ON 5°C	7.15 ELE_COST 0.20
ADJUST	ADJUST	ADJUST

7 OTHER HEATING SOURCE 4/6	7 OTHER HEATING SOURCE 5/6	7 OTHER HEATING SOURCE 6/6
7.16 MAX_SETHEATER 80°C	7.21 dT5_TBH_OFF 5°C	7.26 SOLAR CONTROL Tsolar
7.17 MIN_SETHEATER 30°C	7.22 t_TBH_DELAY 30MIN	7.27 DELTATSOL 10°C
7.18 MAX_SIGHEATER 10V	7.23 T4_TBH_ON 5°C	
7.19 MIN_SIGHEATER 3V	7.24 P_TBH 2,0kW	
7.20 TBH FUNCTION YES	7.25 SOLAR FUNCTION NON	
ADJUST	ADJUST	ADJUST

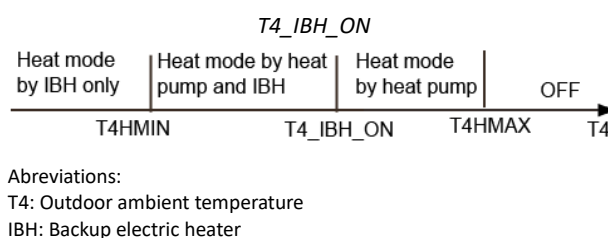
IBH FUNCTION set IBH runs for heat mode or heat+DHW mode

IBH LOCATE means IBH is installed for pipe heating. (Default setting: PIPE LOOP)

dT1_IBH_ON sets the temperature difference between the heat pump leaving water set temperature (T1S) and the heat pump leaving water temperature (T1) above which the backup electric heater is on. When $T1S - T1 \geq dT1_IBH_ON$ the backup electric heater is on.

t_IBH_DELAY sets the delay time for the electric heater to turn on after the compressor starts.

T4_IBH_ON sets the ambient temperature below which the backup electric heater is on.



P_IBH1 sets heating capacity of IBH1, which is used for energy consumption statistics.

P_IBH2 sets heating capacity of IBH2, which is used for energy consumption statistics.

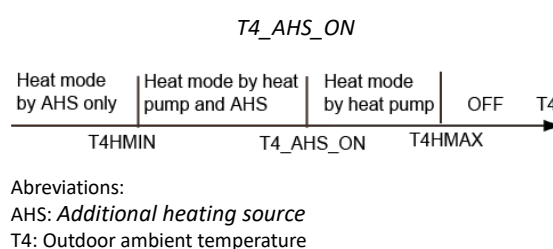
AHS FUNCTION sets enable or disable the additional heating source function.

AHS_PUMPI CONTROL select the pump operating status when only AHS runs

dT1_ASH_ON sets the temperature difference between the heat pump leaving water set temperature (T1S) and the heat pump leaving water temperature (T1) above which the additional heating source is on. When $T1S - T1 \geq dT1_AHS_ON$ the additional heating source is on.

t_ASH_DELAY sets the delay time for the AHS to turn on after the compressor starts.

T4_AHS_ON sets the ambient temperature below which the additional heating source is on.



EnSWITCHPDC enable or disable the function that heat pump and additional heating source switch automatically based on running cost

GAS_COST set the price of gas

ELE_COST set the price of electricity

MAX_SETHEATER sets the maximum temperature of additional heating source.

MIN_SETHEATER sets the minimum temperature of additional heating source.

MAX_SIGHEATER sets the voltage corresponding to the maximum setting temperature of additional heating source

MIN_SIGHEATER sets the voltage corresponding to the minimum setting temperature of additional heating source

TBH FUNCTION enable or disable tank booster heater.

dT5_TBH_OFF sets the temperature difference between the DHW set temperature (T5S) and the DHW tank water temperature (T5) below which the tank booster heater is not used. When $T5 > \text{Min}(T5S + dT5_TBH_OFF, 65^{\circ}\text{C})$, the tank booster heater is off.

t_TBH_DELAY sets the delay time for the tank booster heater to turn on after the compressor starts.

