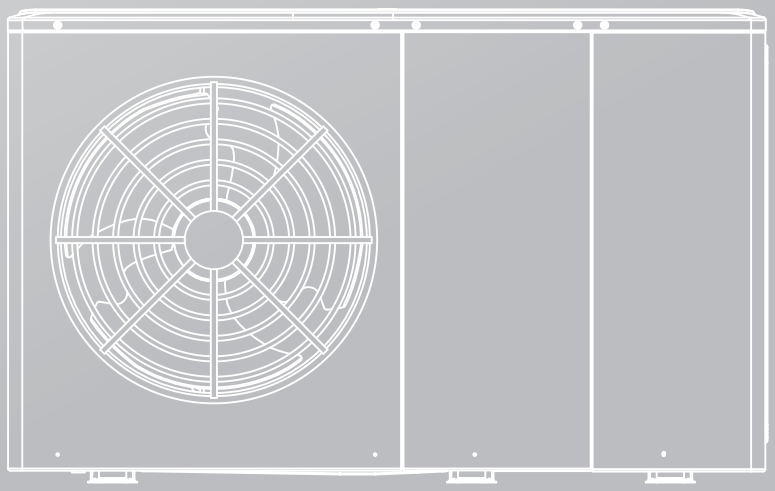
TECHNICAL DATA MANUAL

M-thermal Mono
ATW Heat Pump



IMPORTANT NOTE:

Thank you very much for purchasing our product,
Before using your unit , please read this manual carefully and keep it for future reference.

Model	For medium - temperature application										
			average climate			colder climate			warmer climate		
	Energy efficiency class	Unit sound power	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption
	-	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh
MHC-V4W/D2N8-B1	A++	55	4.4	129.5	2744	3.4	102.1	3159	5.0	162.4	1621
MHC-V4W/D2N8-B1E30	A++	55	4.4	129.5	2744	3.4	102.1	3159	5.0	162.4	1621
MHC-V6W/D2N8-B1	A++	58	5.7	137.9	3345	4.3	111.1	3681	5.1	164.7	1640
MHC-V6W/D2N8-B1E30	A++	58	5.7	137.9	3345	4.3	111.1	3681	5.1	164.7	1640
MHC-V8W/D2N8-B1	A++	59	6.6	131.5	4056	5.8	112.0	4950	8.37	176.9	2485
MHC-V8W/D2N8-B1E30	A++	59	6.6	131.5	4056	5.8	112.0	4950	8.37	176.9	2485
MHC-V8W/D2N8-B1ER90	A++	59	6.6	131.5	4056	5.8	112.0	4950	8.37	176.9	2485
MHC-V10W/D2N8-B1	A++	60	7.7	136.6	4539	6.7	116.4	5540	8.6	180.3	2516
MHC-V10W/D2N8-B1E30	A++	60	7.7	136.6	4539	6.7	116.4	5540	8.6	180.3	2516
MHC-V10W/D2N8-B1ER90	A++	60	7.7	136.6	4539	6.7	116.4	5540	8.6	180.3	2516
MHC-V12W/D2N8-B1	A++	65	11.6	135.1	6927	10.3	117.8	8419	12.5	174.0	3776
MHC-V12W/D2N8-B1E30	A++	65	11.6	135.1	6927	10.3	117.8	8419	12.5	174.0	3776
MHC-V12W/D2N8-B1ER90	A++	65	11.6	135.1	6927	10.3	117.8	8419	12.5	174.0	3776
MHC-V14W/D2N8-B1	A++	65	12.1	135.6	7202	11.0	118.9	8866	14.17	174.9	4258
MHC-V14W/D2N8-B1E30	A++	65	12.1	135.6	7202	11.0	118.9	8866	14.17	174.9	4258
MHC-V14W/D2N8-B1ER90	A++	65	12.1	135.6	7202	11.0	118.9	8866	14.17	174.9	4258
MHC-V16W/D2N8-B1	A++	68	13.0	133.3	7895	11.8	121.8	9309	14.17	176.0	4231
MHC-V16W/D2N8-B1E30	A++	68	13.0	133.3	7895	11.8	121.8	9309	14.17	176.0	4231
MHC-V16W/D2N8-B1ER90	A++	68	13.0	133.3	7895	11.8	121.8	9309	14.17	176.0	4231
MHC-V12W/D2RN8-B1	A++	65	11.6	135.1	6928	10.3	117.7	8420	12.5	173.8	3780
MHC-V12W/D2RN8-B1E30	A++	65	11.6	135.1	6928	10.3	117.7	8420	12.5	173.8	3780
MHC-V12W/D2RN8-B1ER90	A++	65	11.6	135.1	6928	10.3	117.7	8420	12.5	173.8	3780
MHC-V14W/D2RN8-B1	A++	65	12.1	135.6	7203	11.0	118.9	8867	14.17	174.7	4262
MHC-V14W/D2RN8-B1E30	A++	65	12.1	135.6	7203	11.0	118.9	8867	14.17	174.7	4262
MHC-V14W/D2RN8-B1ER90	A++	65	12.1	135.6	7203	11.0	118.9	8867	14.17	174.7	4262
MHC-V16W/D2RN8-B1	A++	68	13.0	133.2	7896	11.8	121.8	9310	14.17	175.8	4236
MHC-V16W/D2RN8-B1E30	A++	68	13.0	133.2	7896	11.8	121.8	9310	14.17	175.8	4236
MHC-V16W/D2RN8-B1ER90	A++	68	13.0	133.2	7896	11.8	121.8	9310	14.17	175.8	4236

