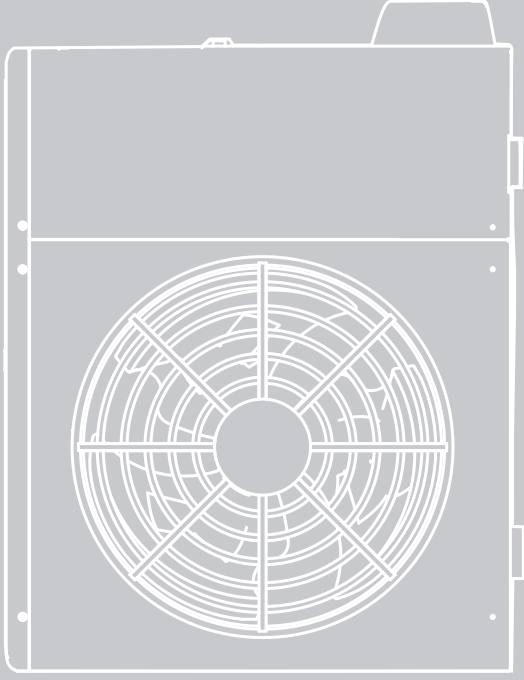


TECHNICAL DATA MANUAL AND ENERGY EFFICIENCY

M-thermal Split Outdoor Unit



IMPORTANT NOTE:

Please read this manual carefully and keep it for future reference.
All the pictures in this manual are for illustrations purpose only.

Model		For medium - temperature application											
Outdoor unit	Indoor unit	Energy efficiency class	Indoor unit sound power	Outdoor unit sound power	average climate			colder climate			warmer climate		
					Rated heat output	Seasonal space heating efficiency	For space heating, annual energy consumption	Rated heat output	Seasonal space heating efficiency	For space heating, annual energy consumption	Rated heat output	Seasonal space heating efficiency	For space heating, annual energy consumption
		-	dB	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh
MHA-V3WD2N8M-C	HB-A60CGN8M-C	A++	38	57	4.0	125.7	2569	3.1	95.9	3090	3.4	146.1	1211
MHA-V3WD2N8M-C	HB-A60CD***GN8M-C	A++	38	57	4.0	125.7	2569	3.1	95.9	3090	3.4	146.1	1211
MHA-V4WD2N8M-C	HB-A60CGN8M-C	A++	38	58	4.6	127.6	2911	4.0	102.3	3745	4.6	152.5	1608
MHA-V4WD2N8M-C	HB-A60CD***GN8M-C	A++	38	58	4.6	127.6	2911	4.0	102.3	3745	4.6	152.5	1608
MHA-V6WD2N8M-C	HB-A60CGN8M-C	A++	38	61	5.9	126.8	3757	5.2	102.6	4802	6.2	152.0	2048
MHA-V6WD2N8M-C	HB-A60CD***GN8M-C	A++	38	61	5.9	126.8	3757	5.2	102.6	4802	6.2	152.0	2048
MHA-V8WD2N8M-C	HB-A100CGN8M-C	A++	43	63	7.9	138.8	4617	6.2	111.3	5389	8.2	172.2	2505
MHA-V8WD2N8M-C	HB-A100CD***GN8M-C	A++	43	63	7.9	138.8	4617	6.2	111.3	5389	8.2	172.2	2505
MHA-V10WD2N8M-C	HB-A100CGN8M-C	A++	43	65	8.8	139.7	5072	7.2	114.1	6097	9.3	175.5	2779
MHA-V10WD2N8M-C	HB-A100CD***GN8M-C	A++	43	65	8.8	139.7	5072	7.2	114.1	6097	9.3	175.5	2779
MHA-V12WD2N8M-C	HB-A160CGN8M-C	A++	43	69	12.3	138.2	7222	11.2	121.9	8843	12.1	168.4	3761
MHA-V12WD2N8M-C	HB-A160CD***GN8M-C	A++	43	69	12.3	138.2	7222	11.2	121.9	8843	12.1	168.4	3761
MHA-V14WD2N8M-C	HB-A160CGN8M-C	A++	43	69	12.3	138.2	7222	11.2	121.9	8843	12.1	168.4	3761
MHA-V14WD2N8M-C	HB-A160CD***GN8M-C	A++	43	69	12.3	138.2	7222	11.2	121.9	8843	12.1	168.4	3761
MHA-V16WD2N8M-C	HB-A160CGN8M-C	A++	43	71	13.5	137.7	7938	12.5	122.4	9792	14.4	172.5	4374
MHA-V16WD2N8M-C	HB-A160CD***GN8M-C	A++	43	71	13.5	137.7	7938	12.5	122.4	9792	14.4	172.5	4374
MHA-V14WD2RN8M-C	HB-A160CGN8M-C	A++	43	71	13.5	137.7	7938	12.5	122.4	9792	14.4	172.5	4374
MHA-V14WD2RN8M-C	HB-A160CD***GN8M-C	A++	43	71	13.5	137.7	7938	12.5	122.4	9792	14.4	172.5	4374
MHA-V16WD2RN8M-C	HB-A160CGN8M-C	A++	43	71	14.5	138.8	8466	13.4	121.4	10645	14.8	173.8	4463
MHA-V16WD2RN8M-C	HB-A160CD***GN8M-C	A++	43	71	14.5	138.8	8466	13.4	121.4	10645	14.8	173.8	4463
MHA-V16WD2RN8M-C	HB-A160CGN8M-C	A++	43	71	14.5	138.8	8466	13.4	121.4	10645	14.8	173.8	4463
MHA-V16WD2RN8M-C	HB-A160CD***GN8M-C	A++	43	71	14.5	138.8	8466	13.4	121.4	10645	14.8	173.8	4463

Unit type explanation:

- 1.HB-A***CGN8M-C, without back-up heater,
- 2.HB-A***CD30GN8M-C, with 3kW back-up heater and 1-Phase power source
- 3.HB-A***CDS60GN8M-C, with 6kW back-up heater and 3-Phase power source
- 4.HB-A***CDS90GN8M-C, with 9kW back-up heater and 3-Phase power source

