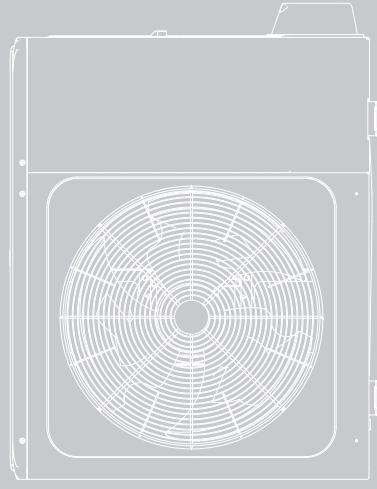


# TECHNICAL DATA MANUAL AND ENERGY EFFICIENCY

M-thermal Split Outdoor Unit



**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.



# Product fiche

Energy labelling regulation: (EU)811/2013  
Ecodesign regulation: (EU)813/2013

Heat pump combination heater		Energy efficiency class									
		MHA-V4W/D2N8-B2 HBT-A100/190CD***GN8-B	MHA-V4W/D2N8-B2 HBT-A100/240CD***GN8-B	MHA-V6W/D2N8-B2 HBT-A100/190CD***GN8-B	MHA-V6W/D2N8-B2 HBT-A100/240CD***GN8-B	MHA-V8W/D2N8-B2 HBT-A100/190CD***GN8-B	MHA-V8W/D2N8-B2 HBT-A100/240CD***GN8-B	MHA-V10W/D2N8-B2 HBT-A100/190CD***GN8-B	MHA-V10W/D2N8-B2 HBT-A100/240CD***GN8-B	MHA-V10W/D2N8-B2 HBT-A100/190CD***GN8-B	
Indoor unit sound power(*)	Outdoor										
Outdoor unit sound power(*)	Indoor										
Water heating	dB	38	38	38	38	38	40	40	40	40	40
Space heating	dB	56	56	58	58	58	59	59	59	59	60
Declared load profile	-	L	XL	L	XL	L	L	L	L	XL	L
Energy efficiency class	-	A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Energy efficiency class at 55 °C (High temp. app.)	-	A++	A++	A++	A++	A++	A++	A++	A++	A++	A++
Average climate											
Water heating	Water heating energy efficiency ( $\eta_{wh}$ )	127	136	127	136	125	137	125	137	125	125
	Annual electricity consumption (AEC)	801	1229	801	1229	820	1218	820	1218	820	820
	$P_{elec}$ (declared heating capacity)@-10 °C	4.4	4.4	5.7	5.7	6.6	6.6	6.6	6.6	7.7	7.7
Space heating	Seasonal space heating efficiency ( $\eta_s$ )	129.5	129.5	137.9	137.9	131.5	131.5	131.5	131.5	136.6	136.6
	Annual energy consumption	2744	2744	3345	3345	4056	4056	4056	4056	4539	4539
Off-peak operation function integrated in heat pump	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Colder climate											
Water heating	Water heating energy efficiency ( $\eta_{wh}$ )	102	107	102	107	107	111	107	111	107	107
	Annual energy consumption	998	1561	998	1561	950	1508	950	1508	950	950
	$P_{elec}$ (declared heating capacity)@-22 °C	3.36	3.36	4.26	4.26	5.77	5.77	5.77	5.77	6.71	6.71
Space heating	Seasonal space heating efficiency ( $\eta_s$ )	102.1	102.1	111.1	111.1	112.0	112.0	112.0	112.0	116.4	116.4
	Annual energy consumption	3159	3159	3681	3681	4950	4950	4950	4950	5540	5540
Warmer climate											
Water heating	Water heating energy efficiency ( $\eta_{wh}$ )	157	174	157	174	151	171	151	171	151	151
	Annual energy consumption	649	963	649	963	675	977	675	977	675	675
	$P_{elec}$ (declared heating capacity)@2 °C	5.01	5.01	5.14	5.14	8.37	8.37	8.37	8.37	8.63	8.63
Space heating	Seasonal space heating efficiency ( $\eta_s$ )	162.4	162.4	164.7	164.7	176.9	176.9	176.9	176.9	180.3	180.3
	Annual energy consumption	1621	1621	1640	1640	2485	2485	2485	2485	2516	2516
Ecodesign technical data											
Product description	Air-to-water heat pump	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Water-to-water heat pump	Y/N	N	N	N	N	N	N	N	N	N
	Brine-to-water heat pump	Y/N	N	N	N	N	N	N	N	N	N
	Low-temperature heat pump	Y/N	N	N	N	N	N	N	N	N	N
	Equipped with a supplementary heater	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Heat pump combination heater	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Air-to-water unit	Rated airflow (outdoor)	[m³/h]	2770	2770	2770	2770	2770	2770	2770	2770	4030
Brine/water-to-water heat pump	Rated brine/water flow (outdoor H/E)	[m³/h]	-	-	-	-	-	-	-	-	-

Heat pump combination heater										
Indoor unit sound power(*)		Outdoor		MHA-V10W/D2N8-B2	MHA-V12W/D2N8-B2	MHA-V12W/D2RN8-B2	MHA-V14W/D2N8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2N8-B2	MHA-V16W/D2RN8-B2
Indoor		Indoor		HBT-A100/240CD***GN8-B	HBT-A160/240CD***GN8-B	HBT-A160/240CD***GN8-B	HBT-A160/240CD***GN8-B	HBT-A160/240CD***GN8-B	HBT-A160/240CD***GN8-B	HBT-A160/240CD***GN8-B
dB		dB		40	42	42	44	44	44	44
dB		dB		60	64	64	65	65	68	68
-		-		XL	XL	XL	XL	XL	XL	XL
-		-		A+	A+	A+	A+	A+	A+	A+
-		-		A++	A++	A++	A++	A++	A++	A++
Average climate										
Water heating		[%]		137	123	123	123	123	123	123
Annual electricity consumption (AEC)		[kWh]		1218	1360	1360	1360	1360	1360	1360
P <sub>rated</sub> (declared heating capacity)@-10°C		[kW]		7.7	11.6	11.6	12.1	12.1	13.0	13.0
Seasonal space heating efficiency(η <sub>s</sub> )		[%]		136.6	135.1	135.1	135.6	135.6	133.3	133.2
Annual energy consumption		[kWh]		4539	6927	6928	7202	7203	7895	7896
Off-peak operation function integrated in heat pump		Y/N		Y	Y	Y	Y	Y	Y	Y
Colder climate										
Water heating		[%]		111	92	92	92	92	92	92
Annual energy consumption		[kWh]		1508	1822	1822	1822	1822	1822	1822
P <sub>rated</sub> (declared heating capacity)@22°C		[kW]		6.71	10.31	10.3	10.96	11	11.8	11.8
Seasonal space heating efficiency(η <sub>s</sub> )		[%]		116.4	117.8	117.7	118.9	118.9	121.8	121.8
Annual energy consumption		[kWh]		5540	8419	8420	8866	8867	9309	9310
Warmer climate										
Water heating		[%]		171	153	153	153	153	153	153
Annual energy consumption		[kWh]		977	1088	1088	1088	1088	1088	1088
P <sub>rated</sub> (declared heating capacity)@2°C		[kW]		8.63	12.5	12.5	14.17	14.17	14.17	14.17
Seasonal space heating efficiency(η <sub>s</sub> )		[%]		180.3	174.0	173.8	174.9	174.7	176.0	175.8
Annual energy consumption		[kWh]		2516	3776	3780	4258	4262	4231	4236
Ecodesign technical data										
Air-to-water heat pump		Y/N		Y	Y	Y	Y	Y	Y	Y
Water-to-water heat pump		Y/N		N	N	N	N	N	N	N
Brine-to-water heat pump		Y/N		N	N	N	N	N	N	N
Low-temperature heat pump		Y/N		N	N	N	N	N	N	N
Equipped with a supplementary heater		Y/N		Y	Y	Y	Y	Y	Y	Y
Heat pump combination heater		Y/N		Y	Y	Y	Y	Y	Y	Y
Rated airflow (outdoor)		[m³/h]		4030	4060	4060	4060	4060	4650	4650
Rated brine/water flow (outdoor H/E)		[m³/h]		-	-	-	-	-	-	-