T4_TBH_ON sets the ambient temperature above which the tank booster heater will not be used.

P_TBH set the input power of tank booster heater.

SOLAR FUNCTION enable or disable the SOLAR function to produce hot water

SOLAR CONTROL set the control method of solar. (Tsolar temperature sensor or SL1SL2 port on hydro module PCB)

DELTASOL sets the deviation temperature that SOLAR turns on

1.11 HOLIDAY AWAY SETTING Menu

MENU > FOR SERVICEMAN > HOLIDAY AWAY SETTING

The **HOLIDAY AWAY SETTING** menu settings are used to set the outlet water temperature to prevent water pipes freezing when away from home in cold weather seasons.

T1S_H.A._H sets the heat pump leaving water set temperature for space heating mode when in holiday away mode.

T5S_H.M_DHW sets the heat pump leaving water set temperature for DHW mode when in holiday away mode.

HOLIDAY AWAY SETTING menu

8 HOLIDAY AWAY SETTING	
8.1 T1S_H.A._H	20°C
8.2 T5S_H.A._DHW	20°C
⏮ ADJUST ⏭	

1.12 SERVICE CALL Menu

MENU > FOR SERVICEMAN > SERVICE CALL

PHONE NO. and **MOBILE NO.** can be used to set after-sales service contact numbers. Use ▼ ▲ to adjust the numerical values. The maximum length of the phone numbers is 13 digits.

SERVICE CALL menu

9 SERVICE CALL SETTING
PHONE NO. 00000000000000
MOBILE NO. 00000000000000
⏮ CONFIRM ⏭ ADJUST ⏮

1.13 RESTORE FACTORY SETTINGS

MENU > FOR SERVICEMAN > RESTORE FACTORY SETTINGS

RESTORE FACTORY SETTINGS is used to restore all the parameters set in the user interface to factory defaults.

On selecting **YES**, the process of restoring all settings to factory defaults begins and progress is displayed as a percentage.

RESTORE FACTORY SETTINGS screens

10 RESTORE FACTORY SETTINGS	10 RESTORE FACTORY SETTINGS
ALL THE SETTINGS WILL COME BACK TO FACTORY DEFAULT. DO YOU WANT TO RESTORE FACTORY SETTINGS?	PLEASE WAIT...
NO YES	5%
CONFIRM	

1.14 TEST RUN

MENU > FOR SERVICEMAN > TEST RUN

TEST RUN is used to do the point check and check that air purge function, circulation pump, space cooling mode, space heating mode and DHW mode are all operating correctly.

TEST RUN start screen and TEST RUN menu

11 TEST RUN	11 TEST RUN	11 TEST RUN
ACTIVE THE SETTINGS AND ACTIVE THE "TEST RUN"?	11.1 POINT CHECK	11.6 DHW MODE RUNNING
NO YES	11.2 AIR PURGE	
CONFIRM	11.3 CIRCULATED PUMP RUNNING	
	11.4 COOL MODE RUNNING	
	11.5 HEAT MODE RUNNING	
	ENTER	ENTER

During test run, all buttons except  are invalid. If you want to turn off the test run, please press ENTER. For example, when the unit is in air purge mode, after you press ENTER, the following page will be displayed:

Exit air purge screen

DO YOU WANT TO TURN OFF THE TEST RUN (AIR PURGE)FUNCTION?	
NO	YES
CONFIRM	

If any error code is displayed during the test run operation, the cause should be investigated.

1.14.1 POINT CHECK

The **POINT CHECK** menu is used to check the operation of individual components. Use ▼▲ to scroll to the components you want to check and press COMFIRM to toggle the on/off state of the component. If a valve does not turn on/off when its on/off state is toggled or if a pump/heater does not operate when turned on, check the component's connection to the hydronic system main PCB.