Model		For low - temperature application											
Outdoor unit	Indoor unit	Energy efficiency class	Indoor unit sound power dB	Outdoor unit sound power dB	average climate			colder climate			warmer climate		
					Rated heat output kW	Seasonal space heating efficiency %	For space heating, annual energy consumption kWh	Rated heat output kW	Seasonal space heating efficiency %	For space heating, annual energy consumption kWh	Rated heat output kW	Seasonal space heating efficiency %	For space heating, annual energy consumption kWh
MHA-V3WD2N8M-C	HB-A60CGN8M-C	A+++	38	57	3.4	180.0	1523	3.3	148.0	2155	3.4	225.8	805
MHA-V3WD2N8M-C	HB-A60CD***GN8M-C	A+++	38	57	3.4	180.0	1523	3.3	148.0	2155	3.4	225.8	805
MHA-V4WD2N8M-C	HB-A60CGN8M-C	A+++	38	58	4.5	183.4	2006	4.5	154.9	2810	4.6	238.4	1012
MHA-V4WD2N8M-C	HB-A60CD***GN8M-C	A+++	38	58	4.5	183.4	2006	4.5	154.9	2810	4.6	238.4	1012
MHA-V6WD2N8M-C	HB-A60CGN8M-C	A+++	38	61	5.9	178.2	2691	6.0	153.2	3762	6.0	221.6	1427
MHA-V6WD2N8M-C	HB-A60CD***GN8M-C	A+++	38	61	5.9	178.2	2691	6.0	153.2	3762	6.0	221.6	1427
MHA-V8WD2N8M-C	HB-A100CGN8M-C	A+++	43	63	7.9	193.2	3342	7.3	161.7	4371	8.2	262.4	1651
MHA-V8WD2N8M-C	HB-A100CD***GN8M-C	A+++	43	63	7.9	193.2	3342	7.3	161.7	4371	8.2	262.4	1651
MHA-V10WD2N8M-C	HB-A100CGN8M-C	A+++	43	65	9.2	191.0	3901	8.1	162.0	4839	9.2	266.2	1832
MHA-V10WD2N8M-C	HB-A100CD***GN8M-C	A+++	43	65	9.2	191.0	3901	8.1	162.0	4839	9.2	266.2	1832
MHA-V12WD2N8M-C	HB-A160CGN8M-C	A+++	43	69	12.4	190.6	5334	12.3	162.5	7329	12.1	237.7	2687
MHA-V12WD2N8M-C	HB-A160CD***GN8M-C	A+++	43	69	12.4	190.6	5334	12.3	162.5	7329	12.1	237.7	2687
MHA-V14WD2N8M-C	HB-A160CGN8M-C	A+++	43	71	14.2	189.3	6083	14.2	164.2	8362	13.1	233.2	2964
MHA-V14WD2N8M-C	HB-A160CD***GN8M-C	A+++	43	71	14.2	189.3	6083	14.2	164.2	8362	13.1	233.2	2964
MHA-V16WD2N8M-C	HB-A160CGN8M-C	A+++	43	71	14.2	189.3	6083	14.2	164.2	8362	13.1	233.2	2964
MHA-V16WD2N8M-C	HB-A160CD***GN8M-C	A+++	43	71	14.2	189.3	6083	14.2	164.2	8362	13.1	233.2	2964
MHA-V16WD2N8M-C	HB-A160CGN8M-C	A+++	43	71	15.3	189.1	6598	15.3	164.8	8971	14.1	237.2	3128
MHA-V16WD2N8M-C	HB-A160CD***GN8M-C	A+++	43	71	15.3	189.1	6598	15.3	164.8	8971	14.1	237.2	3128
MHA-V16WD2N8M-C	HB-A160CGN8M-C	A+++	43	71	15.3	189.1	6598	15.3	164.8	8971	14.1	237.2	3128
MHA-V16WD2N8M-C	HB-A160CD***GN8M-C	A+++	43	71	15.3	189.1	6598	15.3	164.8	8971	14.1	237.2	3128

Unit type explanation:

- 1.HB-A***CGN8M-C, without back-up heater,
- 2.HB-A***CD30GN8M-C, with 3kW back-up heater and 1-Phase power source
- 3.HB-A***CDS60GN8M-C, with 6kW back-up heater and 3-Phase power source
- 4.HB-A***CDS90GN8M-C, with 9kW back-up heater and 3-Phase power source

Product fiche 1

Heat pump space heater		Outdoor		MHA-V3WD2N8M-C	MHA-V4WD2N8M-C	MHA-V6WD2N8M-C	MHA-V8WD2N8M-C	MHA-V10WD2N8M-C	MHA-V12WD2N8M-C
		Indoor	Indoor	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A100CGN8M-C HB-A100CD***GN8M-C	HB-A100CGN8M-C HB-A100CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C
Indoor unit sound power (*)				38	38	38	43	43	43
Outdoor unit sound power (*)				57	58	61	63	65	69
Average climate low temperature application									
Average climate medium temperature application									
Capacity of the back-up heater integrated in the unit				0/3/6/9	0/3/6/9	0/3/6/9	0/3/6/9	0/3/6/9	0/3/6/9
Space heating				A+++	A+++	A+++	A+++	A+++	A+++
Energy efficiency class 35°C (Low temp. app.)				A+++	A+++	A+++	A+++	A+++	A+++
Energy efficiency class 55°C (Medium temp. app.)				A++	A++	A++	A++	A++	A++
Average climate (Design temperature = -10°C)									
Prated (declared heating capacity) @ -10°C	[kW]			3.4	4.5	5.9	7.9	9.2	12.4
Seasonal space heating efficiency (ηs)	[%]			180.0	183.4	178.2	193.2	191.0	190.6
Annual energy consumption	[kWh]			1523	2006	2691	3342	3901	5334
Prated (declared heating capacity) @ -10°C	[kW]			4.0	4.6	5.9	7.9	8.8	12.3
Seasonal space heating efficiency (ηs)	[%]			125.7	127.6	126.8	138.8	139.7	138.2
Annual energy consumption	[kWh]			2569	2911	3757	4617	5072	7222
Part load conditions space heating average climate low temperature application									
Pdh (declared heating capacity)	[kW]			2.98	4.01	5.20	7.02	8.10	11.06
COPd (declared COP)	-			3.10	3.07	2.99	3.15	2.96	3.02
Cdh(degradation coefficient)	-			0.90	0.90	0.90	0.90	0.90	0.90
Pdh (declared heating capacity)	[kW]			1.86	2.53	3.17	4.40	5.13	6.91
COPd (declared COP)	-			4.51	4.53	4.44	4.77	4.66	4.74
Cdh(degradation coefficient)	-			0.90	0.90	0.90	0.90	0.90	0.90
Pdh (declared heating capacity)	[kW]			1.72	1.72	2.54	2.88	3.22	5.09
COPd (declared COP)	-			5.95	5.95	5.63	6.42	6.62	6.54
Cdh(degradation coefficient)	-			0.90	0.90	0.90	0.90	0.90	0.90
Pdh (declared heating capacity)	[kW]			2.10	2.11	3.11	3.42	3.39	5.82
COPd (declared COP)	-			8.22	8.36	7.84	8.49	9.24	8.20
Cdh(degradation coefficient)	-			0.90	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	-10.00
Pdh (declared heating capacity)	[kW]			3.57	4.51	5.81	7.50	8.07	11.87
COPd (declared COP)	-			2.72	2.67	2.63	2.79	2.73	2.77
WTOL (Heating water Operation Limit)	[°C]			65	65	65	65	65	65

Product fiche 1

Heat pump space heater		Outdoor		MHA-V14WD2N8M-C	MHA-V16WD2N8M-C	MHA-V12WD2RN8M-C	MHA-V14WD2RN8M-C	MHA-V16WD2RN8M-C
		Indoor		HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C
Indoor unit sound power (*)			dB	43	43	43	43	43
Outdoor unit sound power (*)	Average climate low temperature application		dB	71	71	69	71	71
	Average climate medium temperature application		dB	71	71	69	71	71
Capacity of the back-up heater integrated in the unit	Psup back-up heater (optional)		[kW]	0/3/6/9	0/3/6/9	0/3/6/9	0/3/6/9	0/3/6/9
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]	14.2	15.3	12.5	14.2	15.3
	Seasonal space heating efficiency (ηs)		[%]	189.3	189.1	190.6	189.3	189.1
	Annual energy consumption		[kWh]	6083	6598	5334	6083	6598
Space heating 55°C	Prated (declared heating capacity) @ -10°C		[kW]	13.5	14.5	12.3	13.5	14.5
	Seasonal space heating efficiency (ηs)		[%]	137.7	138.8	138.2	137.7	138.8
	Annual energy consumption		[kWh]	7938	8466	7222	7938	8466
Part load conditions space heating average climate low temperature application								
(A) condition (-7°C)	Pdh (declared heating capacity)		[kW]	12.53	13.58	11.06	12.53	13.58
	COPd (declared COP)		-	2.90	2.83	3.02	2.90	2.83
	Cdh(degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)		[kW]	7.86	8.30	6.91	7.86	8.30
	COPd (declared COP)		-	4.64	4.67	4.74	4.64	4.67
	Cdh(degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)		[kW]	5.12	5.56	5.09	5.12	5.56
	COPd (declared COP)		-	6.76	6.92	6.54	6.76	6.92
	Cdh(degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)		[kW]	5.83	5.89	5.82	5.83	5.89
	COPd (declared COP)		-	8.27	8.41	8.20	8.27	8.41
	Cdh(degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90
(E) ToI (temperature operating limit)	ToI (temperature operating limit)		[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)		[kW]	12.88	13.88	11.87	12.88	13.88
	COPd (declared COP)		-	2.65	2.52	2.77	2.65	2.52
WTOL (Heating water Operation Limit)			[°C]	65	65	65	65	65