Unit type explanation:
1.MHC-V**W/D2N8-B1, without back-up heater,
2.MHC-V**W/D2RN8-B1E30, with 3kW back-up heater and 1-Phase Source
3.MHC-V**W/D2RN8-B1ER90, with 9kW back-up heater and 3-Phase Source

Model	For low - temperature appl ication										
	Energy efficiency class	Unit sound power	average climate			colder climate			warmer climate		
			Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption
	-	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh
MHC-V4W/D2N8-B1	A+++	55	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146
MHC-V4W/D2N8-B1E30	A+++	55	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146
MHC-V6W/D2N8-B1	A+++	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244
MHC-V6W/D2N8-B1E30	A+++	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244
MHC-V8W/D2N8-B1	A+++	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551
MHC-V8W/D2N8-B1E30	A+++	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551
MHC-V8W/D2N8-B1ER90	A+++	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551
MHC-V10W/D2N8-B1	A+++	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617
MHC-V10W/D2N8-B1E30	A+++	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617
MHC-V10W/D2N8-B1ER90	A+++	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617
MHC-V12W/D2N8-B1	A+++	65	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	2292
MHC-V12W/D2N8-B1E30	A+++	65	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	2292
MHC-V12W/D2N8-B1ER90	A+++	65	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	2292
MHC-V14W/D2N8-B1	A+++	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	2457
MHC-V14W/D2N8-B1E30	A+++	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	2457
MHC-V14W/D2N8-B1ER90	A+++	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	2457
MHC-V16W/D2N8-B1	A+++	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	2781
MHC-V16W/D2N8-B1E30	A+++	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	2781
MHC-V16W/D2N8-B1ER90	A+++	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	2781
MHC-V12W/D2RN8-B1	A+++	65	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	2296
MHC-V12W/D2RN8-B1E30	A+++	65	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	2296
MHC-V12W/D2RN8-B1ER90	A+++	65	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	2296
MHC-V14W/D2RN8-B1	A+++	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	2462
MHC-V14W/D2RN8-B1E30	A+++	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	2462
MHC-V14W/D2RN8-B1ER90	A+++	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	2462
MHC-V16W/D2RN8-B1	A+++	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	2786
MHC-V16W/D2RN8-B1E30	A+++	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	2786
MHC-V16W/D2RN8-B1ER90	A+++	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	2786

Unit type explanation:

1.MHC-V**W/D2N8-B1, without back-up heater,

2.MHC-V**W/D2RN8-B1E30, with 3kW back-up heater and 1-Phase Source

3.MHC-V**W/D2RN8-B1ER90, with 9kW back-up heater and 3-Phase Source

Product fiche 1

Heat pump space heating		Model	MHC-V4W/D2N8-B1***	MHC-V6W/D2N8-B1***	MHC-V8W/D2N8-B1***	MHC-V10W/D2N8-B1***	MHC-V12W/D2N8-B1***
Unit sound power (*)	Average climate low temperature application	[dB]	55.0	58.0	59.0	60.0	65.0
	Average climate medium temperature application	[dB]	55.0	58.0	59.0	60.0	65.0
Capicity of the back-up heater integrated in the unit	Psup back-up heater (optional)	[kW]	0/3	0/3	0/3/9	0/3/9	0/3/9
Space heating	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++	A++
Average climate (Design temperature = –10°C)							
Space heating 35°C	Prated (declared heating capacity) @ –10°C	[kW]	5.5	6.8	8.1	9.2	12.0
	Seasonal space heating efficiency (ηs)	[%]	191.0	195.0	205.6	204.8	189.4
	Annual energy consumption	[kWh]	2,351	2,845	3,218	3,644	5,152
Space heating 55°C	Prated (declared heating capacity) @ –10°C	[kW]	4.4	5.7	6.6	7.7	11.6
	Seasonal space heating efficiency (ηs)	[%]	129.5	137.9	131.5	136.6	135.1
	Annual energy consumption	[kWh]	2,744	3,345	4,056	4,539	6,927
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	4.88	6.03	7.18	8.10	10.61
	COPd (declared COP)	-	3.19	3.09	3.35	3.23	2.88
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	3.05	3.88	4.65	5.18	6.69
	COPd (declared COP)	-	4.78	4.85	5.09	5.01	4.65
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.93	2.39	2.90	3.32	4.44
	COPd (declared COP)	-	6.13	6.63	6.82	7.08	6.62
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.48	1.39	1.63	1.65	3.74
	COPd (declared COP)	-	8.05	7.93	8.35	8.58	8.47
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 1

Heat pump space heating		Model	MHC-V14W/D2N8-B1***	MHC-V16W/D2N8-B1***	MHC-V12W/D2RN8-B1***	MHC-V14W/D2RN8-B1***	MHC-V16W/D2RN8-B1***
Unit sound power (*)	Average climate low temperature application	[dB]	65.0	68.0	65.0	65.0	68.0
	Average climate medium temperature application	[dB]	65.0	68.0	65.0	65.0	68.0
Capicity of the back-up heater integrated in the unit	Psup back-up heater (optional)	[kW]	0/3/9	0/3/9	0/3/9	0/3/9	0/3/9
Space heating	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++	A++
Average climate (Design temperature = –10°C)							
Space heating 35°C	Prated (declared heating capacity) @ –10°C	[kW]	13.7	15.2	12.0	13.7	15.2
	Seasonal space heating efficiency (ηs)	[%]	185.7	181.7	189.3	185.6	181.6
	Annual energy consumption	[kWh]	6,012	6,804	5,153	6,013	6,805
Space heating 55°C	Prated (declared heating capacity) @ –10°C	[kW]	12.1	13.0	11.6	12.1	13.0
	Seasonal space heating efficiency (ηs)	[%]	135.6	133.3	135.1	135.6	133.2
	Annual energy consumption	[kWh]	7,202	7,895	6,928	7,203	7,896
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	12.14	13.45	10.61	12.14	13.45
	COPd (declared COP)	-	2.79	2.72	2.88	2.79	2.72
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	7.94	8.56	6.69	7.94	8.56
	COPd (declared COP)	-	4.52	4.41	4.65	4.52	4.41
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	5.20	5.70	4.44	5.20	5.70
	COPd (declared COP)	-	6.68	6.56	6.62	6.68	6.56
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.75	3.78	3.74	3.75	3.78
	COPd (declared COP)	-	8.52	8.51	8.47	8.52	8.51
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 2