Heat pump combination heater		Part load conditions space heating average climate									
		Outdoor	MHA-V4W/D2N8-B2 HBT-A100/190CD***GN8-B	MHA-V4W/D2N8-B2 HBT-A100/240CD***GN8-B	MHA-V6W/D2N8-B2 HBT-A100/190CD***GN8-B	MHA-V6W/D2N8-B2 HBT-A100/240CD***GN8-B	MHA-V8W/D2N8-B2 HBT-A100/190CD***GN8-B	MHA-V8W/D2N8-B2 HBT-A100/240CD***GN8-B	MHA-V10W/D2N8-B2 HBT-A100/190CD***GN8-B	MHA-V10W/D2N8-B2 HBT-A100/240CD***GN8-B	
Capacity control		-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
P <sub>off</sub> (Power consumption Off mode)		[kW]	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	
P <sub>b</sub> (Power consumption Thermostat off mode)		[kW]	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	
P <sub>sb</sub> (Power consumption standby mode)		[kW]	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	
P <sub>ck</sub> (Power crankcase heater model)		[kW]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
O <sub>elec</sub> (Daily electricity consumption)		[kWh]	3.66	5.71	3.66	5.71	3.66	5.71	3.66	5.71	
O <sub>fuel</sub> (Daily fuel consumption)		[kWh]	-	-	-	-	-	-	-	-	
(A) condition (-7°C)		[kW]	3.89	3.89	5.04	5.04	5.84	5.84	5.84	6.78	
COP <sub>d</sub> (declared COP)		-	2.17	2.17	2.17	2.17	2.16	2.16	2.16	2.24	
Cdh (degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
P <sub>dh</sub> (declared heating capacity)		[kW]	2.38	2.38	3.12	3.12	3.76	3.76	3.76	4.28	
COP <sub>d</sub> (declared COP)		-	3.30	3.30	3.51	3.51	3.30	3.30	3.30	3.42	
Cdh (degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
(C) condition (7°C)		[kW]	2.94	2.94	2.08	2.08	2.43	2.43	2.43	2.77	
COP <sub>d</sub> (declared COP)		-	4.41	4.41	4.54	4.54	4.34	4.34	4.34	4.52	
Cdh (degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
(D) condition (12°C)		[kW]	1.32	1.32	1.28	1.28	1.39	1.39	1.39	1.58	
COP <sub>d</sub> (declared COP)		-	5.66	5.66	5.59	5.59	5.33	5.33	5.33	5.68	
Cdh (degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
(E) Tol (Temperature Operating Limit)		[°C]	-10	-10	-10	-10	-10	-10	-10	-10	
P <sub>dh</sub> (declared heating capacity)		[kW]	3.42	3.42	4.52	4.52	4.91	4.91	4.91	5.38	
COP <sub>d</sub> (declared COP)		-	1.91	1.91	1.91	1.91	1.84	1.84	1.84	1.83	
WTOL (Heating water Operation Limit)		[°C]	65	65	65	65	65	65	65	65	
(F) Trivalent Temperature		[°C]	-7	-7	-7	-7	-7	-7	-7	-7	
P <sub>dh</sub> (declared heating capacity)		[kW]	3.89	3.89	5.04	5.04	5.84	5.84	5.84	6.78	
COP <sub>d</sub> (declared COP)		-	2.17	2.17	2.17	2.17	2.16	2.16	2.16	2.24	
Capacity of the back-up heater integrated in the unit		[kW]	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	
Supplementary capacity at P <sub>design</sub>		[kW]	0.98	0.98	1.18	1.18	1.69	1.69	1.69	2.28	

Heat pump combination heater									
		Capacity control	MHA-V10W/D2N8-B2 HBT-A100/240CD***GN8-B	MHA-V12W/D2N8-B2 HBT-A160/240CD***GN8-B	MHA-V14W/D2N8-B2 HBT-A160/240CD***GN8-B	MHA-V16W/D2N8-B2 HBT-A160/240CD***GN8-B	MHA-V14W/D2RN8-B2 HBT-A160/240CD***GN8-B	MHA-V16W/D2N8-B2 HBT-A160/240CD***GN8-B	MHA-V16W/D2RN8-B2 HBT-A160/240CD***GN8-B
Outdoor	Indoor	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	[kW]		0.014	0.014	0.014	0.014	0.020	0.014	0.020
	[kW]		0.024	0.024	0.024	0.024	0.030	0.024	0.030
Other	[kW]		0.014	0.014	0.014	0.014	0.020	0.014	0.020
	[kW]		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	[kW/h]		5.67	6.35	6.35	6.35	6.35	6.35	6.35
	[kW/h]		-	-	-	-	-	-	-
Part load conditions space heating average climate									
(A) condition (7°C)	[kW]		6.78	10.24	10.24	10.24	10.68	11.52	11.52
	-		2.24	2.01	2.01	2.01	2.01	1.99	1.99
	-		0.90	0.90	0.90	0.90	0.90	0.90	0.90
	[kW]		4.28	6.52	6.52	6.86	6.86	7.18	7.18
(B) condition (2°C)	-		3.42	3.44	3.44	3.43	3.43	3.34	3.34
	-		0.90	0.90	0.90	0.90	0.90	0.90	0.90
	[kW]		2.77	4.36	4.36	4.63	4.63	4.67	4.67
	-		4.52	4.59	4.59	4.66	4.66	4.61	4.61
	-		0.90	0.90	0.90	0.90	0.90	0.90	0.90
	[kW]		1.58	3.29	3.29	3.31	3.31	3.32	3.32
(D) condition (12°C)	-		5.68	6.05	6.05	6.13	6.13	6.07	6.07
	-		0.90	0.90	0.90	0.90	0.90	0.90	0.90
	[°C]		-10	-10	-10	-10	-10	-10	-10
	[kW]		5.38	9.1	9.1	9.19	9.19	10.33	10.33
	-		1.83	1.79	1.79	1.76	1.76	1.80	1.80
	[°C]		65	65	65	65	65	65	65
	[°C]		-7	-7	-7	-7	-7	-7	-7
(F) Trivalent Temperature	[kW]		6.78	10.27	10.27	10.68	10.68	11.52	11.52
	-		2.24	2.01	2.01	2.01	2.01	1.99	1.99
Capacity of the back-up heater integrated in the unit	[kW]		3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
Supplementary capacity at P_design	[kW]		2.28	2.5	2.5	2.91	2.91	2.67	2.67

Indoor unit type explanation:

1. HBT-A100/190CD\*\*\*GN8-B includes the following type:
  - HBT-A100/190CD30GN8-B: 190L tank with 3kW back-up heater and 1-Phase Source.
  - HBT-A100/190CD60GN8-B: 190L tank with 6kW back-up heater and 1-Phase Source.
  - HBT-A100/190CD90GN8-B: 190L tank with 9kW back-up heater and 3-Phase Source.
2. HBT-A100/240CD\*\*\*GN8-B includes the following type:
  - HBT-A100/190CD30GN8-B: 240L tank with 3kW back-up heater and 1-Phase Source.
  - HBT-A100/190CD60GN8-B: 240L tank with 6kW back-up heater and 1-Phase Source.
  - HBT-A100/190CD90GN8-B: 240L tank with 9kW back-up heater and 3-Phase Source.
3. HBT-A160/240CD\*\*\*GN8-B includes the following type:
  - HBT-A160/240CD30GN8-B: 240L tank with 3kW back-up heater and 1-Phase Source.
  - HBT-A160/240CD60GN8-B: 240L tank with 6kW back-up heater and 1-Phase Source.
  - HBT-A160/240CD90GN8-B: 240L tank with 9kW back-up heater and 3-Phase Source.