Product fiche 2

Heat pump space heater		Outdoor		MHA-V3WD2N8M-C	MHA-V4WD2N8M-C	MHA-V6WD2N8M-C	MHA-V8WD2N8M-C	MHA-V10WD2N8M-C	MHA-V12WD2N8M-C
		Indoor		HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A100CGN8M-C HB-A100CD***GN8M-C	HB-A100CGN8M-C HB-A100CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C
(F) Tbiivalent temperature at P _{-design}	Tblv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	2.98	4.01	5.20	7.02	8.10	11.06	
	COPd (declared COP)	-	3.10	3.07	2.99	3.15	2.96	3.02	
Supplementary capacity at P _{-design}	Psup (@Tdesignh: -10°C)	[kW]	0.00	0.00	0.09	0.44	1.08	0.53	
Part load conditions space heating average climate medium temperature application									
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	3.60	4.09	5.26	7.01	7.75	10.92	
	COPd (declared COP)	-	2.14	2.07	2.08	2.21	2.19	2.17	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.30	2.58	3.34	4.36	4.77	6.83	
	COPd (declared COP)	-	3.11	3.14	3.32	3.55	3.55	3.53	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.52	1.70	2.24	2.82	3.06	4.76	
	COPd (declared COP)	-	4.15	4.31	3.80	4.51	4.64	4.74	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.93	1.96	2.94	3.05	3.06	5.43	
	COPd (declared COP)	-	6.14	6.39	5.96	6.23	6.31	5.85	
	Cdh(degradation coefficient)	-	0.90	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	-10.00	
	Pdh (declared heating capacity)	[kW]	2.98	3.95	5.19	5.85	6.27	9.31	
	COPd (declared COP)	-	1.69	1.70	1.77	1.81	1.77	1.74	
(F) Tbiivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65	
	Tblv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	
	Pdh (declared heating capacity)	[kW]	3.60	4.09	5.40	7.01	7.75	10.92	
Supplementary capacity at P _{-design}	Psup (@Tdesignh: -10°C)	[kW]	2.14	2.07	2.08	2.21	2.19	2.17	
Colder climate (Design temperature = -22°C)									
Space heating 35°C	Prated (declared heating capacity) @ -22°C	[kW]	3.3	4.5	6.0	7.3	8.1	12.3	
	Seasonal space heating efficiency (ηs)	[%]	148.0	154.9	153.2	161.7	162.0	162.5	
	Annual energy consumption	[kWh]	2155	2810	3762	4371	4839	7329	

Product fiche 2

Heat pump space heater		Outdoor	MHA-V14WD2N8M-C	MHA-V16WD2N8M-C	MHA-V12WD2R8M-C	MHA-V14WD2R8M-C	MHA-V16WD2R8M-C	MHA-V14WD2R8M-C	MHA-V16WD2R8M-C
		Indoor	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C
(F) Tivalent temperature	Tblv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	12.53	13.58	11.06	12.53	13.58	11.06	12.53
Supplementary capacity at P_design	COPd (declared COP)	-	2.90	2.83	3.02	2.90	2.83	3.02	2.90
	Psup (@Tdesignh: -10°C)	[kW]	1.28	1.46	0.63	1.28	1.46	0.63	1.28
Part load conditions space heating average climate medium temperature application									
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	11.96	12.85	10.92	11.96	12.85	10.92	11.96
	COPd (declared COP)	-	2.10	2.09	2.17	2.10	2.09	2.17	2.10
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	7.58	8.20	6.83	7.58	8.20	6.83	7.58
	COPd (declared COP)	-	3.48	3.49	3.53	3.48	3.49	3.53	3.48
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	4.76	5.09	4.76	4.76	5.09	4.76	4.76
	COPd (declared COP)	-	4.82	4.95	4.74	4.82	4.95	4.74	4.82
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	5.40	5.42	5.43	5.40	5.42	5.43	5.40
	COPd (declared COP)	-	5.88	5.93	5.85	5.88	5.93	5.85	5.88
	Cdh(degradation coefficient)	-	0.90	0.90	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	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	9.85	10.73	9.31	9.85	10.73	9.31	9.85
	COPd (declared COP)	-	1.74	1.72	1.74	1.74	1.72	1.74	1.74
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65	65
	Tblv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	11.96	12.85	10.92	11.96	12.85	10.92	11.96
Supplementary capacity at P_design	COPd (declared COP)	-	2.10	2.09	2.17	2.10	2.09	2.17	2.10
	Psup (@Tdesignh: -10°C)	[kW]	3.67	3.79	3.04	3.67	3.79	3.04	3.67
Colder climate (Design temperature = -22°C)									
Space heating 35°C	Prated (declared heating capacity) @ -22°C	[kW]	14.2	15.3	12.3	14.2	15.3	12.3	14.2
	Seasonal space heating efficiency (ηs)	[%]	164.2	164.8	162.5	164.2	164.8	162.5	164.2
	Annual energy consumption	[kWh]	8362	8971	7329	8362	8971	7329	8362

Product fiche 3

Heat pump space heater		Outdoor						
		MHA-V3WD2N8M-C	MHA-V4WD2N8M-C	MHA-V6WD2N8M-C	MHA-V8WD2N8M-C	MHA-V10WD2N8M-C	MHA-V12WD2N8M-C	
Space heating 55°C	Prated (declared heating capacity) @ -22°C	3.1	4.0	5.2	6.2	7.2	11.2	
	Seasonal space heating efficiency (ηs)	95.9	102.3	102.6	111.3	114.1	121.9	
	Annual energy consumption	3090	3745	4802	5389	6097	8843	
Part load conditions space heating colder climate low temperature application								
(A) condition (-7°C)	Pdh (declared heating capacity)	2.09	2.79	3.59	4.62	4.98	7.82	
	COPd (declared COP)	3.31	3.42	3.35	3.60	3.71	3.57	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	
(B) condition (2°C)	Pdh (declared heating capacity)	1.33	1.83	2.47	2.69	3.02	4.53	
	COPd (declared COP)	4.27	4.69	4.77	4.78	4.70	4.96	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	
(C) condition (7°C)	Pdh (declared heating capacity)	1.64	1.66	2.44	2.66	2.67	4.94	
	COPd (declared COP)	6.01	6.20	5.90	6.53	6.63	6.59	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	
(D) condition (12°C)	Pdh (declared heating capacity)	1.95	1.95	3.00	3.35	3.37	5.45	
	COPd (declared COP)	7.75	7.75	7.63	8.81	8.92	7.43	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	
(E) ToI (temperature operating limit)	ToI (temperature operating limit)	-22.00	-22.00	-22.00	-22.00	-22.00	-22.00	
	Pdh (declared heating capacity)	2.90	3.15	3.50	4.66	5.36	8.22	
	COPd (declared COP)	2.23	1.93	1.65	1.94	1.95	1.99	
(F) Tbilv trivalent temperature	WTOL (Heating water Operation Limit)	65	65	65	65	65	65	
	Tbilv	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00	
	Pdh (declared heating capacity)	2.71	3.67	4.87	5.94	6.64	10.04	
Supplementary capacity at P_design	COPd (declared COP)	2.50	2.51	2.49	2.69	2.58	2.61	
	Psup (@Tdesignh: -22°C)	0.43	1.35	2.47	2.62	2.78	4.08	
Part load conditions space heating colder climate medium temperature application								
(A) condition (-7°C)	Pdh (declared heating capacity)	1.98	2.47	3.38	3.85	4.52	6.91	
	COPd (declared COP)	2.23	2.29	2.35	2.46	2.55	2.69	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	