POINT CHECK menu

11 TEST RUN 1/3	11 TEST RUN 2/3	11 TEST RUN 3/3
SV2 OFF	IBH OFF	TBH OFF
SV3 OFF	AHS OFF	
PUMPI OFF	SV1 OFF	
PUMPO OFF	PUMPD OFF	
PUMPC OFF	PUMPS OFF	
ON/OFF	ON/OFF	ON/OFF

1.14.2 AIR PURGE operation

MENU > FOR SERVICEMAN > TEST RUN > AIR PURGE

Once installation is complete it is important to run the air purge function to remove any air which may be present in the water piping and which could cause malfunctions during operation.

The **AIR PURGE** operation is used to remove air from the water piping. Before running AIR PURGE mode, make sure that the air purge valve is open. PUMPI will run according to the output and running time that has been set

AIR PURGE operation

11 TEST RUN(POINT CHECK)	
AIR PURGE PUMPI OUTPUT	70%
AIR PURGE RUNNING TIME	20min
ENTER	EXIT
CONFIRM	

1.14.3 CIRCULATED PUMP RUNNING operation

MENU > FOR SERVICEMAN > TEST RUN > CIRCULATED PUMP RUNNING

CIRCULATED PUMP RUNNING operation is used to check the operation of the circulation pump. When circulation pump running is turned on, all running components will stop. 60 seconds later, the SV1 will be off, the SV2 will be on, 60 seconds later PUMPI will operate. 30s later, if the flow switch checked normal flow, PUMPI will operate for 3min, after the pump stops 60 seconds, the SV1 will close and the SV2 will be off. 60s later the both PUMPI and PUMPO will operate, 2 mins later, the flow switch will check the water flow. If the flow switch closes for 15s, PUMPI and PUMPO will operate until the next command is received.

CIRCULATION PUMP RUNNING display

11 TEST RUN
TEST RUN IS ON.
CIRCULATED PUMP IS ON.
CONFIRM

1.14.4 COOL MODE RUNNING operation

MENU > FOR SERVICEMAN > TEST RUN > COOL MODE RUNNING

The **COOL MODE RUNNING** operation is used to check the operation of the system in space cooling mode.

During the **COOL MODE RUNNING** operation, the leaving water set temperature is 7°C. The current actual leaving water temperature is displayed on the user interface. The unit operates until the leaving water temperature drops to the set temperature or the next command is received.

COOL MODE RUNNING display

11 TEST RUN

TEST RUN IS ON.
COOL MODE IS ON.
LEAVING WATER TEMPERATURE IS 15°C.

CONFIRM

1.14.5 HEAT MODE RUNNING operation

The **HEAT MODE RUNNING** operation is used to check the operation of the system in space heating mode.

During HEAT MODE test running, the default target outlet water temperature is 35°C. The IBH (backup heater) will turn on after the compressor runs for 10 min. After the IBH runs for 3 minutes, the IBH will turn off, the heat pump will operate until the water temperature increase to a certain value or the next command is received.

HEAT MODE RUNNING display

11 TEST RUN

TEST RUN IS ON.
HEAT MODE IS ON.
LEAVING WATER TEMPERATURE IS 15°C.

CONFIRM

1.14.6 DHW MODE RUNNING operation

The **DHW MODE RUNNING** operation is used to check the operation of the system in DHW mode.

During DHW MODE test running, the default target temperature of the domestic water is 55°C. The TBH(tank boost heater) will turn on after the compressor runs for 10min. The TBH will turn off 3 minutes later, the heat pump will operate until the water temperature increase to a certain value or the next command is received.

DHW MODE RUNNING display

11 TEST RUN

TEST RUN IS ON.
DHW MODE IS ON.
LEAVING WATER TEMPERATURE IS 15°C
WATER TANK TEMPERATURE IS 13°C

CONFIRM

1.15 SPECIAL FUNCTION

1.15.1 SPECIAL FUNCTION menu overview

MENU > FOR SERVICEMAN > SPECIAL FUNCTION

SPECIAL FUNCTION is used to pre-heating floor and drying up floor once installation is complete or the first time start up the unit or restart the unit after a long time stop.

Special functions menu

12 SPECIAL FUNCTION

ACTIVE THE SETTINGS AND ACTIVE THE "SPECIAL FUNCTION"?