Note:

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

(\*)Sound power in heating mode, measured according to the EN 12102 under conditions of the EN 14825.

This data is for comparison of Energy efficiencies according to Energy label directive 2010/30/EU, for correct selection of products for your application, contact your dealer.  
Depending on your application and the product selected an additional supplementary heater may have to be installed.



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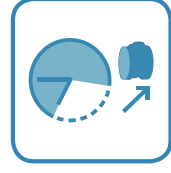
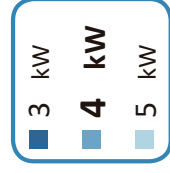
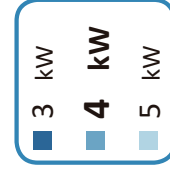
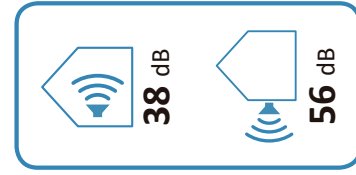
MHA-V4W/D2N8-B2  
HBT-A100/190CD30GN8-B



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**A<sup>+</sup>**

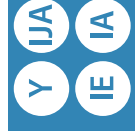


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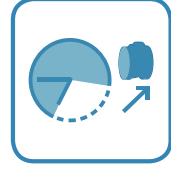
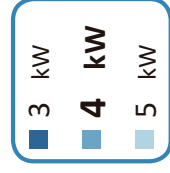
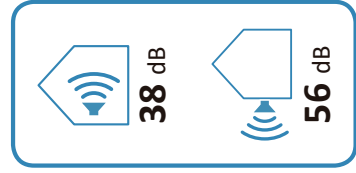
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HBT-A100/190CD60GN8-B



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MHA-V4W/D2N8-B2  
HBT-A100/190CDS90GN8-B



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**L**



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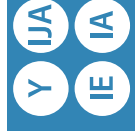
**XL**



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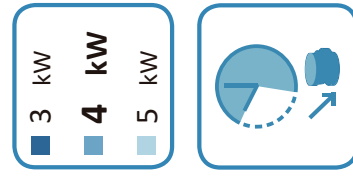
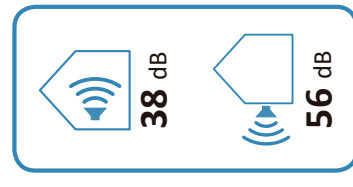
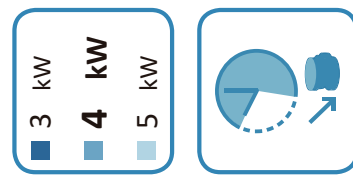
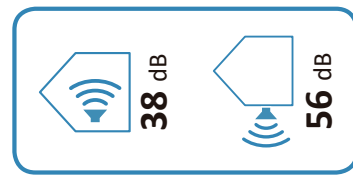
MHA-V4W/D2N8-B2  
HBT-A100/240CD30GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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2019

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Y IJA  
IE IA

MHA-V4W/D2N8-B2  
HBT-A100/240CD60GN8-B







**A+++**  
**A++**  
**A+**  
**A**  
**B**  
**C**  
**D**



**A++**  
**A+**



**A+**  
**A**  
**B**  
**C**  
**D**  
**E**  
**F**





**38 dB**



**56 dB**



**3 kW**  
**4 kW**  
**5 kW**






2019

811/2013



**ENERG**  
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Y IJA  
IE IA

MHA-V4W/D2N8-B2  
HBT-A100/240CDS90GN8-B







**A+++**  
**A++**  
**A+**  
**A**  
**B**  
**C**  
**D**



**A++**  
**A+**



**A+**  
**A**  
**B**  
**C**  
**D**  
**E**  
**F**





**38 dB**



**56 dB**



**3 kW**  
**4 kW**  
**5 kW**






2019

811/2013



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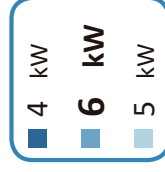
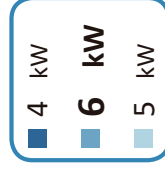
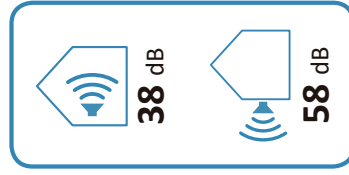
MHA-V6W/D2N8-B2  
HBT-A100/190CD30GN8-B



**A++**



**A+**



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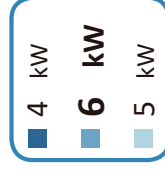
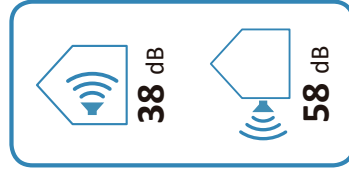
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HBT-A100/190CD60GN8-B



**A++**



**A+**



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**ENERG**  
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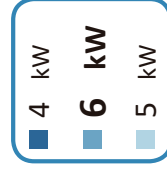
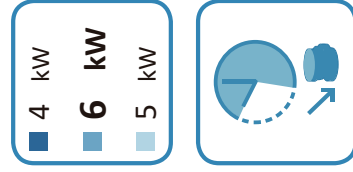
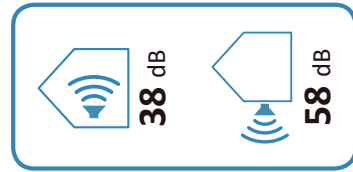
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HBT-A100/190CDS90GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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**ENERG**  
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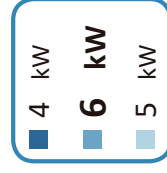
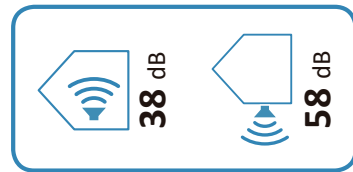
MHA-V6W/D2N8-B2  
HBT-A100/240CD30GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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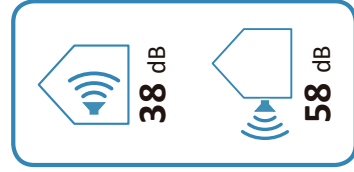
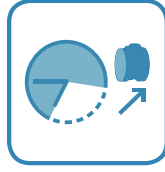
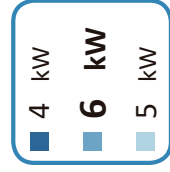
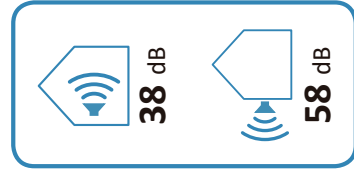




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MHA-V6W/D2N8-B2  
HBT-A100/240CD60GN8-B

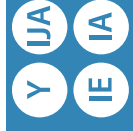


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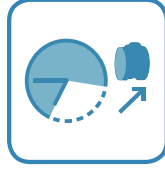
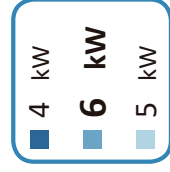
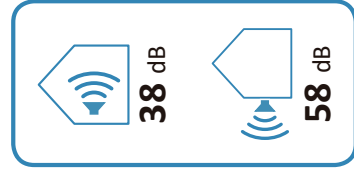
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MHA-V6W/D2N8-B2  
HBT-A100/240CDS90GN8-B



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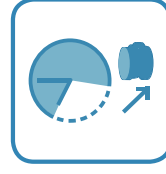
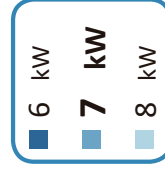
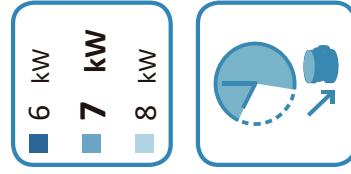
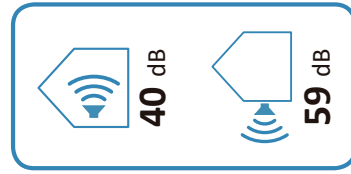
MHA-V8W/D2N8-B2  
HBT-A100/190CD30GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**