Heat pump space heating		Model	MHC-V4W/D2N8-B1***	MHC-V6W/D2N8-B1***	MHC-V8W/D2N8-B1***	MHC-V10W/D2N8-B1***	MHC-V12W/D2N8-B1***
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	4.41	5.36	6.44	7.40	10.74
	COPd (declared COP)	-	2.86	2.76	3.04	2.96	2.77
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	4.88	6.03	7.18	8.10	10.61
	COPd (declared COP)	-	3.19	3.09	3.35	3.23	2.88
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	1.11	1.45	1.68	1.76	1.26
Part load conditions space heating average climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	3.89	5.04	5.84	6.78	10.24
	COPd (declared COP)	-	2.17	2.17	2.16	2.24	2.01
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.38	3.12	3.75	4.28	6.52
	COPd (declared COP)	-	3.30	3.51	3.30	3.42	3.44
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.94	2.08	2.42	2.77	4.36
	COPd (declared COP)	-	4.41	4.54	4.34	4.52	4.59
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.32	1.28	1.39	1.58	3.29
	COPd (declared COP)	-	5.66	5.59	5.33	5.68	6.05
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	3.42	4.52	4.90	5.38	9.10
	COPd (declared COP)	-	1.91	1.91	1.84	1.83	1.79
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	3.89	5.04	5.84	6.78	10.24
	COPd (declared COP)	-	2.17	2.17	2.16	2.24	2.01

Product fiche 2

Heat pump space heating		Model	MHC-V14W/D2N8-B1***	MHC-V16W/D2N8-B1***	MHC-V12W/D2RN8-B1***	MHC-V14W/D2RN8-B1***	MHC-V16W/D2RN8-B1***
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	11.47	12.52	10.74	11.47	12.52
	COPd (declared COP)	-	2.59	2.48	2.77	2.59	2.48
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	12.14	13.45	10.61	12.14	13.45
	COPd (declared COP)	-	2.79	2.72	2.88	2.79	2.72
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	2.23	2.68	1.26	2.23	2.68
Part load conditions space heating average climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	10.68	11.52	10.24	10.68	11.52
	COPd (declared COP)	-	2.01	1.99	2.01	2.01	1.99
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	6.86	7.18	6.52	6.86	7.18
	COPd (declared COP)	-	3.43	3.34	3.44	3.43	3.34
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	4.63	4.67	4.36	4.63	4.67
	COPd (declared COP)	-	4.66	4.61	4.59	4.66	4.61
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.31	3.31	3.29	3.31	3.31
	COPd (declared COP)	-	6.13	6.07	6.05	6.13	6.07
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	9.19	10.33	9.10	9.19	10.33
	COPd (declared COP)	-	1.76	1.80	1.79	1.76	1.80
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	10.68	11.52	10.24	10.68	11.52
	COPd (declared COP)	-	2.01	1.99	2.01	2.01	1.99
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	2.91	2.67	2.50	2.91	2.67

Product fiche 3

Heat pump space heating		Model	MHC-V4W/D2N8-B1***	MHC-V6W/D2N8-B1***	MHC-V8W/D2N8-B1***	MHC-V10W/D2N8-B1***	MHC-V12W/D2N8-B1***
Supplementary capacity at P_design	**Psup (@Tdesignh: –10°C)**	[kW]	0.98	1.18	1.69	2.28	2.50
Colder climate (Design temperature = –22°C)							
Space heating 35°C	**Prated (declared heating capacity) @ –22°C**	[kW]	4.6	5.6	7.0	7.7	11.4
	Seasonal space heating efficiency (ηs)	[%]	159.5	165.3	170.0	169.8	160.2
	Annual energy consumption	[kWh]	2,769	3,300	3,976	4,423	6,870
Space heating 55°C	**Prated (declared heating capacity) @ –22°C**	[kW]	3.4	4.3	5.8	6.7	10.3
	Seasonal space heating efficiency (ηs)	[%]	102.1	111.1	112.0	116.4	117.8
	Annual energy consumption	[kWh]	3,159	3,681	4,950	5,540	8,419
Part load conditions space heating colder climate low temperature application							
(A) condition (-7°C)	**Pdh (declared heating capacity)**	[kW]	2.75	3.42	4.46	4.83	7.05
	COPd (declared COP)	-	3.49	3.59	3.66	3.60	3.48
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	1.77	2.06	2.69	2.94	4.67
	COPd (declared COP)	-	4.95	5.21	5.20	5.26	4.96
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	1.17	1.46	1.65	1.92	3.14
	COPd (declared COP)	-	5.53	6.24	6.53	7.08	6.10
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	1.43	1.44	1.65	1.65	3.57
	COPd (declared COP)	-	7.67	7.66	7.96	7.96	7.87
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	2.80	3.48	4.06	4.62	7.01
	COPd (declared COP)	-	1.97	1.96	1.95	1.97	1.98
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	**Tbiv**	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	3.72	4.59	5.69	6.32	9.28
	COPd (declared COP)	-	2.57	2.53	2.83	2.64	2.59
Supplementary capacity at P_design	**Psup (@Tdesignh: –22°C)**	[kW]	1.76	2.15	2.91	3.08	4.40