NO YES

CONFIRM

12 SPECIAL FUNCTION

12.1 PREHEATING FOR FLOOR
12.2 FLOOR DRYING UP

ENTER

1.15.2 PREHEATING FOR FLOOR

MENU > FOR SERVICEMAN > SPECIAL FUNCTION > PREHEATING FOR FLOOR

Before floor heating, if a large amount of water remains on the floor, the floor may be warped or even rupture during floor heating operation, in order to protect the floor, floor drying is necessary, during which the temperature of the floor should be increased gradually.

During first operation of the unit, air may remain in the water system which can cause malfunctions during operation. It is necessary to run the air purge function to release the air (make sure the air purge valve is open).

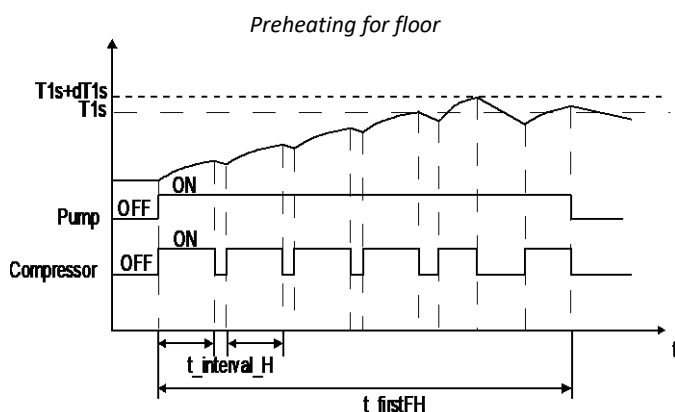
T1S sets the heat pump leaving water set temperature in preheating for floor mode.

t_FIRSTFH sets the duration of preheating for floor mode.

Preheating for floor menu

12.1 PREHEATING FOR FLOOR	
T1S	30°C
t_FIRSTFH	72 HOURS
ENTER	EXIT
ADJUST	

12.1 PREHEATING FOR FLOOR	
DO YOU WANT TO TURN OFF THE PREHEATING FOR FLOOR FUNCTION?	
NO	YES
CONFIRM	



Abbreviations:

t_interval_H: Compressor re-start delay in space heating mode.

Whilst the preheating for floor operation is running, the number of minutes that it has been running for and the heat pump leaving water temperature are displayed on the user interface. During the preheating for floor operation all buttons except **OK** are inactivated. To exit the preheating for floor operation, press **OK** and then select **YES** when prompted.

1.15.3 FLOOR DRYING UP

MENU > FOR SERVICEMAN > SPECIAL FUNCTION > FLOOR DRYING UP

FLOOR DRYING UP menu

12.2 INPUT DEFINE	1/2	12.2 INPUT DEFINE	2/2
WARM UP TIME(t_DRYUP)	8 DAYS	START DATE	21-10-2021
KEEP TIME(t_HIGHPEAK)	5 DAYS		
TEMP.DOWN TIME(t_DRYD)	5 DAYS		
PEAK TEMP.(t_DRYPEAK)	45°C		
START TIME	21:00	ENTER	EXIT
ADJUST		ENTER	

For newly-installed under-floor heating systems, floor drying up mode can be used to remove moisture from the floor slab and subfloor to prevent warping or rupture of the floor during floor heating operation. There are three phases to the floor drying up operation:

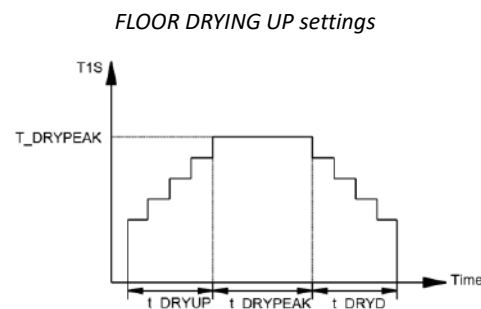
- Phase 1: gradual temperature increase from a starting point of 25°C to the peak temperature
- Phase 2: maintain peak temperature
- Phase 3: gradual temperature decrease from the peak temperature to 45°C

WARM UP TIME(t_DRYUP) sets the duration of Phase 1.