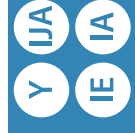


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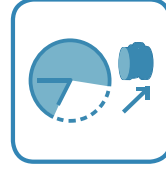
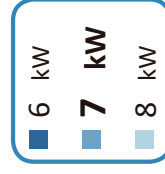
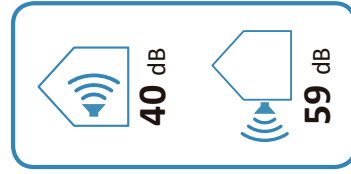
MHA-V8W/D2N8-B2  
HBT-A100/190CD60GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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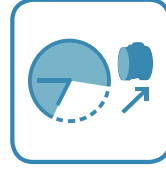
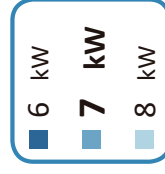
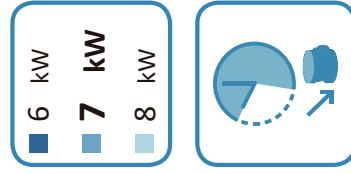
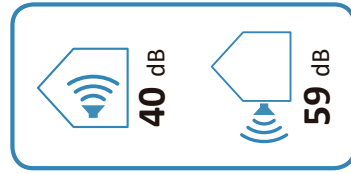


MHA-V8W/D2N8-B2  
HBT-A100/190CDS90GN8-B



**A++**

**A+**



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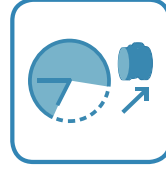
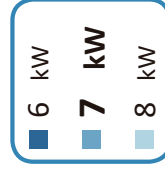
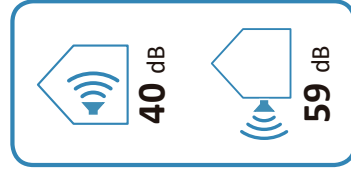


MHA-V8W/D2N8-B2  
HBT-A100/240CD30GN8-B



**A++**

**A+**



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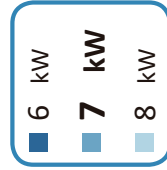
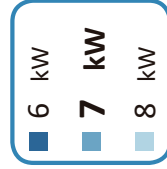
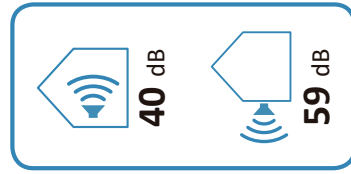
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MHA-V8W/D2N8-B2  
HBT-A100/240CD60GN8-B



2019

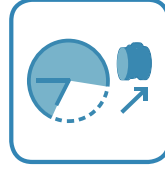
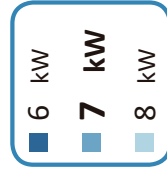
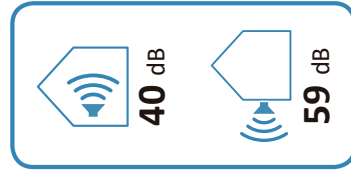
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MHA-V8W/D2N8-B2  
HBT-A100/240CDS90GN8-B



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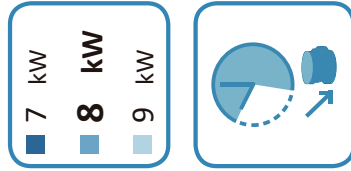
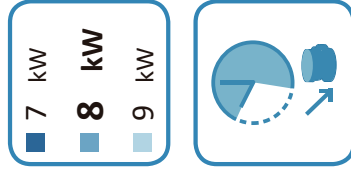
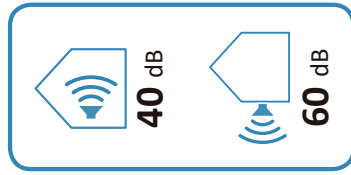
MHA-V10W/D2N8-B2  
HBT-A100/190CD30GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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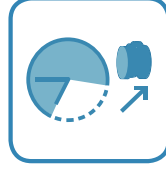
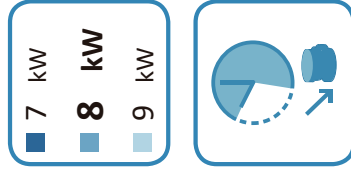
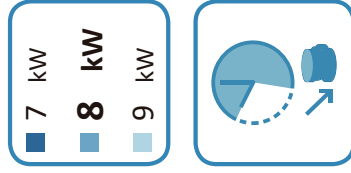
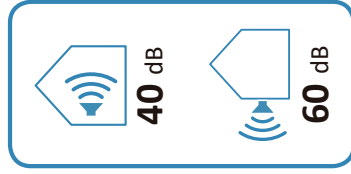
MHA-V10W/D2N8-B2  
HBT-A100/190CD60GN8-B



**A<sup>++</sup>**



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MHA-V10W/D2N8-B2  
HBT-A100/190CDS90GN8-B



**A<sup>++</sup>**



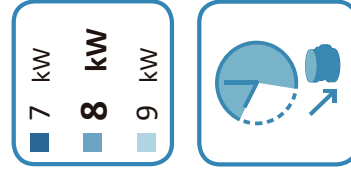
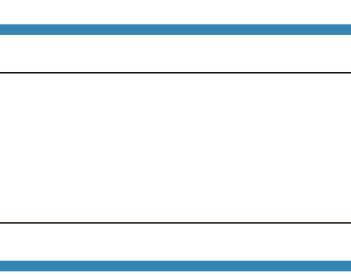
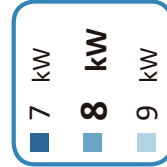
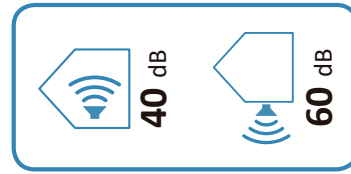
**A<sup>+</sup>**



**A<sup>++</sup>**



**A<sup>+</sup>**



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**ENERG**  
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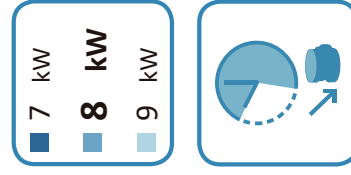
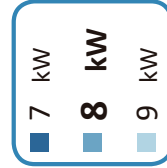
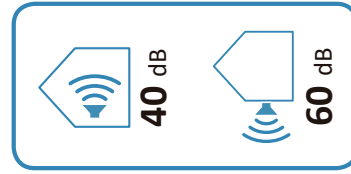
MHA-V10W/D2N8-B2  
HBT-A100/240CD30GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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**ENERG**  
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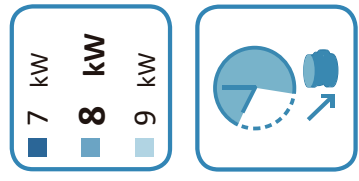
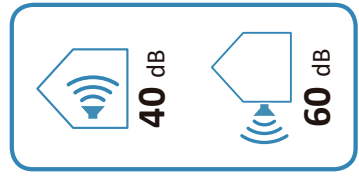
MHA-V10W/D2N8-B2  
HBT-A100/240CD60GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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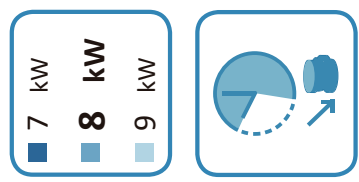
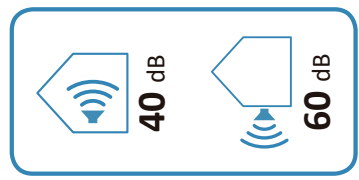
MHA-V10W/D2N8-B2  
HBT-A100/240CDS90GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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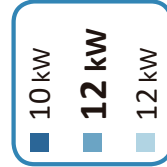
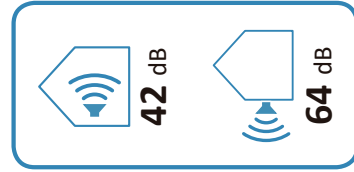
MHA-V12W/D2N8-B2  
HBT-A160/240CD30GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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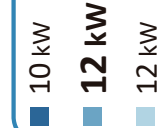
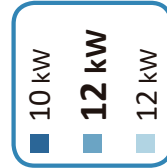
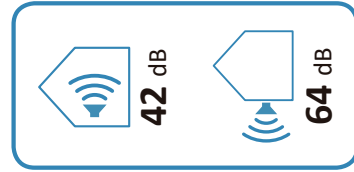
MHA-V12W/D2N8-B2  
HBT-A160/240CD60GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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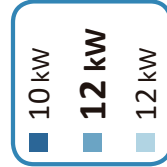
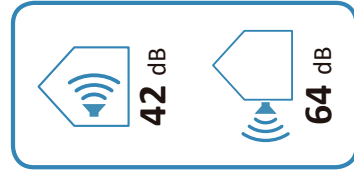
MHA-V12W/D2N8-B2  
HBT-A160/240CDS90GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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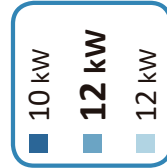
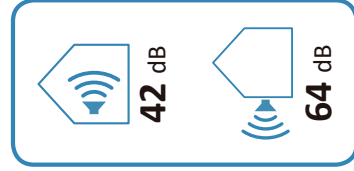
MHA-V12W/D2RN8-B2  
HBT-A160/240CD30GN8-B