Product fiche 3

Heat pump space heater		Outdoor					
		MHA-V14WD2N8M-C	MHA-V16WD2N8M-C	MHA-V12WD2RN8M-C	MHA-V14WD2RN8M-C	MHA-V16WD2RN8M-C	
Space heating 55°C	Prated (declared heating capacity) @ -22°C	12.5	13.4	11.2	12.5	13.4	
	Seasonal space heating efficiency (ηs)	122.4	121.4	121.9	122.4	121.4	
	Annual energy consumption	9792	10645	8843	9792	10645	
Part load conditions space heating colder climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	8.84	9.24	7.82	8.84	9.24	
	COPd (declared COP)	3.46	3.44	3.57	3.46	3.44	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	
(B) condition (2°C)	Pdh (declared heating capacity)	5.23	5.72	4.53	5.23	5.72	
	COPd (declared COP)	5.21	5.30	4.96	5.21	5.30	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	
(C) condition (7°C)	Pdh (declared heating capacity)	4.96	5.01	4.94	4.96	5.01	
	COPd (declared COP)	6.70	6.83	6.59	6.70	6.83	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	
(D) condition (12°C)	Pdh (declared heating capacity)	5.56	5.59	5.45	5.56	5.59	
	COPd (declared COP)	7.57	7.63	7.43	7.57	7.63	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	-22.00	-22.00	-22.00	-22.00	-22.00	
	Pdh (declared heating capacity)	9.18	9.97	8.22	9.18	9.97	
	COPd (declared COP)	2.01	1.97	1.99	2.01	1.97	
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	65	65	65	65	65	
	Tblv	-15.00	-15.00	-15.00	-15.00	-15.00	
	Pdh (declared heating capacity)	11.57	12.45	10.04	11.57	12.45	
Supplementary capacity at P_design	COPd (declared COP)	2.52	2.43	2.61	2.52	2.43	
	Psup (@Tdesign: -22°C)	5.00	5.29	4.08	5.00	5.29	
Part load conditions space heating colder climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	7.70	8.32	6.91	7.70	8.32	
	COPd (declared COP)	2.69	2.68	2.69	2.69	2.68	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	

Product fiche 4

Heat pump space heater		Outdoor		MHA-V3WD2N8M-C	MHA-V4WD2N8M-C	MHA-V6WD2N8M-C	MHA-V8WD2N8M-C	MHA-V10WD2N8M-C	MHA-V12WD2N8M-C
		Indoor		HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A100CGN8M-C HB-A100CD***GN8M-C	HB-A100CGN8M-C HB-A100CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	1.24	1.76	2.07	2.39	2.70	4.31	
	COPd (declared COP)	-	2.71	3.07	3.01	3.27	3.32	3.91	
(C) condition (7°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
	Pdh (declared heating capacity)	[kW]	1.49	1.50	2.19	2.43	2.44	4.93	
(D) condition (12°C)	COPd (declared COP)	-	4.43	4.55	4.28	4.78	4.85	5.10	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
(E) Tol (temperature operating limit)	Pdh (declared heating capacity)	[kW]	1.91	1.91	2.79	2.94	2.92	5.84	
	COPd (declared COP)	-	6.30	6.24	6.03	6.27	6.29	6.49	
(F) Tblvalent temperature	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
	Tol (temperature operating limit)	[°C]	-18.00	-18.00	-22.00	-22.00	-22.00	-22.00	
Supplementary capacity at P_design	Pdh (declared heating capacity)	[kW]	2.30	2.30	2.22	2.84	2.84	4.42	
	COPd (declared COP)	-	1.25	1.25	1.06	1.17	1.17	1.10	
Warmer climate (Design temperature = 2°C)	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65	
	Tblv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00	
Space heating 35°C	Pdh (declared heating capacity)	[kW]	2.52	3.27	4.20	5.10	5.91	9.14	
	COPd (declared COP)	-	1.64	1.75	1.67	1.93	1.99	1.74	
Space heating 55°C	Psup (@Tdesignh: -22°C)	[kW]	3.10	4.00	2.93	3.40	4.40	6.78	
	Prated (declared heating capacity) @ 2°C	[kW]	3.4	4.6	6.0	8.2	9.2	12.1	
Part load conditions space heating warmer climate low temperature application	Seasonal space heating efficiency (ηs)	[%]	225.8	238.4	221.6	262.4	266.2	237.7	
	Annual energy consumption	[kWh]	805	1012	1427	1651	1832	2687	
(B) condition (2°C)	Prated (declared heating capacity) @ 2°C	[kW]	3.4	4.6	6.2	8.2	9.3	12.1	
	Seasonal space heating efficiency (ηs)	[%]	146.1	152.5	152.0	172.2	175.5	168.4	
(C) condition (7°C)	Annual energy consumption	[kWh]	1211	1608	2048	2505	2779	3773	
	Pdh (declared heating capacity)	[kW]	3.27	4.42	5.40	7.78	8.71	11.97	
(C) condition (7°C)	COPd (declared COP)	-	4.02	3.83	3.72	3.72	3.59	3.69	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.22	2.94	3.88	5.29	5.94	7.82	
	COPd (declared COP)	-	5.54	5.63	5.28	6.03	5.93	5.88	
(C) condition (7°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	

Product fiche 4

Heat pump space heater		Outdoor		MHA-V14WD2N8M-C	MHA-V16WD2N8M-C	MHA-V12WD2RN8M-C	MHA-V14WD2RN8M-C	MHA-V16WD2RN8M-C
		Indoor		HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.75	4.98	4.31	4.75	4.98	
	COPd (declared COP)	-	3.92	3.79	3.91	3.92	3.79	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	4.97	5.00	4.93	4.97	5.00	
	COPd (declared COP)	-	5.20	5.28	5.10	5.20	5.28	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	5.87	5.86	5.84	5.87	5.86	
	COPd (declared COP)	-	6.56	6.58	6.49	6.56	6.58	
	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]	4.66	5.08	4.42	4.66	5.08	
	COPd (declared COP)	-	1.09	1.09	1.10	1.09	1.09	
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	
	Tblv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00	
	Pdh (declared heating capacity)	[kW]	10.17	10.96	9.14	10.17	10.96	
Supplementary capacity at P_design	COPd (declared COP)	-	1.74	1.78	1.74	1.74	1.78	
	Psup (@Tdesignh: -22°C)	[kW]	7.79	8.34	6.78	7.79	8.34	
Warmer climate (Design temperature = 2°C)								
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	13.1	14.1	12.1	13.1	14.1	
	Seasonal space heating efficiency (ηs)	[%]	233.2	237.2	237.7	233.2	237.2	
	Annual energy consumption	[kWh]	2964	3128	2687	2964	3128	
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	14.4	14.8	12.1	14.4	14.8	
	Seasonal space heating efficiency (ηs)	[%]	172.5	173.8	168.4	172.5	173.8	
	Annual energy consumption	[kWh]	4374	4463	3773	4374	4463	
Part load conditions space heating warmer climate low temperature application								
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	12.90	13.94	11.97	12.90	13.94	
	COPd (declared COP)	-	3.45	3.40	3.69	3.45	3.40	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	8.45	9.04	7.82	8.45	9.04	
	COPd (declared COP)	-	5.62	5.69	5.88	5.62	5.69	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	