KEEP TIME(t_HIGHPEAK) sets the duration of Phase 2.

TEMP. DOWN TIME(t_DRYD) sets the duration of Phase 3.

PEAK TEMP.(T_DRYPEAK) sets the heat pump leaving water set temperature for Phase 2.



START TIME sets the floor drying up operation start time.

START DATE sets the floor drying up operation start date.

During the floor drying up operation all buttons except **OK** are inactivated. To exit the floor drying up operation, press **OK** and then select **YES** when prompted.

Note: In the event of a heat pump malfunction, floor drying up mode will continue if a backup electric heater and/or additional heating source is available and configured to support space heating mode.

1.16 AUTO RESTART

MENU > FOR SERVICEMAN > AUTO RESTART

AUTO RESTART sets whether or not the unit re-applies the user interface settings when the power returns following a power failure. Select **YES** to enable auto restart or **NON** to disable auto restart.

AUTO RESTART menu

13 AUTO RESTART	
13.1 COOL/HEAT MODE	YES
13.2 DHW MODE	YES
ADJUST	

1.17 POWER INPUT LIMITATION

MENU > FOR SERVICEMAN > POWER INPUT LIMITATION

POWER INPUT LIMITATION sets the type of power input limitation and the setting range is 1-8. If the unit will operate at larger power input, 1 should be selected. If the unit will operate at a lower power input, 2-8 should be selected and the power input and capacity will decrease.

POWER INPUT LIMITATION

14 POWER INPUT LIMITATION	
14.1 POWER INPUT LIMITATION	0
ADJUST	

Limitation value (unit:A)

Model \ No.	1	2	3	4	5	6	7	8
5/7/9kW	16	15	14	13	12	11	10	9
12/14/16kW(1N)	28	26	24	22	20	18	16	14
12/14/16kW(3N)	11	10	9	8	7	6	5	5

1.18 INPUT DEFINE

MENU > FOR SERVICEMAN > INPUT DEFINE

INPUT DEFINE sets sensors and functions to fulfill with installation.

INPUT DEFINE

15 INPUT DEFINE	
15.1 M1M2	REMOTE ON/OFF
15.2 SMART GRID	NON
15.3 T1T2	NON
15.4 Tbt	NON
15.5 P_X PORT	DEFROST
↕ ADJUST ⏪	

M1M2 sets the remote control function of M1M2 for ON/OFF of heat pump or TBH

SMART GRID sets whether SMART GRID control signal is connected to hydronic PCB.

T1T2 sets control options of Port T1T2 (0: NON; 1: RT/Ta_PCB)

Tbt set whether balance tank temperature sensors are installed in the balance tank.

P_X PORT is set DEFORST by default. When P_X PORT is set ALARM, it represents the fault signal output of the unit. (0: DEFORST; 1: ALARM)

1.19 CASCADE SET

MENU > FOR SERVICEMAN > CASCADE SET

CASCADE SET

16 CASCADE SET	
16.1 PER_START	10%
16.2 TIME_ADJUST	5 MIN
16.3 ADDRESS RESET	FF
↕ ADJUST ⏪	

PER_START sets the start-up percentage of multiple units for the first time start-up after power on. For example:

Total units	PER_START	Starting units
6	50%	3
6	30%	2

TIME_ADJUST sets the judgment period of adding and subtracting units

ADDRESS RESET resets the address code of unit. ("FF" is an invalid address code.) Normally, program will set the address for each unit automatically, only when unit lost address and Hd error code appears then we need to use this function. After setting the address, you need to press the "UNLOCK" key to confirm.

1.20 HMI ADDRESS SET

MENU > FOR SERVICEMAN > HMI ADDRESS SET

HMI ADDRESS SET

17 HMI ADDRESS SET	
17.1 HMI SET	MASTER
17.2 HMI ADDRESS FOR BMS	1
17.3 STOP BIT	1
ADJUST	

HMI SET sets the wired controller is master or slave. (0=MASTER, 1=SLAVE)

When HMI SET is set to SLAVE, the controller can only switch the operation mode, turn on or off, set the temperature, and cannot set other parameters and functions.

