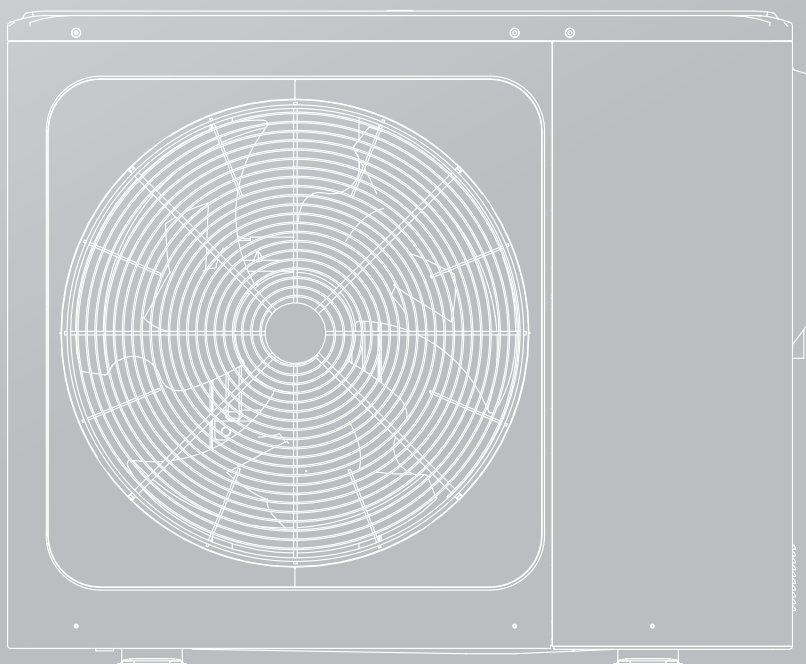


# TECHNICAL DATA MANUAL

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.



# Temperature application

Model	For medium - temperature application													
	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	Rated heat output	Seasonal space heating energy efficiency	For space heating annual energy consumption
	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh	kW	%	kWh	
MHC-V5WD2N8-C	A++	60	6.4	140.7	3655	5.2	113.1	4428	6.2	170.9	1895			
MHC-V7WD2N8-C	A++	63	7.3	143.6	4088	6.1	117.7	4948	8.1	185.3	2303			
MHC-V9WD2N8-C	A++	65	8.2	145.5	4539	7.2	122.4	5665	9.0	193.4	2458			
MHC-V12WD2N8-C	A++	70	12.5	141.6	7148	11.3	126.0	8628	12.0	179.0	3524			
MHC-V12WD2RN8-C	A++	70	12.5	141.6	7148	11.3	126.0	8628	12.0	179.0	3523			
MHC-V14WD2N8-C	A++	72	14.2	141.8	8079	12.5	126.6	9496	14.2	184.6	4040			
MHC-V14WD2RN8-C	A++	72	14.2	141.8	8079	12.5	126.6	9496	14.2	184.7	4039			
MHC-V16WD2N8-C	A++	72	14.7	140.6	8471	13.5	124.3	10473	14.5	184.0	4154			
MHC-V16WD2RN8-C	A++	72	14.7	140.7	8470	13.5	124.3	10473	14.5	184.0	4153			

Model	For low - temperature application													
	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	Rated heat output	Seasonal space heating energy efficiency	For space heating annual energy consumption
	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh	kW	%	kWh	
MHC-V5WD2N8-C	A+++	60	6.5	201.8	2631	6.1	173.4	3425	6.2	268.2	1229			
MHC-V7WD2N8-C	A+++	63	7.9	204.0	3155	7.5	174.6	4166	8.1	274.7	1551			
MHC-V9WD2N8-C	A+++	65	9.1	201.9	3654	8.3	174.6	4591	9.0	279.1	1714			
MHC-V12WD2N8-C	A+++	70	12.3	200.1	5004	12.5	168.8	7153	12.1	262.3	2437			
MHC-V12WD2RN8-C	A+++	70	12.3	200.2	5003	12.5	168.8	7153	12.1	262.5	2435			
MHC-V14WD2N8-C	A+++	72	14.2	192.5	5984	14.3	171.3	8095	13.2	260.5	2684			
MHC-V14WD2RN8-C	A+++	72	14.2	192.5	5984	14.3	171.3	8095	13.2	260.6	2683			
MHC-V16WD2N8-C	A+++	72	15.2	190.5	6510	15.1	170.9	8546	14.2	255.3	2937			
MHC-V16WD2RN8-C	A+++	72	15.2	190.5	6509	15.1	170.9	8546	14.2	255.5	2935			