Product fiche 3

Heat pump space heating		Model	MHC-V14W/D2N8-B1***	MHC-V16W/D2N8-B1***	MHC-V12W/D2RN8-B1***	MHC-V14W/D2RN8-B1***	MHC-V16W/D2RN8-B1***
Colder climate (Design temperature = –22°C)							
Space heating 35°C	**Prated (declared heating capacity) @ –22°C**	[kW]	12.6	13.7	11.4	12.6	13.7
	Seasonal space heating efficiency (ηs)	[%]	159.6	157.8	160.2	159.6	157.8
	Annual energy consumption	[kWh]	7,667	8,431	6,871	7,667	8,431
Space heating 55°C	**Prated (declared heating capacity) @ –22°C**	[kW]	11.0	11.8	10.3	11.0	11.8
	Seasonal space heating efficiency (ηs)	[%]	118.9	121.8	117.7	118.9	121.8
	Annual energy consumption	[kWh]	8,866	9,309	8,420	8,867	9,310
Part load conditions space heating colder climate low temperature application							
(A) condition (-7°C)	**Pdh (declared heating capacity)**	[kW]	7.96	8.31	7.05	7.96	8.31
	COPd (declared COP)	-	3.44	3.37	3.48	3.44	3.37
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	5.05	5.26	4.67	5.05	5.26
	COPd (declared COP)	-	4.92	4.86	4.96	4.92	4.86
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	3.15	3.62	3.14	3.15	3.62
	COPd (declared COP)	-	6.11	6.49	6.10	6.11	6.49
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	3.57	3.34	3.57	3.57	3.34
	COPd (declared COP)	-	7.82	7.40	7.87	7.82	7.40
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	7.57	8.88	7.01	7.57	8.88
	COPd (declared COP)	-	1.92	1.97	1.98	1.92	1.97
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	**Tbiv**	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	10.31	11.22	9.28	10.31	11.22
	COPd (declared COP)	-	2.53	2.43	2.59	2.53	2.43
Supplementary capacity at P_design	**Psup (@Tdesignh: –22°C)**	[kW]	5.03	4.82	4.40	5.03	4.82

Product fiche 4

Heat pump space heating		Model	MHC-V4W/D2N8-B1***	MHC-V6W/D2N8-B1***	MHC-V8W/D2N8-B1***	MHC-V10W/D2N8-B1***	MHC-V12W/D2N8-B1***
Part load conditions space heating colder climate medium temperature application							
(A) condition (-7°C)	**Pdh (declared heating capacity)**	[kW]	2.13	2.70	3.86	4.27	6.63
	COPd (declared COP)	-	2.32	2.46	2.48	2.54	2.63
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	1.28	1.60	2.21	2.57	4.06
	COPd (declared COP)	-	2.99	3.36	3.35	3.51	3.60
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	1.01	1.02	1.44	1.65	2.78
	COPd (declared COP)	-	3.86	3.94	4.11	4.37	4.54
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	1.36	1.37	1.46	1.47	3.33
	COPd (declared COP)	-	6.28	6.35	5.92	5.96	6.25
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	1.64	2.09	2.80	2.80	4.19
	COPd (declared COP)	-	1.02	1.13	1.22	1.22	1.13
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	**Tbiv**	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	2.74	3.47	4.71	5.47	8.41
	COPd (declared COP)	-	1.74	1.86	1.90	2.00	1.84
Supplementary capacity at P_design	**Psup (@Tdesignh: –22°C)**	[kW]	1.72	2.17	2.97	3.91	6.12
Warmer climate (Design temperature = 2°C)							
Space heating 35°C	**Prated (declared heating capacity) @ 2°C**	[kW]	5.5	6.1	8.1	8.6	11.1
	Seasonal space heating efficiency (ηs)	[%]	255.4	259.8	276.6	280.5	256.1
	Annual energy consumption	[kWh]	1,146	1,244	1,551	1,617	2,292
Space heating 55°C	**Prated (declared heating capacity) @ 2°C**	[kW]	5.0	5.1	8.37	8.6	12.5
	Seasonal space heating efficiency (ηs)	[%]	162.4	164.7	176.9	180.3	174.0
	Annual energy consumption	[kWh]	1,621	1,640	2,485	2,516	3,776