HMI ADDRESS FOR BMS sets the HMI address code for BMS.(only valid for master controller)

STOP BIT set upper computer stop bit(1: STOP BIT1; 2:STOP BIT2)

1.21 COMMON SET

MENU > FOR SERVICEMAN > COMMON SET

18 COMMON SET		1/2
18.1 t_DELAY_PUMP	2.0MIN	
18.2 t1_ANTILOCK PUMP	24h	
18.3 t2_ANTILOCK PUMP RUN	60s	
18.4 t1_ANTILOCK SV	24h	
18.5 t2_ANTILOCK SV RUN	30s	
ADJUST		

18 COMMON SET		2/2
18.6 Ta_adj.	-2°C	
18.7 F-PIPE LENGTH	<10m	
18.8 PUMP_I_SILENT OUTPUT	100%	
ADJUST		

t_DELAY PUMP sets the delay time for the pump to turn off after the compressor stops.

t1_ANTILOCK PUMP sets the interval time that the pump runs in order to antilock

t2_ANTILOCK PUMP RUN sets the running time for pump antilock operation

t1_ANTILOCK SV sets the interval time that the valve works in order to antilock

t2_ANTILOCK SV RUN sets the running time for valve antilock operation

Ta-adj is an correction value for Ta which is inside the wired controller.

F-PIPE LENGTH select the total length in the liquid pipe (0=F-PIPE LENGTH<10m, 1=F-PIPE LENGTH>=10m)

PUMP_I_SILENT OUTPUT can decrease water pump maximum output in order to decrease the noise of heat pump.

2 Operation parameter

MENU > OPERATION PARAMETER

This menu is for installer or service engineer reviewing the operation parameters. The interface below is for reference and different units' state correspond to different parameter values.

Operation parameter

OPERATION PARAMETER	#00
ONLINE UNITS NUMBER	1
ODU MODEL	16 kW
OPERATION MODE	COOL
FREQUENCY ORDER	ON
FREQUENCY LIMITED TYPE	0
COMP. RUN TIME	1 MIN
◀ ADDRESS	1/10 ▶

OPERATION PARAMETER	#00
COMP. FREQUENCY	37 Hz
FAN SPEED	810 R/MIN
EXPAN VALVE	280 P
Tp COMP. DISCHARGE TEMP.	60 °C
Th COMP. SUCTION TEMP.	23 °C
T3 OUTDOOR EXCHANGE TEMP.	42 °C
◀ ADDRESS	2/10 ▶

OPERATION PARAMETER	#00
T4 OUTDOOR AIR TEMP.	32 °C
TF MODULE TEMP.	50 °C
P1 COMP. PRESSURE	2970 kPa
P2 COMP. PRESSURE	1380 kPa
T2B PLATE F-IN TEMP.	21 °C
T2 PLATE F-OUT TEMP.	19 °C
◀ ADDRESS	3/10 ▶

OPERATION PARAMETER	#00
TW_I PLATE W-INLET TEMP.	23 °C
TW_O PLATE W-OUTLET TEMP.	20 °C
T1 LEAVING WATER TEMP.	-- °C
TW2 CIRCUIT2 WATER TEMP.	-- °C
Ta ROOM TEMP.	-- °C
RH ROOM HUMIDITY	-- %
◀ ADDRESS	4/10 ▶

OPERATION PARAMETER	#00
T5 WATER TANK TEMP.	25 °C
T5_2 WATER TANK TEMP.	-- °C
Tbt BUFFER TANK TEMP.	0 °C
Tsolar	0 °C
T1S' C1 CLI. CURVE TEMP.	0 °C
T1S2' C1 CLI. CURVE TEMP.	0 °C
◀ ADDRESS	5/10 ▶

OPERATION PARAMETER	#00
WATER PRESSURE	-- bar
WATER FLOW	2.65 M3/H
HEAT PUMP CAPACITY	0.00 kW
ODU CURRENT	3 A
ODU VOLTAGE	232 V
DC GENERATRIX VOLTAGE	490 V
◀ ADDRESS	6/10 ▶