# Product fiche 1

Heat pump space heating									
	Outdoor	MHC-V5WD2N8-C	MHC-V7WD2N8-C	MHC-V9WD2N8-C	MHC-V12WD2N8-C	MHC-V14WD2N8-C			
Outdoor unit sound power (*)	dB	60	63	65	70	72			
Average climate low temperature application	dB	60	63	65	70	72			
Average climate medium temperature application	-	A+++	A+++	A+++	A+++	A+++			
Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++			
Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++	A++			
Average climate (Design temperature = -10°C)									
Prated (declared heating capacity) @ -10°C	[kW]	6.5	7.9	9.1	12.3	14.2			
Seasonal space heating efficiency (ηs)	[%]	201.8	204.0	201.9	200.1	192.5			
Annual energy consumption	[kWh]	2,631	3,155	3,654	5,004	5,984			
Prated (declared heating capacity) @ -10°C	[kW]	6.4	7.3	8.2	12.5	14.2			
Seasonal space heating efficiency (ηs)	[%]	140.7	143.6	145.5	141.6	141.8			
Annual energy consumption	[kWh]	3,655	4,088	4,539	7,148	8,079			
Part load conditions space heating average climate low temperature application									
Pdh (declared heating capacity)	[kW]	5.77	6.99	8.02	10.85	12.52			
COPd (declared COP)	-	3.43	3.29	3.09	3.11	2.97			
Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90			
Pdh (declared heating capacity)	[kW]	3.74	4.51	5.06	6.79	7.98			
COPd (declared COP)	-	5.04	4.99	4.92	4.86	4.56			
Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90			
Pdh (declared heating capacity)	[kW]	2.32	2.81	3.22	4.79	5.04			
COPd (declared COP)	-	6.06	6.72	7.03	6.98	7.01			
Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90			
Pdh (declared heating capacity)	[kW]	1.87	1.87	1.87	3.73	3.73			
COPd (declared COP)	-	9.12	9.12	9.12	9.02	9.02			
Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90			
Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00			
Pdh (declared heating capacity)	[kW]	6.52	7.46	7.88	12.30	13.41			
COPd (declared COP)	-	3.00	2.87	2.87	2.80	2.66			
WTOL (Heating water Operation L limit)	[°C]	65	65	65	65	65			

# Product fiche 1

Heat pump space heating						
Outdoor unit sound power (*)	Average climate low temperature application	Outdoor	MHC-V16WD2RN8-C	MHC-V12WD2RN8-C	MHC-V14WD2RN8-C	MHC-V16WD2RN8-C
	Average climate medium temperature application	dB	72	70	72	72
Space heating	Energy efficiency class 35°C (Low temp. app.)	dB	72	70	72	72
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A+++	A+++	A+++	A+++
	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++
Average climate (Design temperature = -10°C)						
Space heating 35°C	Prated (declared heating capacity) @ -10°C	[kW]	15.2	12.3	14.2	15.2
	Seasonal space heating efficiency (ηs)	[%]	190.5	200.2	192.5	190.5
	Annual energy consumption	[kWh]	6,510	5,003	5,984	6,509
Space heating 55°C	Prated (declared heating capacity) @ -10°C	[kW]	14.7	12.5	14.2	14.7
	Seasonal space heating efficiency (ηs)	[%]	140.6	141.6	141.8	140.7
	Annual energy consumption	[kWh]	8,471	7,148	8,079	8,470
Part load conditions space heating average climate low temperature application						
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	13.49	10.85	12.52	13.49
	COPd (declared COP)	-	2.87	3.11	2.97	2.87
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	8.59	6.79	7.98	8.59
	COPd (declared COP)	-	4.53	4.86	4.56	4.53
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	5.55	4.79	5.04	5.55
	COPd (declared COP)	-	7.01	6.98	7.01	7.01
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.73	3.73	3.73	3.73
	COPd (declared COP)	-	9.02	9.02	9.02	9.02
	Cdh(degradation coefficient)	-	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
	Pdh (declared heating capacity)	[kW]	14.05	12.30	13.41	14.05
	COPd (declared COP)	-	2.65	2.80	2.66	2.65
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65