**A<sup>++</sup>**



**A<sup>+</sup>**



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**ENERG**  
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MHA-V12W/D2RN8-B2  
HBT-A160/240CD60GN8-B



**A<sup>++</sup>**



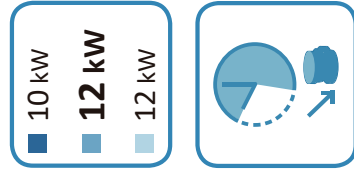
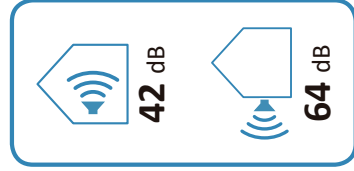
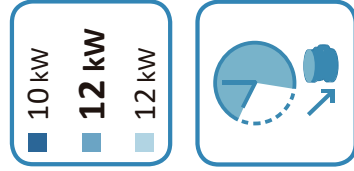
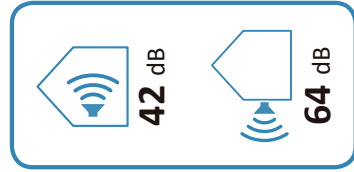
**A<sup>+</sup>**



**A<sup>++</sup>**



**A<sup>+</sup>**



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**ENERG**  
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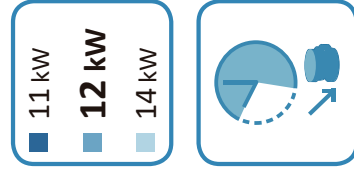
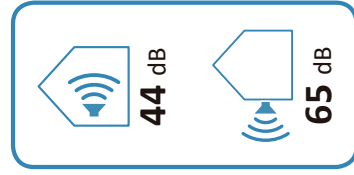
MHA-V14W/D2N8-B2  
HBT-A160/240CD30GN8-B2



**A<sup>++</sup>**



**A<sup>+</sup>**



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811/2013



**ENERG**  
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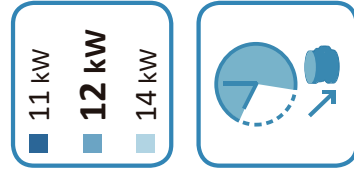
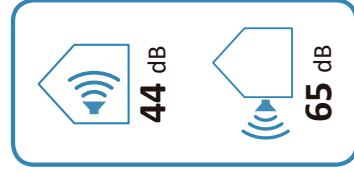
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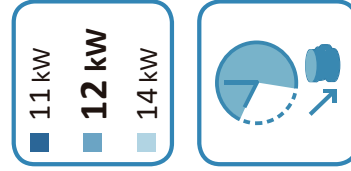
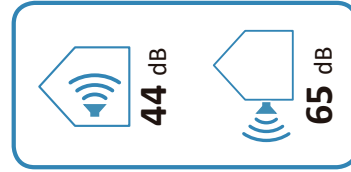
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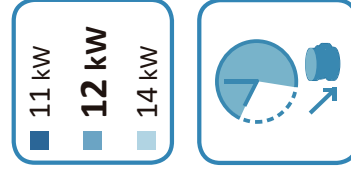
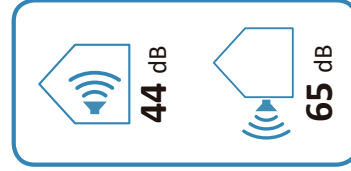
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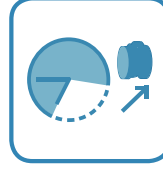
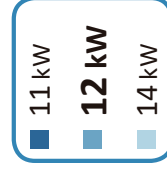
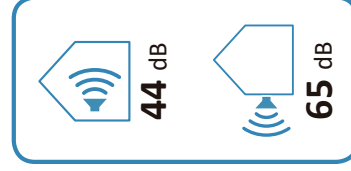
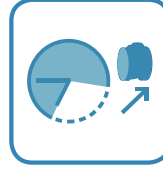
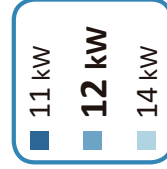
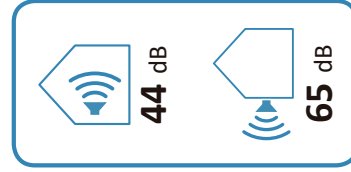
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HBT-A160/240CD60GN8-B



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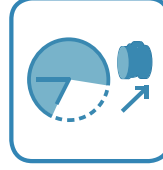
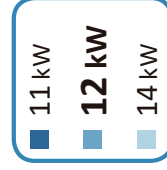
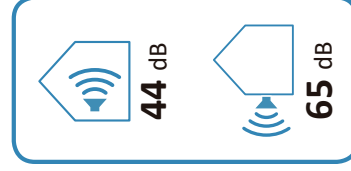
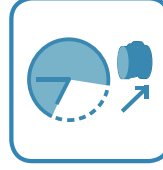
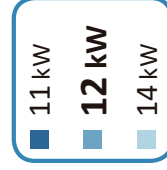
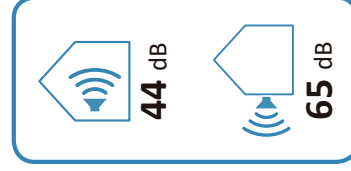
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HBT-A160/240CDS90GN8-B



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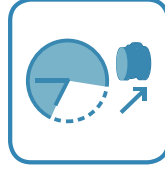
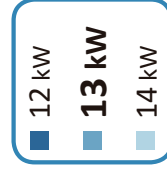
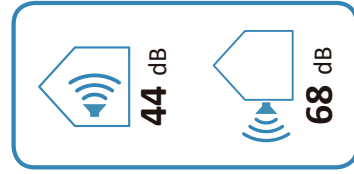
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HBT-A160/240CD30GN8-B



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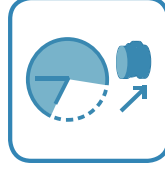
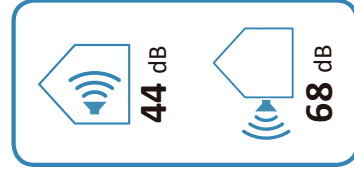
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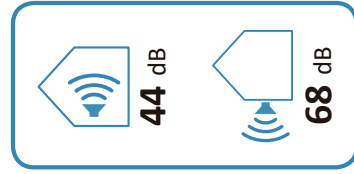
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HBT-A160/240CDS90GN8-B