Product fiche 5

Heat pump space heater		Outdoor		MHA-V3WD2N8M-C	MHA-V4WD2N8M-C	MHA-V6WD2N8M-C	MHA-V8WD2N8M-C	MHA-V10WD2N8M-C	MHA-V12WD2N8M-C
		Indoor		HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A100CGN8M-C HB-A100CD***GN8M-C	HB-A100CGN8M-C HB-A100CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.91	1.93	2.94	3.36	3.43	5.34	
	COPd (declared COP)	-	7.43	7.70	7.46	8.80	9.22	7.09	
(E) Tol (temperature operating limit)	Cdh(degradation coefficient)	-	0.90	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	2.00	
	Pdh (declared heating capacity)	[kW]	3.27	4.42	5.40	7.78	8.71	11.97	
	COPd (declared COP)	-	4.02	3.83	3.72	3.72	3.59	3.69	
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65	
	Tblv	[°C]	7.00	7.00	7.00	7.00	7.00	7.00	
Supplementary capacity at P_design	Pdh (declared heating capacity)	[kW]	2.22	2.94	3.88	5.29	5.94	7.82	
	COPd (declared COP)	-	5.54	5.63	5.28	6.03	5.93	5.88	
Part load conditions space heating warmer climate medium temperature application			0.13	0.15	0.64	0.45	0.52	0.13	
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	3.24	4.24	5.56	7.33	8.15	11.94	
	COPd (declared COP)	-	2.33	2.35	2.19	2.56	2.52	2.50	
(C) condition (7°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
	Pdh (declared heating capacity)	[kW]	2.17	3.01	3.99	5.28	5.97	7.77	
(D) condition (12°C)	COPd (declared COP)	-	3.22	3.46	3.57	3.89	3.91	3.86	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
	Pdh (declared heating capacity)	[kW]	1.86	1.92	2.67	3.01	3.04	5.22	
	COPd (declared COP)	-	5.26	5.54	5.25	5.83	6.05	5.43	
(E) Tol (temperature operating limit)	Cdh(degradation coefficient)	-	0.90	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	2.00	
	Pdh (declared heating capacity)	[kW]	3.24	4.24	5.56	7.33	8.15	11.94	
	COPd (declared COP)	-	2.33	2.35	2.19	2.56	2.52	2.50	
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65	
	Tblv	[°C]	7.00	7.00	7.00	7.00	7.00	7.00	
Supplementary capacity at P_design	Pdh (declared heating capacity)	[kW]	2.17	3.01	3.99	5.28	5.97	7.77	
	COPd (declared COP)	-	3.22	3.46	3.57	3.89	3.91	3.86	

Product fiche 5

Heat pump space heater		Outdoor					
		Indoor					
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	MHA-V14WD2N8M-C	MHA-V16WD2N8M-C	MHA-V12WD2R8M-C	MHA-V14WD2R8M-C	MHA-V16WD2R8M-C
	COPd (declared COP)	-	5.33	5.30	5.34	5.33	5.30
	Cdh(degradation coefficient)	-	7.12	7.15	7.09	7.12	7.15
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	2.00	2.00	2.00	2.00	2.00
	COPd (declared COP)	-	12.90	13.94	11.97	12.90	13.94
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	3.45	3.40	3.69	3.45	3.40
	Tblv	[°C]	65	65	65	65	65
	Pdh (declared heating capacity)	[kW]	7.00	7.00	7.00	7.00	7.00
Supplementary capacity at P_design	COPd (declared COP)	-	8.45	9.04	7.82	8.45	9.04
	Psup (@Tdesignh: 2°C)	[kW]	5.62	5.69	5.88	5.62	5.69
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	0.23	0.12	0.13	0.23	0.12
	COPd (declared COP)	-	13.07	13.57	11.94	13.07	13.57
	Cdh(degradation coefficient)	-	2.46	2.46	2.50	2.46	2.46
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	0.90	0.90	0.90	0.90	0.90
	COPd (declared COP)	-	9.24	9.49	7.77	9.24	9.49
	Cdh(degradation coefficient)	-	3.90	3.91	3.86	3.90	3.91
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	0.90	0.90	0.90	0.90	0.90
	COPd (declared COP)	-	5.44	5.44	5.22	5.44	5.44
	Cdh(degradation coefficient)	-	5.81	5.83	5.43	5.81	5.83
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	2.00	2.00	2.00	2.00	2.00
	COPd (declared COP)	-	13.07	13.57	11.94	13.07	13.57
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	2.46	2.46	2.50	2.46	2.46
	Tblv	[°C]	65	65	65	65	65
	Pdh (declared heating capacity)	[kW]	7.00	7.00	7.00	7.00	7.00
Supplementary capacity at P_design	COPd (declared COP)	-	9.24	9.49	7.77	9.24	9.49
	Psup (@Tdesignh: 2°C)	[kW]	3.90	3.91	3.86	3.90	3.91

Product fiche 6

Heat pump space heater		Outdoor	MHA-V3WD2N8M-C	MHA-V4WD2N8M-C	MHA-V6WD2N8M-C	MHA-V8WD2N8M-C	MHA-V10WD2N8M-C	MHA-V12WD2N8M-C
		Indoor	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A60CGN8M-C HB-A60CD***GN8M-C	HB-A100CGN8M-C HB-A100CD***GN8M-C	HB-A100CGN8M-C HB-A100CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No	No	No	No
	Low-temperature heat pump	Y/N	No	No	No	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Air to water unit	Heat pump combination heater	Y/N	Yes	Yes	Yes	Yes	Yes	Yes
	Rated airflow (outdoor)	[m³/h]	3300	3300	3600	5200	5200	5600
Brine/water to water unit	Rated water/brine flow (outdoor H/E)		/	/	/	/	/	/
	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
Other	Poff (Power consumption Off mode)	[kW]	0.010	0.010	0.010	0.010	0.010	0.014
	Pto (Power consumption Thermostat off mode)	[kW]	0.020	0.020	0.020	0.020	0.020	0.024
	Psb (Power consumption Standby mode)	[kW]	0.010	0.010	0.010	0.010	0.010	0.014
	PCK (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/	/
	Qfuel (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 heater		Outdoor					
		MHA-V14WD2N8M-C HB-A160CGN8M-C HB-A160CD**GN8M-C	MHA-V16WD2N8M-C HB-A160CGN8M-C HB-A160CD**GN8M-C	MHA-V12WD2RN8M-C HB-A160CGN8M-C HB-A160CD**GN8M-C	MHA-V14WD2RN8M-C HB-A160CGN8M-C HB-A160CD**GN8M-C	MHA-V16WD2RN8M-C HB-A160CGN8M-C HB-A160CD**GN8M-C	
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	Yes	Yes	Yes	Yes	Yes
Air to water unit	Rated airflow (outdoor)	[m³/h]	5600	5600	5600	5600	5600
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
	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]	/	/	/	/	/