## Product fiche 2

Heat pump space heating		Outdoor	MHC-V5WD2N8-C	MHC-V7WD2N8-C	MHC-V9WD2N8-C	MHC-V12WD2N8-C	MHC-V14WD2N8-C
	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
(F) Tivalent temperature	Pdh (declared heating capacity)	[kW]	5.77	6.99	8.02	10.85	12.52
	COPd (declared COP)	-	3.43	3.29	3.09	3.11	2.97
Supplementary capacity at P_design	Psup (@Tdesignh: -10°C)	[kW]	0.00	0.44	1.18	0.00	0.75
Part load conditions space heating average climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	5.62	6.42	7.21	11.06	12.52
	COPd (declared COP)	-	2.36	2.31	2.24	2.15	2.20
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	3.52	4.03	4.56	6.91	7.71
	COPd (declared COP)	-	3.70	3.76	3.86	3.59	3.58
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.20	2.56	2.84	4.64	5.07
	COPd (declared COP)	-	4.21	4.48	4.58	5.07	5.06
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.31	1.31	1.31	2.15	2.15
	COPd (declared COP)	-	4.96	4.96	4.96	4.52	4.52
	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]	6.04	6.85	7.01	10.97	11.51
	COPd (declared COP)	-	2.02	1.98	1.97	1.98	1.96
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	5.62	6.42	7.21	11.06	12.52
	COPd (declared COP)	-	2.36	2.31	2.24	2.15	2.20
Supplementary capacity at P_design	Psup (@Tdesignh: -10°C)	[kW]	0.32	0.40	1.14	1.53	2.65
Colder climate (Design temperature = -22°C)							
	Prated (declared heating capacity) @ -22°C	[kW]	6.1	7.5	8.3	12.5	14.3
Space heating 35°C	Seasonal space heating efficiency (ns)	[%]	173.4	174.6	174.6	168.8	171.3
	Annual energy consumption	[kWh]	3,425	4,166	4,591	7,153	8,095

## Product fiche 2

Heat pump space heating						
		Outdoor	MHC-V16WD2N8-C	MHC-V12WD2RN8-C	MHC-V14WD2RN8-C	MHC-V16WD2RN8-C
(F) Tivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	13.49	10.85	12.52	13.49
	COPd (declared COP)	-	2.87	3.11	2.97	2.87
	Psup (@Tdesign: -10°C)	[kW]	1.18	0.00	0.75	1.18
Part load conditions space heating average climate medium temperature application						
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	13.03	11.06	12.52	13.03
	COPd (declared COP)	-	2.16	2.15	2.20	2.16
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	8.50	6.91	7.71	8.50
(B) condition (2°C)	COPd (declared COP)	-	3.55	3.59	3.58	3.55
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	5.27	4.64	5.07	5.27
	COPd (declared COP)	-	5.05	5.07	5.06	5.05
(C) condition (7°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	2.15	2.15	2.15	2.15
	COPd (declared COP)	-	4.52	4.52	4.52	4.52
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(D) condition (12°C)	ToI (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	12.07	10.97	11.51	12.07
	COPd (declared COP)	-	1.94	1.98	1.96	1.94
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65
(E) Tol (temperature operating limit)	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	13.03	11.06	12.52	13.03
	COPd (declared COP)	-	2.16	2.15	2.20	2.16
	Psup (@Tdesign: -10°C)	[kW]	2.63	1.53	2.65	2.63
Colder climate (Design temperature = -22°C)						
Space heating 35°C	Prated (declared heating capacity) @ -22°C	[kW]	15.1	12.5	14.3	15.1
	Seasonal space heating efficiency (ηs)	[%]	170.9	168.8	171.3	170.9
	Annual energy consumption	[kWh]	8,546	7,153	8,095	8,546

## Product fiche 3

Heat pump space heating		Outdoor	MHC-V5WD2N8-C	MHC-V7WD2N8-C	MHC-V9WD2N8-C	MHC-V12WD2N8-C	MHC-V14WD2N8-C
Space heating 55°C	Prated (declared heating capacity) @ -22°C	[KW]	5.2	6.1	7.2	11.3	12.5
	Seasonal space heating efficiency (ηs)	[%]	113.1	117.7	122.4	126.0	126.6
	Annual energy consumption	[kWh]	4,428	4,948	5,665	8,628	9,496
Part load conditions space heating colder climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[KW]	4.11	4.42	5.42	8.08	8.74
	COPd (declared COP)	-	3.76	3.67	3.72	3.64	3.59
	Cdh (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[KW]	2.38	2.99	3.14	4.93	5.52
	COPd (declared COP)	-	5.33	5.50	5.56	5.34	5.35
	Cdh (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[KW]	1.66	2.03	2.16	3.17	3.70
	COPd (declared COP)	-	5.78	6.69	6.55	5.28	7.06
	Cdh (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[KW]	1.87	1.87	1.87	3.69	3.69
	COPd (declared COP)	-	9.12	9.12	9.12	9.34	9.34
	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]	4.21	4.78	5.08	8.72	9.14
	COPd (declared COP)	-	2.12	2.16	2.01	2.08	2.02
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[KW]	5.00	6.12	6.75	10.17	11.67
Supplementary capacity at P_design	COPd (declared COP)	-	3.02	2.70	2.59	2.66	2.58
Supplementary capacity at P_design	Psup (@Tdesign: -22°C)	[KW]	1.92	2.72	3.19	3.78	5.17
Part load conditions space heating colder climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[KW]	3.21	3.95	4.59	7.09	7.80
	COPd (declared COP)	-	2.60	2.75	2.72	2.75	2.77
	Cdh (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90