Product fiche 4

Heat pump space heating		Model	MHC-V14W/D2N8-B1***	MHC-V16W/D2N8-B1***	MHC-V12W/D2RN8-B1***	MHC-V14W/D2RN8-B1***	MHC-V16W/D2RN8-B1***
Part load conditions space heating colder climate medium temperature application							
(A) condition (-7°C)	**Pdh (declared heating capacity)**	[kW]	6.89	7.64	6.63	6.89	7.64
	COPd (declared COP)	-	2.66	2.65	2.63	2.66	2.65
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	4.32	4.42	4.06	4.32	4.42
	COPd (declared COP)	-	3.66	3.79	3.60	3.66	3.79
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	3.06	2.97	2.78	3.06	2.97
	COPd (declared COP)	-	4.72	4.81	4.54	4.72	4.81
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	3.33	3.43	3.33	3.33	3.43
	COPd (declared COP)	-	6.25	6.29	6.25	6.25	6.29
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	4.20	5.21	4.19	4.20	5.21
	COPd (declared COP)	-	1.13	1.23	1.13	1.13	1.23
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	**Tbiv**	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	8.94	9.61	8.41	8.94	9.61
	COPd (declared COP)	-	1.79	1.86	1.84	1.79	1.86
Supplementary capacity at P_design	**Psup (@Tdesignh: –22°C)**	[kW]	6.80	6.59	6.12	6.80	6.59
Warmer climate (Design temperature = 2°C)							
Space heating 35°C	**Prated (declared heating capacity) @ 2°C**	[kW]	12.1	13.1	11.1	12.1	13.1
	Seasonal space heating efficiency (ηs)	[%]	260.3	248.5	255.6	259.8	248.1
	Annual energy consumption	[kWh]	2,457	2,781	2,296	2,462	2,786
Space heating 55°C	**Prated (declared heating capacity) @ 2°C**	[kW]	14.17	14.17	12.5	14.17	14.17
	Seasonal space heating efficiency (ηs)	[%]	174.9	176.0	173.8	174.9	175.8
	Annual energy consumption	[kWh]	4,258	4,231	3,780	4,262	4,236

Product fiche 5

Heat pump space heating		Model	MHC-V4W/D2N8-B1***	MHC-V6W/D2N8-B1***	MHC-V8W/D2N8-B1***	MHC-V10W/D2N8-B1***	MHC-V12W/D2N8-B1***
Part load conditions space heating warmer climate low temperature application							
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	5.34	5.93	7.56	8.44	11.10
	COPd (declared COP)	-	3.94	3.91	3.98	3.84	3.59
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	3.56	3.93	5.22	5.52	7.14
	COPd (declared COP)	-	5.92	5.89	6.26	6.18	5.87
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	1.63	1.79	2.62	2.62	3.55
	COPd (declared COP)	-	7.91	8.20	9.23	9.04	7.94
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	5.34	5.93	7.56	8.44	11.10
	COPd (declared COP)	-	3.94	3.91	3.98	3.84	3.59
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	**Tbiv**	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.56	3.93	5.22	5.52	7.14
	COPd (declared COP)	-	5.92	5.89	6.26	6.18	5.87
Supplementary capacity at P_design	**Psup (@Tdesignh: 2°C)**	[kW]	0.18	0.18	0.55	0.14	0.00
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	4.83	5.02	7.55	8.06	12.07
	COPd (declared COP)	-	2.51	2.48	2.59	2.59	2.31
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	3.22	3.31	5.38	5.54	8.04
	COPd (declared COP)	-	3.68	3.67	4.01	4.10	3.86
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	1.47	1.60	2.31	2.53	3.75
	COPd (declared COP)	-	5.15	5.29	5.55	5.82	5.70
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 5

Heat pump space heating		Model	MHC-V14W/D2N8-B1***	MHC-V16W/D2N8-B1***	MHC-V12W/D2RN8-B1***	MHC-V14W/D2RN8-B1***	MHC-V16W/D2RN8-B1***
Part load conditions space heating warmer climate low temperature application							
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	12.04	13.10	11.10	12.04	13.10
	COPd (declared COP)	-	3.44	3.35	3.59	3.44	3.35
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	7.78	8.41	7.14	7.78	8.41
	COPd (declared COP)	-	5.84	5.36	5.87	5.84	5.36
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	3.75	3.87	3.55	3.75	3.87
	COPd (declared COP)	-	8.25	8.11	7.94	8.25	8.11
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	12.04	13.10	11.10	12.04	13.10
	COPd (declared COP)	-	3.44	3.35	3.59	3.44	3.35
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	**Tbiv**	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	7.78	8.41	7.14	7.78	8.41
	COPd (declared COP)	-	5.84	5.36	5.87	5.84	5.36
Supplementary capacity at P_design	**Psup (@Tdesignh: 2°C)**	[kW]	0.06	0.00	0.00	0.06	0.00
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	13.04	13.38	12.07	13.04	13.38
	COPd (declared COP)	-	2.20	2.29	2.31	2.20	2.29
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	9.11	9.11	8.04	9.11	9.11
	COPd (declared COP)	-	3.89	3.89	3.86	3.89	3.89
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	4.08	4.06	3.75	4.08	4.06
	COPd (declared COP)	-	5.90	5.86	5.70	5.90	5.86
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 6

Heat pump space heating		Model	MHC-V4W/D2N8-B1***	MHC-V6W/D2N8-B1***	MHC-V8W/D2N8-B1***	MHC-V10W/D2N8-B1***	MHC-V12W/D2N8-B1***
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	4.83	5.02	7.55	8.06	12.07
	COPd (declared COP)	-	2.51	2.48	2.59	2.59	2.31
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.22	3.31	5.38	5.54	8.04
	COPd (declared COP)	-	3.68	3.67	4.01	4.10	3.86
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.18	0.12	0.82	0.48	0.43
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No	No	No
	Low-temperature heat pump	Y/N	No	No	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes
	Heat pump combination heater	Y/N	No	No	No	No	No
Air to water unit	Rated airflow	[m^3/h]	2770	2770	4030	4030	4060
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pto (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.024	0.024	0.024
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	P_{CK} (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.
Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.