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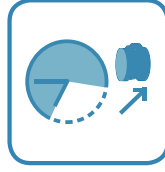
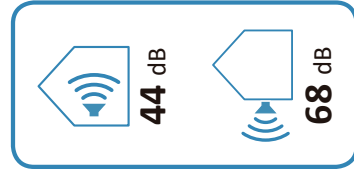
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HBT-A160/240CD30GN8-B



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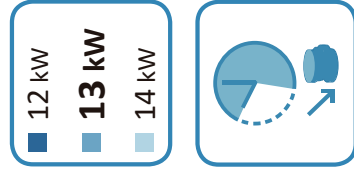
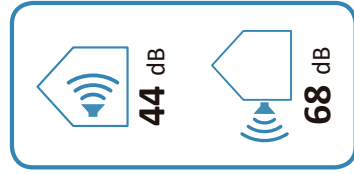
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HBT-A160/240CD60GN8-B



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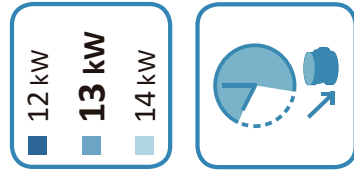
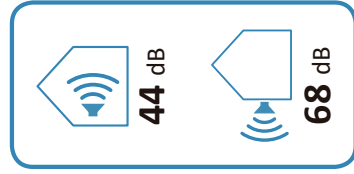
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HBT-A160/240CDS90GN8-B



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Heat pump space heating		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 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	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh
	HB-A60/C***GN8-B	A++	38	56	4.4	129.5	2744	3.4	102.1	3158	5.0	163.1	1614
MHA-V4W/D2N8-B2	HBT-A100/190CD***GN8-B	A++	38	56	4.4	129.5	2744	3.4	102.1	3158	5.0	163.1	1614
	HBT-A100/240CD***GN8-B	A++	38	56	4.4	129.5	2744	3.4	102.1	3158	5.0	163.1	1614
MHA-V6W/D2N8-B2	HB-A60/C***GN8-B	A++	38	58	5.7	137.9	3345	4.3	111.1	3680	5.1	165.4	1634
	HBT-A100/190CD***GN8-B	A++	38	58	5.7	137.9	3345	4.3	111.1	3680	5.1	165.4	1634
	HBT-A100/240CD***GN8-B	A++	38	58	5.7	137.9	3345	4.3	111.1	3680	5.1	165.4	1634
MHA-V8W/D2N8-B2	HB-A100/C***GN8-B	A++	42	59	6.6	131.5	4056	5.8	112.1	4948	8.37	176.9	2485
	HBT-A100/190CD***GN8-B	A++	40	59	6.6	131.5	4056	5.8	112.1	4948	8.37	176.9	2485
	HBT-A100/240CD***GN8-B	A++	40	59	6.6	131.5	4056	5.8	112.1	4948	8.37	176.9	2485
MHA-V10W/D2N8-B2	HB-A100/C***GN8-B	A++	40	60	7.7	136.6	4539	6.7	116.5	5539	8.6	180.3	2496
	HBT-A100/190CD***GN8-B	A++	40	60	7.7	136.6	4539	6.7	116.5	5539	8.6	180.3	2496
	HBT-A100/240CD***GN8-B	A++	40	60	7.7	136.6	4539	6.7	116.5	5539	8.6	180.3	2496
MHA-V12W/D2N8-B2	HB-A160/C***GN8-B	A++	43	64	11.6	135.1	6927	10.3	117.8	8419	12.5	174.0	3776
	HBT-A160/240CD***GN8-B	A++	42	64	11.6	135.1	6927	10.3	117.8	8419	12.5	174.0	3776
MHA-V14W/D2N8-B2	HB-A160/C***GN8-B	A++	43	64	11.6	135.1	6928	10.3	117.7	8420	12.5	173.8	3780
	HBT-A160/240CD***GN8-B	A++	42	64	11.6	135.1	6928	10.3	117.7	8420	12.5	173.8	3780
MHA-V16W/D2N8-B2	HB-A160/C***GN8-B	A++	43	65	12.1	135.6	7202	11.0	118.9	8866	14.17	174.9	4258
	HBT-A160/240CD***GN8-B	A++	44	65	12.1	135.6	7202	11.0	118.9	8866	14.17	174.9	4258
MHA-V18W/D2N8-B2	HB-A160/C***GN8-B	A++	43	65	12.1	135.6	7203	11.0	118.9	8867	14.17	174.7	4262
	HBT-A160/240CD***GN8-B	A++	44	65	12.1	135.6	7203	11.0	118.9	8867	14.17	174.7	4262
MHA-V20W/D2N8-B2	HB-A160/C***GN8-B	A++	43	68	13.0	133.3	7895	11.8	121.8	9309	14.17	176.0	4231
	HBT-A160/240CD***GN8-B	A++	44	68	13.0	133.3	7895	11.8	121.8	9309	14.17	176.0	4231
MHA-V22W/D2N8-B2	HB-A160/C***GN8-B	A++	43	68	13.0	133.2	7896	11.8	121.8	9310	14.17	175.8	4236
	HBT-A160/240CD***GN8-B	A++	44	68	13.0	133.2	7896	11.8	121.8	9310	14.17	175.8	4236

Heat pump space heating		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 energy efficiency %	For space heating, annual energy consumption kWh	Rated heat output kW	Seasonal space heating energy efficiency %	For space heating, annual energy consumption kWh	Rated heat output kW	Seasonal space heating energy efficiency %	For space heating, annual energy consumption kWh					
		-																
	HB-A60/C***GN8-B	A+++	38	56	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146					
MHA-V4W/D2N8-B2	HBT-A100/190CD***GN8-B	A+++	38	56	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146					
	HBT-A100/240CD***GN8-B	A+++	38	56	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146					
	HB-A60/C***GN8-B	A+++	38	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244					
MHA-V6W/D2N8-B2	HBT-A100/190CD***GN8-B	A+++	38	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244					
	HBT-A100/240CD***GN8-B	A+++	38	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244					
	HB-A100/C***GN8-B	A+++	42	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551					
MHA-V8W/D2N8-B2	HBT-A100/190CD***GN8-B	A+++	40	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551					
	HBT-A100/240CD***GN8-B	A+++	40	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551					
	HB-A100/C***GN8-B	A+++	42	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617					
MHA-V10W/D2N8-B2	HBT-A100/190CD***GN8-B	A+++	40	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617					
	HBT-A100/240CD***GN8-B	A+++	40	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617					
	HB-A160/C***GN8-B	A+++	43	64	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	2292					
MHA-V12W/D2N8-B2	HBT-A160/240CD***GN8-B	A+++	42	64	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	2292					
	HB-A160/C***GN8-B	A+++	43	64	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	2296					
MHA-V12W/D2RN8-B2	HBT-A160/240CD***GN8-B	A+++	42	64	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	2296					
	HB-A160/C***GN8-B	A+++	43	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	2457					
MHA-V14W/D2N8-B2	HBT-A160/240CD***GN8-B	A+++	44	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	2457					
	HB-A160/C***GN8-B	A+++	43	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	2462					
MHA-V14W/D2RN8-B2	HBT-A160/240CD***GN8-B	A+++	44	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	2462					
	HB-A160/C***GN8-B	A+++	43	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	2781					
MHA-V16W/D2N8-B2	HBT-A160/240CD***GN8-B	A+++	44	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	2781					
	HB-A160/C***GN8-B	A+++	43	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	2786					
MHA-V16W/D2RN8-B2	HBT-A160/240CD***GN8-B	A+++	44	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	2786					