## Product fiche 3

<b>Heat pump space heating</b>		Outdoor	MHC-V16WD2N8-C	MHC-V12WD2RN8-C	MHC-V14WD2RN8-C	MHC-V16WD2RN8-C
Space heating 55°C	Prated (declared heating capacity) @ -22°C	[kW]	13.5	11.3	12.5	13.5
	Seasonal space heating efficiency (ηs)	[%]	124.3	126.0	126.6	124.3
	Annual energy consumption	[kWh]	10,473	8,628	9,496	10,473
Part load conditions space heating colder climate low temperature application						
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	9.26	8.08	8.74	9.26
	COPd (declared COP)	-	3.59	3.64	3.59	3.59
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	5.76	4.93	5.52	5.76
	COPd (declared COP)	-	5.35	5.34	5.35	5.35
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.76	3.17	3.70	3.76
	COPd (declared COP)	-	7.04	5.28	7.06	7.04
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.72	3.69	3.69	3.72
	COPd (declared COP)	-	8.78	9.34	9.34	8.78
	Cdh(degradation coefficient)	-	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
	Pdh (declared heating capacity)	[kW]	9.43	8.72	9.14	9.43
	COPd (declared COP)	-	2.00	2.08	2.02	2.00
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65
	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	12.30	10.17	11.67	12.30
Supplementary capacity at P_design	COPd (declared COP)	-	2.58	2.66	2.58	2.58
	Psup (@Tdesignh: -22°C)	[kW]	5.67	3.78	5.17	5.67
Part load conditions space heating colder climate medium temperature application						
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	8.43	7.09	7.80	8.43
	COPd (declared COP)	-	2.77	2.75	2.77	2.77
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90

# Product fiche 4

Heat pump space heating		Outdoor	MHC-V5WD2N8-C	MHC-V7WD2N8-C	MHC-V9WD2N8-C	MHC-V12WD2N8-C	MHC-V14WD2N8-C
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.03	2.25	2.82	4.44	4.64
	COPd (declared COP)	-	3.18	3.30	3.60	3.88	3.91
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.56	1.56	1.76	3.00	3.00
	COPd (declared COP)	-	4.50	4.50	4.84	4.88	4.88
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.44	1.44	1.44	3.60	3.61
	COPd (declared COP)	-	5.83	5.83	5.83	6.61	6.61
	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]	3.24	3.24	3.24	7.00	7.28
	COPd (declared COP)	-	1.32	1.32	1.32	1.38	1.35
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	4.25	4.94	5.88	9.21	10.19
Supplementary capacity at P_design	Psup (@Tdesign: -22°C)	[kW]	1.98	2.82	3.97	4.30	5.21
Warmer climate (Design temperature = 2°C)							
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	6.2	8.1	9.0	12.1	13.2
	Seasonal space heating efficiency (ηs)	[%]	268.2	274.7	279.1	262.3	260.5
	Annual energy consumption	[kWh]	1,229	1,551	1,714	2,437	2,684
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	6.2	8.1	9.0	12.0	14.2
	Seasonal space heating efficiency (ηs)	[%]	170.9	185.3	193.4	179.0	184.6
	Annual energy consumption	[kWh]	1,895	2,303	2,458	3,524	4,040
Part load conditions space heating warmer climate low temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	5.69	7.23	8.29	12.10	12.94
	COPd (declared COP)	-	4.31	4.04	3.85	3.53	3.51
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	4.01	5.18	5.81	7.78	8.51
	COPd (declared COP)	-	6.39	6.35	6.24	5.82	5.72
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

# Product fiche 4

Heat pump space heating						
		Outdoor	MHC-V16WD2N8-C	MHC-V12WD2RN8-C	MHC-V14WD2RN8-C	MHC-V16WD2RN8-C
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	5.20	4.44	4.64	5.20
	COPd (declared COP)	-	3.74	3.88	3.91	3.74
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.53	3.00	3.00	3.53
	COPd (declared COP)	-	5.19	4.88	4.88	5.19
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.61	3.60	3.61	3.61
	COPd (declared COP)	-	6.61	6.61	6.61	6.61
	Cdh(degradation coefficient)	-	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
	Pdh (declared heating capacity)	[kW]	7.52	7.00	7.28	7.52
	COPd (declared COP)	-	1.30	1.38	1.35	1.30
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65
	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	11.03	9.21	10.19	11.03
Supplementary capacity at P_design			1.85	1.92	1.91	1.85
Warmer climate (Design temperature = 2°C)			6.00	4.30	5.21	6.00
Warmer climate (Design temperature = 2°C)						
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	14.2	12.1	13.2	14.2
	Seasonal space heating efficiency (ηs)	[%]	255.3	262.5	260.6	255.5
	Annual energy consumption	[kWh]	2,937	2,435	2,683	2,935
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	14.5	12.0	14.2	14.5
	Seasonal space heating efficiency (ηs)	[%]	184.0	179.0	184.7	184.0
	Annual energy consumption	[kWh]	4,154	3,523	4,039	4,153
Part load conditions space heating warmer climate low temperature application						
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	14.20	12.10	12.94	14.20
	COPd (declared COP)	-	3.22	3.53	3.51	3.22
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	9.15	7.78	8.51	9.15
	COPd (declared COP)	-	5.41	5.82	5.72	5.41
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90