Product fiche 6

Heat pump space heating		Model	MHC-V14W/D2N8-B1***	MHC-V16W/D2N8-B1***	MHC-V12W/D2RN8-B1***	MHC-V14W/D2RN8-B1***	MHC-V16W/D2RN8-B1***
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	13.04	13.38	12.07	13.04	13.38
	COPd (declared COP)	-	2.20	2.29	2.31	2.20	2.29
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	9.11	9.11	8.04	9.11	9.11
	COPd (declared COP)	-	3.89	3.89	3.86	3.89	3.89
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	1.13	0.79	0.43	1.13	0.79
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No	No	No
	Low-temperature heat pump	Y/N	No	No	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes
	Heat pump combination heater	Y/N	No	No	No	No	No
Air to water unit	Rated airflow	[m^3/h]	4060	4650	4060	4060	4650
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.02	0.02	0.02
	Pto (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.030	0.030	0.030
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.02	0.02	0.02
	PCK (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.
Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.

Product fiche 7

Heat pump space cooling		Model	MHC-V4W/D2N8-B1***	MHC-V6W/D2N8-B1***	MHC-V8W/D2N8-B1***	MHC-V10W/D2N8-B1***	MHC-V12W/D2N8-B1***
Unit sound power (*)	Average climate low temperature application	dB	56	60	60	60	65
	Average climate medium temperature application	dB	56	58	60	60	64
Space cooling 7°C	Prated (declared cooling capacity) @ 35°C	[kW]	4.70	7.00	7.45	8.20	11.50
	Seasonal space cooling efficiency (ηs)	[%]	196.2	209.5	229.9	234.9	194.1
	Annual energy consumption	[kWh]	566	791	768	827	1,400
Space cooling 18°C	Prated (declared cooling capacity) @ 35°C	[kW]	4.50	6.50	8.30	9.90	12.00
	Seasonal space cooling efficiency (ηs)	[%]	307.4	325.9	354.7	346.3	282.0
	Annual energy consumption	[kWh]	348	474	557	680	1,011
Part load conditions space cooling：low temperature application@7°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	4.70	7.00	7.45	8.20	11.50
	EERd (declared EER)	-	3.45	3.00	3.35	3.25	2.75
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	3.66	5.13	5.72	6.68	8.76
	EERd (declared EER)	-	4.76	4.00	4.71	4.47	3.93
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	2.21	3.48	3.62	4.26	5.81
	EERd (declared EER)	-	5.72	6.45	6.65	7.02	5.73
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	0.94	1.53	1.64	1.94	2.63
	EERd (declared EER)	-	5.72	7.73	8.55	9.54	6.75
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

(*)Sound power measured according to the EN12102 under conditions of the EN14825.

Product fiche 7

Heat pump space cooling		Model	MHC-V14W/D2N8-B1***	MHC-V16W/D2N8-B1***	MHC-V12W/D2RN8-B1***	MHC-V14W/D2RN8-B1***	MHC-V16W/D2RN8-B1***
Unit sound power (*)	Average climate low temperature application	dB	65	69	65	65	69
	Average climate medium temperature application	dB	64	69	64	64	69
Space cooling 7°C	Prated (declared cooling capacity) @ 35°C	[kW]	12.40	14.00	11.50	12.40	14.00
	Seasonal space cooling efficiency (ηs)	[%]	191.9	184.6	193.0	190.8	183.7
	Annual energy consumption	[kWh]	1,527	1,791	1,408	1,535	1,799
Space cooling 18°C	Prated (declared cooling capacity) @ 35°C	[kW]	13.50	14.20	12.00	13.50	14.20
	Seasonal space cooling efficiency (ηs)	[%]	274.4	266.8	279.7	272.5	265.0
	Annual energy consumption	[kWh]	1,168	1,263	1,019	1,176	1,271
Part load conditions space cooling：low temperature application@7°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	12.40	14.00	11.50	12.40	14.00
	EERd (declared EER)	-	2.50	2.50	2.75	2.50	2.50
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	9.41	10.68	8.76	9.41	10.68
	EERd (declared EER)	-	3.85	3.63	3.93	3.85	3.63
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	6.16	6.76	5.81	6.16	6.76
	EERd (declared EER)	-	5.80	5.27	5.73	5.80	5.27
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	2.63	3.41	2.63	2.63	3.41
	EERd (declared EER)	-	6.74	7.29	6.75	6.74	7.29
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

(*)Sound power measured according to the EN12102 under conditions of the EN14825.

Product fiche 8

Heat pump space cooling		Model	MHC-V4W/D2N8-B1***	MHC-V6W/D2N8-B1***	MHC-V8W/D2N8-B1***	MHC-V10W/D2N8-B1***	MHC-V12W/D2N8-B1***
Part load conditions space cooling:medium temperature application@18°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	4.50	6.50	8.30	9.90	12.00
	EERd (declared EER)	-	5.50	4.80	5.05	4.55	3.95
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	3.44	4.84	6.47	7.71	9.21
	EERd (declared EER)	-	7.23	7.16	7.02	6.45	5.50
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	2.19	3.26	4.31	5.03	5.74
	EERd (declared EER)	-	8.94	9.64	10.67	10.36	8.66
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	1.13	1.41	1.80	2.32	3.33
	EERd (declared EER)	-	10.48	11.48	13.61	14.98	10.07
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m^3/h]	2770	2770	4030	4030	4060
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pto (Power consumption Thermostat off mode)	[kW]	0.010	0.010	0.010	0.010	0.010
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Product fiche 8