# Product fiche 1

## Heat pump space heating

		Outdoor	MHA-V4W/D2N8-B2	MHA-V6W/D2N8-B2	MHA-V8W/D2N8-B2	MHA-V10W/D2N8-B2	MHA-V12W/D2N8-B2
Indoor unit sound power (*)	Average climate low temperature application	Indoor	HB-A60/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A60/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A100/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A100/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B
		dB	38 <sup>a)</sup> /38 <sup>b)</sup>	38 <sup>a)</sup> /38 <sup>b)</sup>	42 <sup>a)</sup> /40 <sup>b)</sup>	42 <sup>a)</sup> /40 <sup>b)</sup>	43 <sup>a)</sup> /42 <sup>b)</sup>
Outdoor unit sound power (*)	Average climate low temperature application	dB	56	58	59	60	64
	Average climate medium temperature application	dB	56	58	59	60	64
Capacity of the back-up heater integrated in the unit	Psup back-up heater (optional)	[kW]	3/6/9	3/6/9	3/6/9	3/6/9	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]	5.5	6.8	8.1	9.2	12.0
	Seasonal space heating efficiency (ηs)	[%]	191.0	195.0	205.6	204.8	189.4
	Annual energy consumption	[kWh]	2,351	2,845	3,218	3,644	5,152
Space heating 55°C	Prated (declared heating capacity) @ -10°C	[kW]	4.4	5.7	6.6	7.7	11.6
	Seasonal space heating efficiency (ηs)	[%]	129.5	137.9	131.5	136.6	135.1
	Annual energy consumption	[kWh]	2,744	3,345	4,056	4,539	6,927
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	4.88	6.03	7.18	8.10	10.61
	COPd (declared COP)	-	3.19	3.09	3.35	3.23	2.88
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	3.05	3.88	4.65	5.18	6.69
	COPd (declared COP)	-	4.78	4.85	5.09	5.01	4.65
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.93	2.39	2.90	3.32	4.44
	COPd (declared COP)	-	6.13	6.63	6.82	7.08	6.62
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.48	1.39	1.63	1.65	3.74
	COPd (declared COP)	-	8.05	7.93	8.35	8.58	8.47
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	4.41	5.36	6.44	7.40	10.74
	COPd (declared COP)	-	2.86	2.76	3.04	2.96	2.77
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65

Note :

a) represents the hydraulic module series ;

b) represents the m-thermal tank series ;

# Product fiche 1

## Heat pump space heating

		MHA-V14W/D2N8-B2				MHA-V16W/D2N8-B2				MHA-V12W/D2R8-B2				MHA-V14W/D2R8-B2				MHA-V16W/D2R8-B2			
		Outdoor		Indoor		Outdoor		Indoor		Outdoor		Indoor		Outdoor		Indoor		Outdoor		Indoor	
Indoor unit sound power (*)		dB		43 <sup>a)</sup> /44 <sup>b)</sup>		dB		43 <sup>a)</sup> /44 <sup>b)</sup>		dB		43 <sup>a)</sup> /42 <sup>b)</sup>		dB		43 <sup>a)</sup> /44 <sup>b)</sup>		dB		43 <sup>a)</sup> /44 <sup>b)</sup>	
Outdoor unit sound power (*)	Average climate low temperature application	dB		65		dB		68		dB		64		dB		65		dB		68	
Capacity of the back-up heater integrated in the unit	Average climate medium temperature application	dB		65		dB		68		dB		64		dB		65		dB		68	
Space heating	Psup back-up heater (optional)	[kW]		3/6/9		[kW]		3/6/9		[kW]		3/6/9		[kW]		3/6/9		[kW]		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]		13.7		[kW]		15.2		[kW]		12.0		[kW]		13.7		[kW]		15.2	
	Seasonal space heating efficiency (ηs)	[%]		185.7		[%]		181.7		[%]		189.3		[%]		185.6		[%]		181.6	
	Annual energy consumption	[kWh]		6,012		[kWh]		6,804		[kWh]		5,153		[kWh]		6,013		[kWh]		6,805	
Space heating 55°C	Prated (declared heating capacity) @ -10°C	[kW]		12.1		[kW]		13.0		[kW]		11.6		[kW]		12.1		[kW]		13.0	
	Seasonal space heating efficiency (ηs)	[%]		135.6		[%]		133.3		[%]		135.1		[%]		135.6		[%]		133.2	
	Annual energy consumption	[kWh]		7,202		[kWh]		7,895		[kWh]		6,928		[kWh]		7,203		[kWh]		7,896	
Part load conditions space heating average climate low temperature application																					
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]		12.14		[kW]		13.45		[kW]		10.61		[kW]		12.14		[kW]		13.45	
	COPd (declared COP)	-		2.79		-		2.72		-		2.88		-		2.79		-		2.72	
	Cdh (degradation coefficient)	-		0.90		-		0.90		-		0.90		-		0.90		-		0.90	
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]		7.94		[kW]		8.56		[kW]		6.69		[kW]		7.94		[kW]		8.56	
	COPd (declared COP)	-		4.52		-		4.41		-		4.65		-		4.52		-		4.41	
	Cdh (degradation coefficient)	-		0.90		-		0.90		-		0.90		-		0.90		-		0.90	
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]		5.20		[kW]		5.70		[kW]		4.44		[kW]		5.20		[kW]		5.70	
	COPd (declared COP)	-		6.68		-		6.56		-		6.62		-		6.68		-		6.56	
	Cdh (degradation coefficient)	-		0.90		-		0.90		-		0.90		-		0.90		-		0.90	
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]		3.75		[kW]		3.78		[kW]		3.74		[kW]		3.75		[kW]		3.78	
	COPd (declared COP)	-		8.52		-		8.51		-		8.47		-		8.52		-		8.51	
	Cdh (degradation coefficient)	-		0.90		-		0.90		-		0.90		-		0.90		-		0.90	
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]		-10.00		[°C]		-10.00		[°C]		-10.00		[°C]		-10.00		[°C]		-10.00	
	Pdh (declared heating capacity)	[kW]		11.47		[kW]		12.52		[kW]		10.74		[kW]		11.47		[kW]		12.52	
	COPd (declared COP)	-		2.59		-		2.48		-		2.77		-		2.59		-		2.48	
WTOL <sub>r</sub> (Heating water Operation Limit)		[°C]		65		[°C]		65		[°C]		65		[°C]		65		[°C]		65	

Note :  
a) represents the hydraulic module series ;  
b) represents the m-thermal tank series ;

## Product fiche 2

### Heat pump space heating

		MHA-V4W/D2N8-B2	MHA-V6W/D2N8-B2	MHA-V8W/D2N8-B2	MHA-V10W/D2N8-B2	MHA-V12W/D2N8-B2
(F) Tivalent temperature	Tbiv	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	4.88	6.03	7.18	8.10	10.61
Supplementary capacity at P_design	COPd (declared COP)	3.19	3.09	3.35	3.23	2.88
	Psup (@Tdesign: -10°C)	1.11	1.45	1.68	1.76	1.26
Part load conditions space heating average climate medium temperature application						
(A) condition (-7°C)	Pdh (declared heating capacity)	3.89	5.04	5.84	6.78	10.24
	COPd (declared COP)	2.17	2.17	2.16	2.24	2.01
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	2.38	3.12	3.75	4.28	6.52
(B) condition (2°C)	COPd (declared COP)	3.30	3.51	3.30	3.42	3.44
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	2.94	2.08	2.42	2.77	4.36
	COPd (declared COP)	4.41	4.54	4.34	4.52	4.59
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	1.32	1.28	1.39	1.58	3.29
(D) condition (12°C)	COPd (declared COP)	5.66	5.59	5.33	5.68	6.05
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
	Tol (temperature operating limit)	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	3.42	4.52	4.90	5.38	9.10
(E) Tol (temperature operating limit)	COPd (declared COP)	1.91	1.91	1.84	1.83	1.79
	WTOL (Heating water Operation Limit)	65	65	65	65	65
	Tbiv	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	3.89	5.04	5.84	6.78	10.24
Supplementary capacity at P_design	COPd (declared COP)	2.17	2.17	2.16	2.24	2.01
	Psup (@Tdesign: -10°C)	0.98	1.18	1.69	2.28	2.50
Colder climate (Design temperature = -22°C)						
Space heating 35°C	Prated (declared heating capacity) @ -22°C	4.6	5.6	7.0	7.7	11.4
	Seasonal space heating efficiency (ns)	159.5	165.3	170.0	169.8	160.2
	Annual energy consumption	2,769	3,300	3,976	4,423	6,870