## Product fiche 5

Heat pump space heating							
	Outdoor	MHC-V5WD2N8-C	MHC-V7WD2N8-C	MHC-V9WD2N8-C	MHC-V12WD2N8-C	MHC-V14WD2N8-C	
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	2.07	2.46	2.67	3.64	3.96
	COPd (declared COP)	-	8.71	9.30	9.63	8.31	8.51
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
(E) Tol (temperature operating limit)	Pdh (declared heating capacity)	[kW]	5.69	7.23	8.29	12.10	12.94
	COPd (declared COP)	-	4.31	4.04	3.85	3.53	3.51
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
(F) Tivalent temperature	Pdh (declared heating capacity)	[kW]	4.01	5.18	5.81	7.78	8.51
	COPd (declared COP)	-	6.39	6.35	6.24	5.82	5.72
	Psup (@Tdesignh: 2°C)	[kW]	0.55	0.84	0.75	0.00	0.26
	Supplementary capacity at P_design						
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	6.17	7.80	8.42	12.00	13.01
	COPd (declared COP)	-	2.77	2.68	2.68	2.39	2.37
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	3.97	5.22	5.81	7.73	9.12
(C) condition (7°C)	COPd (declared COP)	-	3.90	4.07	4.16	3.86	3.95
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	2.06	2.36	2.74	3.59	4.26
	COPd (declared COP)	-	5.28	6.07	6.64	5.88	6.37
(D) condition (12°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	6.17	7.80	8.42	12.00	13.01
	COPd (declared COP)	-	2.77	2.68	2.68	2.39	2.37
(E) Tol (temperature operating limit)	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.97	5.22	5.81	7.73	9.12
	COPd (declared COP)	-	3.90	4.07	4.16	3.86	3.95
(F) Tivalent temperature	Psup (@Tdesignh: 2°C)	[kW]	0.00	0.32	0.61	0.00	1.18

## Product fiche 5

Heat pump space heating		Outdoor	MHC-V16WD2N8-C	MHC-V12WD2RN8-C	MHC-V14WD2RN8-C	MHC-V16WD2RN8-C
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	4.24	3.64	3.96	4.24
	COPd (declared COP)	-	8.56	8.31	8.51	8.56
	Cdh(degradation coefficient)	-	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
	Pdh (declared heating capacity)	[kW]	14.20	12.10	12.94	14.20
	COPd (declared COP)	-	3.22	3.53	3.51	3.22
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65
	Tbiv	[°C]	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	9.15	7.78	8.51	9.15
Supplementary capacity at P_design	COPd (declared COP)	-	5.41	5.82	5.72	5.41
	Psup (@Tdesignh: 2°C)	[kW]	0.00	0.00	0.26	0.00
	Part load conditions space heating warmer climate medium temperature application					
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	13.62	12.00	13.01	13.62
	COPd (declared COP)	-	2.35	2.39	2.37	2.35
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	9.35	7.73	9.12	9.35
	COPd (declared COP)	-	3.94	3.86	3.95	3.94
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	4.26	3.59	4.26	4.26
	COPd (declared COP)	-	6.37	5.88	6.37	6.37
	Cdh(degradation coefficient)	-	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
	Pdh (declared heating capacity)	[kW]	13.62	12.00	13.01	13.62
	COPd (declared COP)	-	2.35	2.39	2.37	2.35
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65
	Tbiv	[°C]	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	9.35	7.73	9.12	9.35
Supplementary capacity at P_design	COPd (declared COP)	-	3.94	3.86	3.95	3.94
	Psup (@Tdesignh: 2°C)	[kW]	0.91	0.00	1.18	0.91