Heat pump space cooling		Model	MHC-V14W/D2N8-B1***	MHC-V16W/D2N8-B1***	MHC-V12W/D2RN8-B1***	MHC-V14W/D2RN8-B1***	MHC-V16W/D2RN8-B1***
Part load conditions space cooling：medium temperature application@18°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	13.50	14.20	12.00	13.50	14.20
	EERd (declared EER)	-	3.61	3.61	3.95	3.61	3.61
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	10.20	11.42	9.21	10.20	11.42
	EERd (declared EER)	-	5.26	5.14	5.50	5.26	5.14
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	6.57	7.27	5.74	6.57	7.27
	EERd (declared EER)	-	8.45	7.83	8.66	8.45	7.83
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	3.33	3.40	3.33	3.33	3.40
	EERd (declared EER)	-	10.07	10.35	10.07	10.07	10.35
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m^3/h]	4060	4650	4060	4060	4650
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pto (Power consumption Thermostat off mode)	[kW]	0.010	0.010	0.010	0.010	0.010
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature：35/24 Water temperature：12/7	MHC-V4W/D2N8-B1***	4.70	1.36	3.45
	MHC-V6W/D2N8-B1***	7.00	2.33	3.00
	MHC-V8W/D2N8-B1***	7.45	2.22	3.35
	MHC-V10W/D2N8-B1***	8.20	2.52	3.25
	MHC-V12W/D2N8-B1***	11.5	4.18	2.75
	MHC-V14W/D2N8-B1***	12.4	4.96	2.50
	MHC-V16W/D2N8-B1***	14.0	5.60	2.50
	MHC-V12W/D2RN8-B1***	11.5	4.18	2.75
	MHC-V14W/D2RN8-B1***	12.4	4.96	2.50
	MHC-V16W/D2RN8-B1***	14.0	5.60	2.50
Ambient Temperature：35/24 Water temperature：23/18	MHC-V4W/D2N8-B1***	4.50	0.82	5.50
	MHC-V6W/D2N8-B1***	6.50	1.35	4.80
	MHC-V8W/D2N8-B1***	8.30	1.64	5.05
	MHC-V10W/D2N8-B1***	9.90	2.18	4.55
	MHC-V12W/D2N8-B1***	12.00	3.04	3.95
	MHC-V14W/D2N8-B1***	13.50	3.74	3.61
	MHC-V16W/D2N8-B1***	14.20	3.94	3.61
	MHC-V12W/D2RN8-B1***	12.00	3.04	3.95
	MHC-V14W/D2RN8-B1***	13.50	3.74	3.61
	MHC-V16W/D2RN8-B1***	14.20	3.94	3.61
Ambient Temperature：7/6 Water temperature：30/35	MHC-V4W/D2N8-B1***	4.20	0.82	5.10
	MHC-V6W/D2N8-B1***	6.35	1.28	4.95
	MHC-V8W/D2N8-B1***	8.40	1.63	5.15
	MHC-V10W/D2N8-B1***	10.0	2.02	4.95
	MHC-V12W/D2N8-B1***	12.1	2.44	4.95
	MHC-V14W/D2N8-B1***	14.5	3.15	4.60
	MHC-V16W/D2N8-B1***	15.9	3.53	4.50
	MHC-V12W/D2RN8-B1***	12.1	2.44	4.95
	MHC-V14W/D2RN8-B1***	14.5	3.15	4.60
	MHC-V16W/D2RN8-B1***	15.9	3.53	4.50
Ambient Temperature：2/1 Water temperature：30/35	MHC-V4W/D2N8-B1***	4.40	1.10	4.00
	MHC-V6W/D2N8-B1***	5.50	1.41	3.90
	MHC-V8W/D2N8-B1***	7.10	1.73	4.10
	MHC-V10W/D2N8-B1***	8.20	2.05	4.00
	MHC-V12W/D2N8-B1***	9.2	2.36	3.90
	MHC-V14W/D2N8-B1***	11.0	3.06	3.60
	MHC-V16W/D2N8-B1***	13.0	3.77	3.45
	MHC-V12W/D2RN8-B1***	9.2	2.36	3.90
	MHC-V14W/D2RN8-B1***	11.0	3.06	3.60
	MHC-V16W/D2RN8-B1***	13.0	3.77	3.45

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature：-7/-8 Water temperature：30/35	MHC-V4W/D2N8-B1***	4.70	1.52	3.10
	MHC-V6W/D2N8-B1***	6.00	2.00	3.00
	MHC-V8W/D2N8-B1***	7.00	2.19	3.20
	MHC-V10W/D2N8-B1***	8.00	2.62	3.05
	MHC-V12W/D2N8-B1***	10.00	3.33	3.00
	MHC-V14W/D2N8-B1***	12.00	4.21	2.85
	MHC-V16W/D2N8-B1***	13.10	4.85	2.70
	MHC-V12W/D2RN8-B1***	10.00	3.33	3.00
	MHC-V14W/D2RN8-B1***	12.00	4.21	2.85
	MHC-V16W/D2RN8-B1***	13.10	4.85	2.70
Ambient Temperature：7/6 Water temperature：40/45	MHC-V4W/D2N8-B1***	4.30	1.13	3.80
	MHC-V6W/D2N8-B1***	6.30	1.70	3.70
	MHC-V8W/D2N8-B1***	8.10	2.10	3.85
	MHC-V10W/D2N8-B1***	10.0	2.67	3.75
	MHC-V12W/D2N8-B1***	12.3	3.32	3.70
	MHC-V14W/D2N8-B1***	14.1	3.92	3.60
	MHC-V16W/D2N8-B1***	16.0	4.57	3.50
	MHC-V12W/D2RN8-B1***	12.3	3.32	3.70
	MHC-V14W/D2RN8-B1***	14.1	3.92	3.60
	MHC-V16W/D2RN8-B1***	16.0	4.57	3.50
Ambient Temperature：2/1 Water temperature：40/45	MHC-V4W/D2N8-B1***	5.10	1.70	3.00
	MHC-V6W/D2N8-B1***	5.80	1.93	3.00
	MHC-V8W/D2N8-B1***	7.40	2.28	3.25
	MHC-V10W/D2N8-B1***	7.85	2.45	3.20
	MHC-V12W/D2N8-B1***	10.60	3.53	3.00
	MHC-V14W/D2N8-B1***	11.50	4.04	2.85
	MHC-V16W/D2N8-B1***	12.70	4.46	2.85
	MHC-V12W/D2RN8-B1***	10.60	3.53	3.00
	MHC-V14W/D2RN8-B1***	11.50	4.04	2.85
	MHC-V16W/D2RN8-B1***	12.70	4.46	2.85
Ambient Temperature：-7/-8 Water temperature：40/45	MHC-V4W/D2N8-B1***	4.30	1.83	2.35
	MHC-V6W/D2N8-B1***	5.40	2.25	2.40
	MHC-V8W/D2N8-B1***	6.60	2.59	2.55
	MHC-V10W/D2N8-B1***	7.35	2.88	2.55
	MHC-V12W/D2N8-B1***	10.20	4.25	2.40
	MHC-V14W/D2N8-B1***	11.70	4.98	2.35
	MHC-V16W/D2N8-B1***	12.80	5.69	2.25
	MHC-V12W/D2RN8-B1***	10.20	4.25	2.40
	MHC-V14W/D2RN8-B1***	11.70	4.98	2.35
	MHC-V16W/D2RN8-B1***	12.80	5.69	2.25