OPERATION PARAMETER	#00
DC GENERATRIX CURRENT	9 A
POWER CONSUM	53 kWh
SV1	OFF
SV2	OFF
SV3	OFF
PUMP_I	ON
◀ ADDRESS	7/10 ▶

OPERATION PARAMETER	#00
PUMP_O	ON
PUMP_C	OFF
PUMP_S	OFF
PUMP_D	OFF
IBH1	OFF
IBH2	OFF
◀ ADDRESS	8/10 ▶

OPERATION PARAMETER	#00
TBH	OFF
AHS	OFF
COM. TOTAL RUN TIME	8 Hrs
FAN TOTAL RUN TIME	8 Hrs
PUMPI TOTAL RUN TIME	8 Hrs
IBH1 TOTAL RUN TIME	0 Hrs
◀ ADDRESS	9/10 ▶

OPERATION PARAMETER	#00
IHB2 TOTAL RUN TIME	0 Hrs
THB TOTAL RUN TIME	0 Hrs
AHS TOTAL RUN TIME	0 Hrs
IDU SOFTWARE	29-09-2021V15
ODU SOFTWARE	28-09-2021V25
HMI SOFTWARE	16-10-2021V19
◀ ADDRESS	10/10 ▶

The following parameter ranges are used to roughly determine whether the system is running properly:

Discharge temperature(Tp) for heating/DHW mode	
$T4 < -10^{\circ}\text{C}$	$\text{Twout}+15 < \text{Tp} < \text{Tw_out}+40$
$-10^{\circ}\text{C} \leq T4 < 10^{\circ}\text{C}$	$\text{Twout}+10 < \text{Tp} < \text{Tw_out}+35$
$10^{\circ}\text{C} \leq T4 < 25^{\circ}\text{C}$	$\text{Twout}+10 < \text{Tp} < \text{Tw_out}+30$
$T4 \geq 25^{\circ}\text{C}$	$\text{Twout}+10 < \text{Tp} < \text{Tw_out}+28$
Note: T4 means ambient temperature Tw_out means leaving water temperature.	

Discharge pressure(P1) for heating/DHW mode									
Tw_out(°C)	25	30	35	40	45	50	55	60	65
P1 (kPa)	1750 ± 150	2000 ± 150	2270 ± 150	2560 ± 150	2890 ± 150	3250 ± 150	3630 ± 150	3900 ± 150	4200 ± 150
Note: P1 is absolute pressure.									

Discharge temperature(Tp) for cooling mode				
Tp	$\text{Fx} < 44\text{Hz}$	$44\text{Hz} \leq \text{Fx} < 62\text{Hz}$	$62\text{Hz} \leq \text{Fx} < 72\text{Hz}$	$\text{Fx} \geq 72\text{Hz}$
$T4 < 25^{\circ}\text{C}$	52 ± 10	56 ± 10	58 ± 10	62 ± 10
$25^{\circ}\text{C} \leq T4 < 30^{\circ}\text{C}$	56 ± 10	62 ± 10	68 ± 10	74 ± 10
$30^{\circ}\text{C} \leq T4 < 35^{\circ}\text{C}$	65 ± 10	70 ± 10	75 ± 10	80 ± 10
$35^{\circ}\text{C} \leq T4 < 40^{\circ}\text{C}$	70 ± 10	75 ± 10	80 ± 10	85 ± 10
$40^{\circ}\text{C} \leq T4 < 46^{\circ}\text{C}$	75 ± 10	80 ± 10	85 ± 10	90 ± 10
$T4 \geq 46^{\circ}\text{C}$	78 ± 10	80 ± 10	85 ± 10	90 ± 10
Note: Fx means compressor operating frequency.				

Suction pressure(P1) for cooling mode							
Tw_out(°C)	5~7	8~10	11~13	14~16	17~19	20~22	23~25
P1 (kPa)	880 ± 100	955 ± 100	1050 ± 100	1150 ± 100	1250 ± 100	1360 ± 100	1500 ± 100
Note: P1 is absolute pressure.							