## Product fiche 6

Heat pump space heating		MHC-V5WD2N8-C	MHC-V7WD2N8-C	MHC-V9WD2N8-C	MHC-V12WD2N8-C	MHC-V14WD2N8-C
Product description	Outdoor	Yes	Yes	Yes	Yes	Yes
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	Yes	Yes	Yes	Yes	Yes
Air to water unit	[m <sup>3</sup> /h]	3900	4500	4500	5200	5200
Brine/water to water unit	-	/	/	/	/	/
Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
P <sub>off</sub> (Power consumption Off mode)	[kW]	0.013	0.013	0.013	0.013	0.013
P <sub>to</sub> (Power consumption Thermostat off mode)	[kW]	0.020	0.020	0.020	0.020	0.020
P <sub>sb</sub> (Power consumption Standby mode)	[kW]	0.013	0.013	0.013	0.013	0.013
P <sub>ck</sub> (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000
Q <sub>elec</sub> (Daily electricity consumption)	[kWh]	/	/	/	/	/
Q <sub>fuel</sub> (Daily fuel consumption)	[kWh]	/	/	/	/	/

**Note :**

Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.

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

Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

## Product fiche 6

Heat pump space heating		MHC-V16WD2N8-C	MHC-V12WD2RN8-C	MHC-V14WD2RN8-C	MHC-V16WD2RN8-C
Product description	Air-to-water heat pump	Yes	Yes	Yes	Yes
	Water-to-water heat pump	No	No	No	No
	Brine-to-water heat pump	No	No	No	No
	Low-temperature heat pump	No	No	No	No
	Equipped with a supplementary heater	Yes	Yes	Yes	Yes
	Heat pump combination heater	Yes	Yes	Yes	Yes
	Rated airflow (outdoor)	[m <sup>3</sup> /h]	5200	5200	5200
Air to water unit	Rated water/brine flow (outdoor H/E)	/	/	/	/
	Capacity control	Inverter	Inverter	Inverter	Inverter
Other	P <sub>off</sub> (Power consumption Off mode)	[kW]	0.013	0.006	0.006
	P <sub>to</sub> (Power consumption Thermostat off mode)	[kW]	0.020	0.018	0.018
	P <sub>sb</sub> (Power consumption Standby mode)	[kW]	0.013	0.006	0.006
	P <sub>ck</sub> (Power crankcase heater model)	[kW]	0.000	0.000	0.000
	Q <sub>elec</sub> (Daily electricity consumption)	[kWh]	/	/	/
	Q <sub>fuel</sub> (Daily fuel consumption)	[kWh]	/	/	/

Note :

a) represents the hydraulic module series ;

b) represents the m-thermal tank series ;

Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.

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

Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

## Product fiche 7

Heat pump space cooling		Outdoor	MHC-V5WD2N8-C	MHC-V7WD2N8-C	MHC-V8WD2N8-C	MHC-V12WD2N8-C	MHC-V14WD2N8-C
Outdoor unit sound power (*)	Average climate low temperature application	dB	62	64	66	69	71
	Average climate medium temperature application	dB	62	64	66	69	71
	Prated (declared cooling capacity) @ 35°C	[kW]	5.6	7.4	9.0	11.7	13.5
Space cooling 7°C	Seasonal space cooling efficiency (ηs)	[%]	200.43	204.71	200.21	199.92	200.65
	Annual energy consumption	[kWh]	658	854	1,063	1,380	1,592
	Prated (declared cooling capacity) @ 35°C	[kW]	6.9	8.6	10.2	12.1	14.0
Space cooling 18°C	Seasonal space cooling efficiency (ηs)	[%]	309.5	320.48	329.48	308.53	300.52
	Annual energy consumption	[kWh]	527	635	739	932	1,109
Part load conditions space cooling : low temperature application @ 7°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	5.58	7.39	9.00	11.67	13.51
	EERd (declared EER)	-	3.38	3.28	2.92	3.11	3.01
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	4.27	5.63	6.91	8.84	10.06
	EERd (declared EER)	-	4.52	4.54	4.08	4.14	4.17
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	2.90	3.60	4.58	5.64	6.49
	EERd (declared EER)	-	5.46	5.87	5.95	5.71	5.64
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	1.33	1.74	2.07	2.75	3.06
	EERd (declared EER)	-	6.91	6.51	6.74	6.76	6.95
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90