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 7

Heat pump space cooling		Indoor unit sound power (*)							
		Outdoor	MHA-V3WD2N8M-C HB-A60CGN8M-C HB-A60CD***GN8M-C	MHA-V4WD2N8M-C HB-A60CGN8M-C HB-A60CD***GN8M-C	MHA-V6WD2N8M-C HB-A60CGN8M-C HB-A60CD***GN8M-C	MHA-V8WD2N8M-C HB-A100CGN8M-C HB-A100CD***GN8M-C	MHA-V10WD2N8M-C HB-A100CGN8M-C HB-A100CD***GN8M-C	MHA-V12WD2N8M-C HB-A160CGN8M-C HB-A160CD***GN8M-C	
Outdoor unit sound power (*)	Average climate low temperature application	dB	39	39	39	43	43	43	45
	Average climate medium temperature application	dB	57	59	61	64	65	65	69
Space cooling 7°C	Prated (declared cooling capacity) @ 35°C	dB	57	58	61	63	65	65	69
	Seasonal space cooling efficiency (ηs)	[kW]	3.4	4.4	5.3	7.4	8.4	8.4	11.6
	Annual energy consumption	[%]	212.2	220.9	188.6	208.6	203.0	203.0	195.8
	Prated (declared cooling capacity) @ 35°C	[kWh]	368.0	472	664	840	979	979	1400
Space cooling 18°C	Seasonal space cooling efficiency (ηs)	[kW]	3.5	4.5	5.6	7.7	9.1	9.1	12.0
	Annual energy consumption	[%]	326.3	335.9	269.4	309.0	297.0	297.0	277.8
	Annual energy consumption	[kWh]	255	319	494	592	728	728	1026
Part load conditions space cooling: low temperature application@7°C									
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	3.30	4.40	5.30	7.40	8.40	8.40	11.6
	EERd (declared EER)	-	3.15	2.95	2.70	2.85	2.70	2.70	2.75
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	2.50	3.27	3.97	5.55	6.30	6.30	8.62
	EERd (declared EER)	-	4.79	4.67	3.86	4.06	3.89	3.89	4.02
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	1.78	2.07	2.79	3.58	4.12	4.12	5.54
	EERd (declared EER)	-	6.38	6.71	5.92	6.26	5.94	5.94	5.86
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	1.92	1.96	2.80	2.98	3.06	3.06	5.19
	EERd (declared EER)	-	8.36	8.60	6.99	8.30	8.54	8.54	7.27
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90

Product fiche 7

Heat pump space cooling		Outdoor		MHA-V14WD2N8M-C	MHA-V16WD2N8M-C	MHA-V12WD2RN8M-C	MHA-V14WD2RN8M-C	MHA-V16WD2RN8M-C	
		Outdoor	Indoor	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	HB-A160CGN8M-C HB-A160CD***GN8M-C	MHA-V16WD2RN8M-C
Indoor unit sound power (*)		dB		45	45	45	45	45	45
Outdoor unit sound power (*)		dB		71	71	69	71	71	71
Average climate low temperature application		dB		71	71	69	71	71	71
Average climate medium temperature application		dB		71	71	69	71	71	71
Prated (declared cooling capacity) @ 35°C		[kW]		12.6	13.6	11.6	12.6	12.6	13.6
Seasonal space cooling efficiency (ηs)		[%]		193.4	188.6	195.8	193.4	188.6	188.6
Annual energy consumption		[kWh]		1541	1702	1400	1541	1702	1702
Prated (declared cooling capacity) @ 35°C		[kW]		13.3	14.2	12.0	13.3	14.2	14.2
Seasonal space cooling efficiency (ηs)		[%]		277.8	275.0	277.8	277.8	275.0	275.0
Annual energy consumption		[kWh]		1137	1226	1026	1137	1226	1226
Part load conditions space cooling : low temperature application@7°C									
(A) condition (35°C)		Pdc (declared cooling capacity)	[kW]	12.60	13.60	11.6	12.60	13.60	13.60
		EERd (declared EER)	-	2.65	2.45	2.75	2.65	2.45	2.45
		Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)		Pdc (declared cooling capacity)	[kW]	9.33	10.18	8.62	9.33	10.18	10.18
		EERd (declared EER)	-	3.94	3.79	4.02	3.94	3.79	3.79
		Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)		Pdc (declared cooling capacity)	[kW]	6.01	6.47	5.54	6.01	6.47	6.47
		EERd (declared EER)	-	5.74	5.59	5.86	5.74	5.59	5.59
		Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)		Pdc (declared cooling capacity)	[kW]	5.23	5.30	5.19	5.23	5.30	5.30
		EERd (declared EER)	-	7.28	7.40	7.27	7.28	7.40	7.40
		Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90

Product fiche 8

Heat pump space cooling

		Part load conditions space cooling : medium temperature application@18°C							
		Outdoor	MHA-V3WD2N8M-C HB-A60CGN8M-C HB-A60CD***GN8M-C	MHA-V4WD2N8M-C HB-A60CGN8M-C HB-A60CD***GN8M-C	MHA-V6WD2N8M-C HB-A60CGN8M-C HB-A60CD***GN8M-C	MHA-V8WD2N8M-C HB-A100CGN8M-C HB-A100CD***GN8M-C	MHA-V10WD2N8M-C HB-A100CGN8M-C HB-A100CD***GN8M-C	MHA-V12WD2N8M-C HB-A160CGN8M-C HB-A160CD***GN8M-C	
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	3.50	4.50	5.60	7.70	9.10	12.00	
	EERd (declared EER)	-	5.20	4.80	4.15	4.25	3.85	3.90	
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	2.60	3.41	4.25	5.74	6.97	9.02	
	EERd (declared EER)	-	7.69	7.42	6.30	6.11	5.68	6.10	
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	2.58	2.58	3.69	3.86	4.43	6.57	
	EERd (declared EER)	-	10.75	10.75	8.20	9.73	9.24	8.49	
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	2.45	2.50	3.69	3.81	3.86	6.41	
	EERd (declared EER)	-	12.23	12.61	9.81	11.69	11.84	9.80	
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	
Air to water unit	Rated airflow (outdoor)	[m³/h]	3300	3300	3600	5200	5200	5600	
Brine/water to water unit	Rated water/brine flow (outdoor H/E)		/	/	/	/	/	/	
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	
	Poff (Power consumption Off mode)	[kW]	0.010	0.010	0.010	0.010	0.010	0.014	
	Pto (Power consumption Thermostat off mode)	[kW]	0.006	0.006	0.006	0.006	0.006	0.008	
	Psb (Power consumption Standby mode)	[kW]	0.010	0.010	0.010	0.010	0.010	0.014	
	PCK (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000	0.000	
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/	/	
	Qfuel (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 8