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature：7/6 Water temperature：47/55	MHC-V4W/D2N8-B1***	4.40	1.49	2.95
	MHC-V6W/D2N8-B1***	6.00	2.03	2.95
	MHC-V8W/D2N8-B1***	7.50	2.36	3.18
	MHC-V10W/D2N8-B1***	9.50	3.06	3.10
	MHC-V12W/D2N8-B1***	11.9	3.90	3.05
	MHC-V14W/D2N8-B1***	13.8	4.68	2.95
	MHC-V16W/D2N8-B1***	16.0	5.61	2.85
	MHC-V12W/D2RN8-B1***	11.9	3.90	3.05
	MHC-V14W/D2RN8-B1***	13.8	4.68	2.95
	MHC-V16W/D2RN8-B1***	16.0	5.61	2.85
Ambient Temperature：2/1 Water temperature：47/55	MHC-V4W/D2N8-B1***	5.10	2.08	2.45
	MHC-V6W/D2N8-B1***	5.65	2.31	2.45
	MHC-V8W/D2N8-B1***	7.10	2.73	2.60
	MHC-V10W/D2N8-B1***	8.10	3.16	2.56
	MHC-V12W/D2N8-B1***	11.30	4.52	2.50
	MHC-V14W/D2N8-B1***	12.40	5.06	2.45
	MHC-V16W/D2N8-B1***	13.30	5.54	2.40
	MHC-V12W/D2RN8-B1***	11.30	4.52	2.50
	MHC-V14W/D2RN8-B1***	12.40	5.06	2.45
	MHC-V16W/D2RN8-B1***	13.30	5.54	2.40
Ambient Temperature：-7/-8 Water temperature：47/55	MHC-V4W/D2N8-B1***	4.00	2.05	1.95
	MHC-V6W/D2N8-B1***	5.15	2.58	2.00
	MHC-V8W/D2N8-B1***	6.15	3.00	2.05
	MHC-V10W/D2N8-B1***	6.85	3.43	2.00
	MHC-V12W/D2N8-B1***	9.80	4.78	2.05
	MHC-V14W/D2N8-B1***	11.00	5.37	2.05
	MHC-V16W/D2N8-B1***	12.50	6.25	2.00
	MHC-V12W/D2RN8-B1***	9.80	4.78	2.05
	MHC-V14W/D2RN8-B1***	11.00	5.37	2.05
	MHC-V16W/D2RN8-B1***	12.50	6.25	2.00

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	WZDK170-38G-1+ ZL-580*190*15-3	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	η_{target} =	29.1%
2	Overall efficiency (η_e) =	33.1%
3	Pass or not (Criteria: $\eta_e \geqq \eta_{target}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =43.9
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.190kw
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.368m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	40Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measure ment category A, fan is free inlet and outlet conditions
16	Motor manufacturer	NIDEC SHIBAURA (ZHE JIANG) CORP.

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	WZDK170-38G-1+ ZL-580*190*15-3	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	η_{target} =	29.1%
2	Overall efficiency (η_e) =	33.7%
3	Pass or not (Criteria: $\eta_e \geqq \eta_{target}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =44.6
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.186kw
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.37m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	40Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	GUANGDONG WELLING MOTOR MANUFACTURING CO.,LTD.

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	WZDK170-38G-1+ ZL-580*190*15-3	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	ηtarget =	29.0%
2	Overall efficiency (ηe) =	34.6%
3	Pass or not (Criteria: ηe ≧ηtarget)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =45.7
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.180kW
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.378m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	40Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	Panasonic Motor (HangZhou) CO.,LTD.

NOTE

NOTE

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此页不做菲林，仅核对使用

印刷技术要求

材质	双胶纸80g
规格	210*297(双面)
颜色	黑白
其他	

设计更改记录表（仅做说明用，不做菲林）

版本升级	更改人	更改日期	更改主要内容	涉及更改页面 （印刷页码）
V.A-V.B	钟永华	2024.1.16	见附件修改记录表	见附件修改记录表