## Product fiche 7

Heat pump space cooling						
Outdoor unit sound power (*)	Average climate low temperature application	Outdoor	MHC-V16WD2RN8-C	MHC-V12WD2RN8-C	MHC-V14WD2RN8-C	MHC-V16WD2RN8-C
	Average climate medium temperature application	dB	71	69	71	71
	Prated (declared cooling capacity) @ 35°C	[kW]	14.2	11.7	13.5	14.2
Space cooling 7°C	Seasonal space cooling efficiency (ηs)	[%]	201.37	201.25	201.81	202.48
	Annual energy consumption	[kWh]	1,670	1,371	1,583	1,661
	Prated (declared cooling capacity) @ 35°C	[kW]	15.3	12.1	14.0	15.3
Space cooling 18°C	Seasonal space cooling efficiency (ηs)	[%]	296.54	311.56	303	298.74
	Annual energy consumption	[kWh]	1,229	923	1,100	1,220
Part load conditions space cooling : low temperature application@7°C						
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	14.22	11.67	13.51	14.22
	EERd (declared EER)	-	2.96	3.11	3.01	2.96
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	10.62	8.84	10.06	10.62
	EERd (declared EER)	-	4.16	4.14	4.17	4.16
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	7.11	5.64	6.49	7.11
	EERd (declared EER)	-	5.72	5.71	5.64	5.72
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	3.06	2.75	3.06	3.06
	EERd (declared EER)	-	6.95	6.76	6.95	6.95
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90

## Product fiche 8

<b>Heat pump space cooling</b>		Outdoor	MHC-V5WD2N8-C	MHC-V7WD2N8-C	MHC-V9WD2N8-C	MHC-V12WD2N8-C	MHC-V14WD2N8-C
Part load conditions space cooling : medium temperature application@18°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	6.86	8.55	10.24	12.10	14.03
	EERd (declared EER)	-	5.29	4.99	4.42	4.77	4.55
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	5.27	6.66	7.81	9.24	10.60
	EERd (declared EER)	-	7.03	6.56	6.34	6.67	6.43
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	3.32	4.51	5.16	5.83	7.08
	EERd (declared EER)	-	8.14	9.48	9.50	9.38	8.93
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	1.61	1.96	2.51	3.86	3.89
	EERd (declared EER)	-	11.31	11.08	13.78	9.38	9.38
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m <sup>3</sup> /h]	3900	4500	4500	5200	5200
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]	0.013	0.013	0.013	0.013	0.013
	Pto (Power consumption Thermostat off mode)	[kW]	0.005	0.005	0.005	0.005	0.005
	Psb (Power consumption Standby mode)	[kW]	0.013	0.013	0.013	0.013	0.013
	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

<b>Heat pump space cooling</b>		MHC-V16WD2N8-C	MHC-V12WD2RN8-C	MHC-V14WD2RN8-C	MHC-V16WD2RN8-C	
Part load conditions space cooling : medium temperature application@18°C		Outdoor				
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	15.34	12.10	14.03	15.34
	EERd (declared EER)	-	4.33	4.77	4.55	4.33
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	11.44	9.24	10.60	11.44
	EERd (declared EER)	-	6.14	6.67	6.43	6.14
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	7.93	5.83	7.08	7.93
	EERd (declared EER)	-	8.95	9.38	8.93	8.95
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	3.89	3.86	3.89	3.89
	EERd (declared EER)	-	9.38	9.38	9.38	9.38
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m <sup>3</sup> /h]	5200	5200	5200	5200
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.013	0.006	0.006	0.006
	Pto (Power consumption Thermostat off mode)	[kW]	0.005	0.006	0.006	0.006
	Psb (Power consumption Standby mode)	[kW]	0.013	0.006	0.006	0.006
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/
	Qtuel (Daily fuel consumption)	[kWh]	/	/	/	/

## Product fiche 8

Outdoor unit	Ambient Temperature: 35/24 Water temperature: 23/18			Ambient Temperature: 35/24 Water temperature: 12/7			Ambient Temperature: 7/6 Water temperature: 30/35			Ambient Temperature: 2/1 Water temperature: 30/35		
	Capacity kW	Power input kW	EER	Capacity kW	Power input kW	EER	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP
MHC-V5WD2N8-C	6.50	1.275	5.10	5.50	1.692	3.25	6.50	1.226	5.30	5.60	1.333	4.20
MHC-V7WD2N8-C	8.30	1.711	4.85	7.40	2.349	3.15	8.40	1.663	5.05	7.10	1.797	3.95
MHC-V9WD2N8-C	10.00	2.326	4.30	9.00	3.103	2.90	10.00	2.128	4.70	8.20	2.158	3.80
MHC-V12WD2N8-C	12.20	2.652	4.60	11.60	3.742	3.10	12.20	2.490	4.90	12.30	3.417	3.60
MHC-V12WD2RN8-C	12.20	2.652	4.60	11.60	3.742	3.10	12.20	2.490	4.90	12.30	3.417	3.60
MHC-V14WD2N8-C	13.90	3.159	4.40	13.40	4.573	2.93	14.10	3.000	4.70	13.00	3.714	3.50
MHC-V14WD2RN8-C	13.90	3.159	4.40	13.40	4.573	2.93	14.10	3.000	4.70	13.00	3.714	3.50
MHC-V16WD2N8-C	15.40	3.667	4.20	14.00	4.828	2.90	16.00	3.556	4.50	14.50	4.462	3.25
MHC-V16WD2RN8-C	15.40	3.667	4.20	14.00	4.828	2.90	16.00	3.556	4.50	14.50	4.462	3.25