Heat pump space cooling

		Part load conditions space cooling: medium temperature application@18°C					
		MHA-V14WD2N8M-C HB-A160CGN8M-C HB-A160CD***GN8M-C	MHA-V16WD2N8M-C HB-A160CGN8M-C HB-A160CD***GN8M-C	MHA-V12WD2RN8M-C HB-A160CGN8M-C HB-A160CD***GN8M-C	MHA-V14WD2RN8M-C HB-A160CGN8M-C HB-A160CD***GN8M-C	MHA-V16WD2RN8M-C HB-A160CGN8M-C HB-A160CD***GN8M-C	MHA-V16WD2RN8M-C HB-A160CGN8M-C HB-A160CD***GN8M-C
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	13.30	14.20	12.00	13.30	14.20
	EERd (declared EER)	-	3.80	3.61	3.90	3.80	3.61
(B) condition (30°C)	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdc (declared cooling capacity)	[kW]	9.98	10.61	9.02	9.98	10.61
(C) condition (25°C)	EERd (declared EER)	-	5.84	5.75	6.10	5.84	5.75
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	6.57	6.91	6.57	6.57	6.91
	EERd (declared EER)	-	8.49	8.40	8.49	8.49	8.40
Air to water unit	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdc (declared cooling capacity)	[kW]	6.45	6.48	6.41	6.45	6.48
Brine/water to water unit	EERd (declared EER)	-	9.89	9.90	9.80	9.89	9.90
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Other	Rated airflow (outdoor)	[m³/h]	5600	5600	5600	5600	5600
	Rated water/brine flow (outdoor H/E)		/	/	/	/	/
Capacity control	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)	Pto (Power consumption Thermostat off mode)	[kW]	0.008	0.008	0.008	0.008	0.008
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.014	0.014	0.014
PCK (Power crankcase heater model)	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)	Qfuel (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.

Outdoor unit	Indoor 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
MHA-V3WD2N8M-C	HB-A60CGN8M-C	3.50	0.67	5.20	3.30	1.05	3.15	3.30	0.66	5.00	3.20	0.81	3.95
MHA-V3WD2N8M-C	HB-A60CD***GN8M-C	3.50	0.67	5.20	3.30	1.05	3.15	3.30	0.66	5.00	3.20	0.81	3.95
MHA-V4WD2N8M-C	HB-A60CGN8M-C	4.50	0.94	4.80	4.40	1.49	2.95	4.50	0.94	4.80	4.30	1.13	3.80
MHA-V4WD2N8M-C	HB-A60CD***GN8M-C	4.50	0.94	4.80	4.40	1.49	2.95	4.50	0.94	4.80	4.30	1.13	3.80
MHA-V6WD2N8M-C	HB-A60CGN8M-C	5.60	1.35	4.15	5.30	1.96	2.70	5.80	1.23	4.70	5.30	1.45	3.65
MHA-V6WD2N8M-C	HB-A60CD***GN8M-C	5.60	1.35	4.15	5.30	1.96	2.70	5.80	1.23	4.70	5.30	1.45	3.65
MHA-V8WD2N8M-C	HB-A100CGN8M-C	7.70	1.81	4.25	7.40	2.60	2.85	7.80	1.63	4.80	6.80	1.74	3.90
MHA-V8WD2N8M-C	HB-A100CD***GN8M-C	7.70	1.81	4.25	7.40	2.60	2.85	7.80	1.63	4.80	6.80	1.74	3.90
MHA-V10WD2N8M-C	HB-A100CGN8M-C	9.10	2.36	3.85	8.40	3.11	2.70	9.10	2.00	4.55	7.80	2.11	3.70
MHA-V10WD2N8M-C	HB-A100CD***GN8M-C	9.10	2.36	3.85	8.40	3.11	2.70	9.10	2.00	4.55	7.80	2.11	3.70
MHA-V12WD2N8M-C	HB-A160CGN8M-C	12.10	3.10	3.90	11.60	4.22	2.75	12.10	2.52	4.80	10.20	2.68	3.80
MHA-V12WD2N8M-C	HB-A160CD***GN8M-C	12.10	3.10	3.90	11.60	4.22	2.75	12.10	2.52	4.80	10.20	2.68	3.80
MHA-V12WD2RN8M-C	HB-A160CGN8M-C	12.10	3.10	3.90	11.60	4.22	2.75	12.10	2.52	4.80	10.20	2.68	3.80
MHA-V12WD2RN8M-C	HB-A160CD***GN8M-C	12.10	3.10	3.90	11.60	4.22	2.75	12.10	2.52	4.80	10.20	2.68	3.80
MHA-V14WD2N8M-C	HB-A160CGN8M-C	13.30	3.50	3.80	12.60	4.75	2.65	14.00	3.04	4.60	11.80	3.28	3.60
MHA-V14WD2N8M-C	HB-A160CD***GN8M-C	13.30	3.50	3.80	12.60	4.75	2.65	14.00	3.04	4.60	11.80	3.28	3.60
MHA-V14WD2RN8M-C	HB-A160CGN8M-C	13.30	3.50	3.80	12.60	4.75	2.65	14.00	3.04	4.60	11.80	3.28	3.60
MHA-V14WD2RN8M-C	HB-A160CD***GN8M-C	13.30	3.50	3.80	12.60	4.75	2.65	14.00	3.04	4.60	11.80	3.28	3.60
MHA-V16WD2N8M-C	HB-A160CGN8M-C	14.20	3.93	3.61	13.60	5.55	2.45	15.20	3.38	4.50	13.00	3.82	3.40
MHA-V16WD2N8M-C	HB-A160CD***GN8M-C	14.20	3.93	3.61	13.60	5.55	2.45	15.20	3.38	4.50	13.00	3.82	3.40
MHA-V16WD2RN8M-C	HB-A160CGN8M-C	14.20	3.93	3.61	13.60	5.55	2.45	15.20	3.38	4.50	13.00	3.82	3.40
MHA-V16WD2RN8M-C	HB-A160CD***GN8M-C	14.20	3.93	3.61	13.60	5.55	2.45	15.20	3.38	4.50	13.00	3.82	3.40

Outdoor unit	Indoor 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
MHA-V3WD2N8M-C	HB-A60CGN8M-C	3.30	1.08	3.05	3.40	0.92	3.70	3.30	1.10	3.00	3.40	1.42	2.40
MHA-V3WD2N8M-C	HB-A60CD***GN8M-C	3.30	1.08	3.05	3.40	0.92	3.70	3.30	1.10	3.00	3.40	1.42	2.40
MHA-V4WD2N8M-C	HB-A60CGN8M-C	4.40	1.49	2.95	4.50	1.23	3.65	4.30	1.46	2.95	4.30	1.83	2.35
MHA-V4WD2N8M-C	HB-A60CD***GN8M-C	4.40	1.49	2.95	4.50	1.23	3.65	4.30	1.46	2.95	4.30	1.83	2.35
MHA-V6WD2N8M-C	HB-A60CGN8M-C	5.40	1.93	2.80	5.90	1.66	3.55	5.60	1.93	2.90	5.50	2.39	2.30
MHA-V6WD2N8M-C	HB-A60CD***GN8M-C	5.40	1.93	2.80	5.90	1.66	3.55	5.60	1.93	2.90	5.50	2.39	2.30
MHA-V8WD2N8M-C	HB-A100CGN8M-C	7.20	2.36	3.05	7.80	2.08	3.75	7.20	2.40	3.00	6.80	2.89	2.35
MHA-V8WD2N8M-C	HB-A100CD***GN8M-C	7.20	2.36	3.05	7.80	2.08	3.75	7.20	2.40	3.00	6.80	2.89	2.35
MHA-V10WD2N8M-C	HB-A100CGN8M-C	8.10	2.79	2.90	9.10	2.56	3.55	8.00	2.76	2.90	7.50	3.26	2.30
MHA-V10WD2N8M-C	HB-A100CD***GN8M-C	8.10	2.79	2.90	9.10	2.56	3.55	8.00	2.76	2.90	7.50	3.26	2.30
MHA-V12WD2N8M-C	HB-A160CGN8M-C	10.80	3.79	2.85	12.10	3.23	3.75	11.80	3.93	3.00	10.80	4.41	2.45
MHA-V12WD2N8M-C	HB-A160CD***GN8M-C	10.80	3.79	2.85	12.10	3.23	3.75	11.80	3.93	3.00	10.80	4.41	2.45
MHA-V12WD2RN8M-C	HB-A160CGN8M-C	10.80	3.79	2.85	12.10	3.23	3.75	11.80	3.93	3.00	10.80	4.41	2.45
MHA-V12WD2RN8M-C	HB-A160CD***GN8M-C	10.80	3.79	2.85	12.10	3.23	3.75	11.80	3.93	3.00	10.80	4.41	2.45
MHA-V14WD2N8M-C	HB-A160CGN8M-C	12.50	4.55	2.75	14.00	3.84	3.65	12.80	4.34	2.95	12.40	5.17	2.40
MHA-V14WD2N8M-C	HB-A160CD***GN8M-C	12.50	4.55	2.75	14.00	3.84	3.65	12.80	4.34	2.95	12.40	5.17	2.40
MHA-V14WD2RN8M-C	HB-A160CGN8M-C	12.50	4.55	2.75	14.00	3.84	3.65	12.80	4.34	2.95	12.40	5.17	2.40
MHA-V14WD2RN8M-C	HB-A160CD***GN8M-C	12.50	4.55	2.75	14.00	3.84	3.65	12.80	4.34	2.95	12.40	5.17	2.40
MHA-V16WD2N8M-C	HB-A160CGN8M-C	13.10	4.85	2.70	15.20	4.28	3.55	13.50	4.66	2.90	13.00	5.53	2.35
MHA-V16WD2N8M-C	HB-A160CD***GN8M-C	13.10	4.85	2.70	15.20	4.28	3.55	13.50	4.66	2.90	13.00	5.53	2.35
MHA-V16WD2RN8M-C	HB-A160CGN8M-C	13.10	4.85	2.70	15.20	4.28	3.55	13.50	4.66	2.90	13.00	5.53	2.35
MHA-V16WD2RN8M-C	HB-A160CD***GN8M-C	13.10	4.85	2.70	15.20	4.28	3.55	13.50	4.66	2.90	13.00	5.53	2.35

Outdoor unit	Indoor 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
MHA-V3WD2N8M-C	HB-A60CGN8M-C	3.40	1.19	2.85	3.30	1.40	2.35	3.30	1.83	1.80
MHA-V3WD2N8M-C	HB-A60CD***GN8M-C	3.40	1.19	2.85	3.30	1.40	2.35	3.30	1.83	1.80
MHA-V4WD2N8M-C	HB-A60CGN8M-C	4.50	1.58	2.85	4.20	1.79	2.35	4.20	2.33	1.80
MHA-V4WD2N8M-C	HB-A60CD***GN8M-C	4.50	1.58	2.85	4.20	1.79	2.35	4.20	2.33	1.80
MHA-V6WD2N8M-C	HB-A60CGN8M-C	5.90	2.03	2.90	5.60	2.49	2.25	5.40	3.00	1.80
MHA-V6WD2N8M-C	HB-A60CD***GN8M-C	5.90	2.03	2.90	5.60	2.49	2.25	5.40	3.00	1.80
MHA-V8WD2N8M-C	HB-A100CGN8M-C	7.80	2.56	3.05	7.20	2.94	2.45	6.40	3.20	2.00
MHA-V8WD2N8M-C	HB-A100CD***GN8M-C	7.80	2.56	3.05	7.20	2.94	2.45	6.40	3.20	2.00
MHA-V10WD2N8M-C	HB-A100CGN8M-C	9.10	3.08	2.95	8.00	3.33	2.40	6.80	3.58	1.90
MHA-V10WD2N8M-C	HB-A100CD***GN8M-C	9.10	3.08	2.95	8.00	3.33	2.40	6.80	3.58	1.90
MHA-V12WD2N8M-C	HB-A160CGN8M-C	12.10	4.03	3.00	11.80	4.72	2.50	10.50	5.25	2.00
MHA-V12WD2N8M-C	HB-A160CD***GN8M-C	12.10	4.03	3.00	11.80	4.72	2.50	10.50	5.25	2.00
MHA-V12WD2RN8M-C	HB-A160CGN8M-C	12.10	4.03	3.00	11.80	4.72	2.50	10.50	5.25	2.00
MHA-V12WD2RN8M-C	HB-A160CD***GN8M-C	12.10	4.03	3.00	11.80	4.72	2.50	10.50	5.25	2.00
MHA-V14WD2N8M-C	HB-A160CGN8M-C	14.00	4.75	2.95	12.80	5.22	2.45	11.20	5.74	1.95
MHA-V14WD2N8M-C	HB-A160CD***GN8M-C	14.00	4.75	2.95	12.80	5.22	2.45	11.20	5.74	1.95
MHA-V14WD2RN8M-C	HB-A160CGN8M-C	14.00	4.75	2.95	12.80	5.22	2.45	11.20	5.74	1.95
MHA-V14WD2RN8M-C	HB-A160CD***GN8M-C	14.00	4.75	2.95	12.80	5.22	2.45	11.20	5.74	1.95
MHA-V16WD2N8M-C	HB-A160CGN8M-C	15.20	5.33	2.85	13.50	5.51	2.45	11.80	6.21	1.90
MHA-V16WD2N8M-C	HB-A160CD***GN8M-C	15.20	5.33	2.85	13.50	5.51	2.45	11.80	6.21	1.90
MHA-V16WD2RN8M-C	HB-A160CGN8M-C	15.20	5.33	2.85	13.50	5.51	2.45	11.80	6.21	1.90
MHA-V16WD2RN8M-C	HB-A160CD***GN8M-C	15.20	5.33	2.85	13.50	5.51	2.45	11.80	6.21	1.90

Unit type explanation:

- 1.HB-A***GN8M-C, without back-up heater,
- 2.HB-A***CD30GN8M-C, with 3kW back-up heater and 1-Phase power source
- 3.HB-A***CDS60GN8M-C, with 6kW back-up heater and 3-Phase power source
- 4.HB-A***CDS90GN8M-C, with 9kW back-up heater and 3-Phase power source

Note: EER and COP calculation is based in accordance to EN14511

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-200-10-4L-4+ZL-580*190*12-3	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	29.41%
2	Overall efficiency (η_e) =	33.44%
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 =42.6
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	0.211
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.35 m ³ /s
10.3	Rated motor pressure(s) at optimum energy efficiency	50 Pa
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-200-10-4L-4+ZL-580*190*12-3	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	29.23%
2	Overall efficiency (η_e) =	36.14%
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 =45.3
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	0.198
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.35 m ³ /s
10.3	Rated motor pressure(s) at optimum energy efficiency	50 Pa
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.

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+ZL-580*190*12-3	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	29.1%
2	Overall efficiency (η_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	0.186
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.292m ³ /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+ZL-580*190*12-3	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	28.9%
2	Overall efficiency (η_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	0.178
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.420m ³ /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.

16125300003959 V/B

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(双面打印)
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)
A-B	彭泉贵	23.12.26	整本参数大调整	整本参数大调整