Outdoor unit	Ambient Temperature: -7/-8 Water temperature: 30/35			Ambient Temperature: 7/6 Water temperature: 40/45			Ambient Temperature: 2/1 Water temperature: 40/45			Ambient Temperature: -7/-8 Water temperature: 40/45		
	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP
MHC-V5WD2N8-C	6.20	1.938	3.20	6.60	1.650	4.00	6.50	2.063	3.15	6.10	2.346	2.60
MHC-V7WD2N8-C	7.10	2.254	3.15	8.50	2.237	3.80	7.50	2.459	3.05	6.80	2.720	2.50
MHC-V9WD2N8-C	8.00	2.667	3.00	10.20	2.795	3.65	8.50	2.881	2.95	7.40	3.083	2.40
MHC-V12WD2N8-C	11.60	4.070	2.85	12.50	3.378	3.70	12.00	4.138	2.90	11.50	4.792	2.40
MHC-V12WD2RN8-C	11.60	4.070	2.85	12.50	3.378	3.70	12.00	4.138	2.90	11.50	4.792	2.40
MHC-V14WD2N8-C	12.50	4.464	2.80	14.50	4.085	3.55	13.00	4.643	2.80	12.50	5.435	2.30
MHC-V14WD2RN8-C	12.50	4.464	2.80	14.50	4.085	3.55	13.00	4.643	2.80	12.50	5.435	2.30
MHC-V16WD2N8-C	13.50	5.000	2.70	16.20	4.696	3.45	14.30	5.296	2.70	13.50	6.000	2.25
MHC-V16WD2RN8-C	13.50	5.000	2.70	16.20	4.696	3.45	14.30	5.296	2.70	13.50	6.000	2.25

Outdoor unit	Ambient Temperature: 7/6 Water temperature: 47/55			Ambient Temperature: 2/1 Water temperature: 47/55			Ambient Temperature: -7/-8 Water temperature: 47/55		
	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP
MHC-V5WD2N8-C	6.30	1.969	3.20	6.30	2.250	2.80	5.70	2.651	2.15
MHC-V7WD2N8-C	8.20	2.603	3.15	7.60	2.815	2.70	6.60	3.143	2.10
MHC-V9WD2N8-C	9.40	3.032	3.10	8.40	3.170	2.65	7.20	3.512	2.05
MHC-V12WD2N8-C	12.00	4.000	3.00	12.00	5.106	2.35	10.80	5.143	2.10
MHC-V12WD2RN8-C	12.00	4.000	3.00	12.00	5.106	2.35	10.80	5.143	2.10
MHC-V14WD2N8-C	14.00	4.746	2.95	13.00	5.603	2.32	11.70	5.625	2.08
MHC-V14WD2RN8-C	14.00	4.746	2.95	13.00	5.603	2.32	11.70	5.625	2.08
MHC-V16WD2N8-C	16.00	5.614	2.85	13.50	5.870	2.30	12.80	6.244	2.05
MHC-V16WD2RN8-C	16.00	5.614	2.85	13.50	5.870	2.30	12.80	6.244	2.05

# ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation	ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011		
Model Name	ZKSN-170-8-3L	Rev.	
Prepare by			

## Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	28.6%
2	Overall efficiency ( $\eta_e$ ) =	34.0%
3	Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$ )	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =45.4
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	0.156kw
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.290m <sup>3</sup> /s
10.3	Rated motor pressure(s) at optimum energy efficiency	36Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	750r/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	SHISHISHI TONGDA MOTOR 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	ZKSN-170-8-3L	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	28.5%
2	Overall efficiency ( $\eta_e$ ) =	33.9%
3	Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$ )	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =45.4
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	0.153kw
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.248m <sup>3</sup> /s
10.3	Rated motor pressure(s) at optimum energy efficiency	36Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	750r/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	ZKSN-200-10-2L	Rev.	
Prepare by			

## Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	29.1%
2	Overall efficiency ( $\eta_e$ ) =	33.6%
3	Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$ )	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	1.292m <sup>3</sup> /s
10.3	Rated motor pressure(s) at optimum energy efficiency	43Pa
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	ZKSN-200-10-2L	Rev.	
Prepare by			

## Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	28.9%
2	Overall efficiency ( $\eta_e$ ) =	33.0%
3	Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$ )	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =44.1
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	0.178kw
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.420m <sup>3</sup> /s
10.3	Rated motor pressure(s) at optimum energy efficiency	36Pa
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	JIANGSU SHANGQI GROUP CO., LTD.



# 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)
C	赵浩伟	21. 11. 30	升级参数	P1\ P5-11页