## Product fiche 2

### Heat pump space heating

		Outdoor		MHA-V14W/D2N8-B2	MHA-V16W/D2N8-B2	MHA-V12W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2RN8-B2
		Indoor		HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B
(F) Tivalent temperature	Tbiv	[°C]		-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]		12.14	13.45	10.61	12.14	13.45
	COPd (declared COP)	-		2.79	2.72	2.88	2.79	2.72
Supplementary capacity at P_design		[kW]		2.23	2.68	1.26	2.23	2.68
Part load conditions space heating average climate medium temperature application								
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]		10.68	11.52	10.24	10.68	11.52
	COPd (declared COP)	-		2.01	1.99	2.01	2.01	1.99
	Cdh(degradation coefficient)	-		0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]		6.86	7.18	6.52	6.86	7.18
	COPd (declared COP)	-		3.43	3.34	3.44	3.43	3.34
	Cdh(degradation coefficient)	-		0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]		4.63	4.67	4.36	4.63	4.67
	COPd (declared COP)	-		4.66	4.61	4.59	4.66	4.61
	Cdh(degradation coefficient)	-		0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]		3.31	3.31	3.29	3.31	3.31
	COPd (declared COP)	-		6.13	6.07	6.05	6.13	6.07
	Cdh(degradation coefficient)	-		0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]		-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]		9.19	10.33	9.10	9.19	10.33
	COPd (declared COP)	-		1.76	1.80	1.79	1.76	1.80
(F) Tivalent temperature	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]		10.68	11.52	10.24	10.68	11.52
Supplementary capacity at P_design		[kW]		2.01	1.99	2.01	2.01	1.99
Colder climate (Design temperature = -22°C)		[kW]		2.91	2.67	2.50	2.91	2.67
Space heating 35°C								
Prated (declared heating capacity) @ -22°C		[kW]		12.6	13.7	11.4	12.6	13.7
Seasonal space heating efficiency (ηs)		[%]		159.6	157.8	160.2	159.6	157.8
Annual energy consumption		[kWh]		7,667	8,431	6,871	7,667	8,431

## Product fiche 3

### Heat pump space heating

		MHA-V4W/D2N8-B2	MHA-V6W/D2N8-B2	MHA-V8W/D2N8-B2	MHA-V10W/D2N8-B2	MHA-V12W/D2N8-B2
Space heating 55°C	Prated (declared heating capacity) @ -22°C	3.4	4.3	5.8	6.7	10.3
	Seasonal space heating efficiency (ηs)	102.1	111.1	112.0	116.4	117.8
	Annual energy consumption	3,159	3,681	4,950	5,540	8,419
Part load conditions space heating colder climate low temperature application						
(A) condition (-7°C)	Pdh (declared heating capacity)	2.75	3.42	4.46	4.83	7.05
	COPd (declared COP)	3.49	3.59	3.66	3.60	3.48
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	1.77	2.06	2.69	2.94	4.67
	COPd (declared COP)	4.95	5.21	5.20	5.26	4.96
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	1.17	1.46	1.65	1.92	3.14
	COPd (declared COP)	5.53	6.24	6.53	7.08	6.10
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	1.43	1.44	1.65	1.65	3.57
	COPd (declared COP)	7.67	7.66	7.96	7.96	7.87
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	2.80	3.48	4.06	4.62	7.01
	COPd (declared COP)	1.97	1.96	1.95	1.97	1.98
(F) TbiValent temperature	WTOL (Heating water Operation Limit)	65	65	65	65	65
	Tbiv	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	3.72	4.59	5.69	6.32	9.28
Supplementary capacity at P_design	COPd (declared COP)	2.57	2.53	2.83	2.64	2.59
	Psup (@Tdesign: -22°C)	1.76	2.15	2.91	3.08	4.40
	Part load conditions space heating colder climate medium temperature application					
(A) condition (-7°C)	Pdh (declared heating capacity)	2.13	2.70	3.86	4.27	6.63
	COPd (declared COP)	2.32	2.46	2.48	2.54	2.63
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90

# Product fiche 3

## Heat pump space heating

		Outdoor					Indoor				
		MHA-V14W/D2N8-B2	MHA-V16W/D2N8-B2	MHA-V12W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2RN8-B2	MHA-V16W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V12W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2RN8-B2
Space heating 55°C	Prated (declared heating capacity) @ -22°C	11.0	11.8	10.3	11.0	11.8	11.8	10.3	11.0	11.8	
	Seasonal space heating efficiency (ηs)	118.9	121.8	117.7	118.9	121.8	117.7	118.9	118.9	121.8	
	Annual energy consumption	8,866	9,309	8,420	8,866	9,309	8,420	8,867	8,867	9,310	
Part load conditions space heating colder climate low temperature application											
(A) condition (-7°C)	Pdh (declared heating capacity)	7.96	8.31	7.05	7.96	8.31	7.05	7.96	7.96	8.31	
	COPd (declared COP)	3.44	3.37	3.48	3.44	3.37	3.48	3.44	3.44	3.37	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
(B) condition (2°C)	Pdh (declared heating capacity)	5.05	5.26	4.67	5.05	5.26	4.67	5.05	5.05	5.26	
	COPd (declared COP)	4.92	4.86	4.96	4.92	4.86	4.96	4.92	4.92	4.86	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
(C) condition (7°C)	Pdh (declared heating capacity)	3.15	3.62	3.14	3.15	3.62	3.14	3.15	3.15	3.62	
	COPd (declared COP)	6.11	6.49	6.10	6.11	6.49	6.10	6.11	6.11	6.49	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
(D) condition (12°C)	Pdh (declared heating capacity)	3.57	3.34	3.57	3.57	3.34	3.57	3.57	3.57	3.34	
	COPd (declared COP)	7.82	7.40	7.87	7.82	7.40	7.87	7.82	7.82	7.40	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	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	-22.00	-22.00	-22.00	-22.00	
	Pdh (declared heating capacity)	7.57	8.88	7.01	7.57	8.88	7.01	7.57	7.57	8.88	
	COPd (declared COP)	1.92	1.97	1.98	1.92	1.97	1.98	1.92	1.92	1.97	
(F) Tbiivalent temperature	WTOL (Heating water Operation Limit)	65	65	65	65	65	65	65	65	65	
	Tbiv	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00	
	Pdh (declared heating capacity)	10.31	11.22	9.28	10.31	11.22	9.28	10.31	10.31	11.22	
	COPd (declared COP)	2.53	2.43	2.59	2.53	2.43	2.59	2.53	2.53	2.43	
	Psup (@Tdesign: -22°C)	5.03	4.82	4.40	5.03	4.82	4.40	5.03	5.03	4.82	
Part load conditions space heating colder climate medium temperature application											
(A) condition (-7°C)	Pdh (declared heating capacity)	6.89	7.64	6.63	6.89	7.64	6.63	6.89	6.89	7.64	
	COPd (declared COP)	2.66	2.65	2.63	2.66	2.65	2.63	2.66	2.66	2.65	
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	



# Product fiche 4

## Heat pump space heating

		Outdoor					Indoor					
		MHA-V4W/D2N8-B2	MHA-V6W/D2N8-B2	MHA-V8W/D2N8-B2	MHA-V10W/D2N8-B2	MHA-V12W/D2N8-B2						
(B) condition (2°C)	Pdh (declared heating capacity)	1.28	1.60	2.21	2.57	4.06						
	COPd (declared COP)	2.99	3.36	3.35	3.51	3.60						
	Cdh(declared coefficient)	0.90	0.90	0.90	0.90	0.90						
	Pdh (declared heating capacity)	1.01	1.02	1.44	1.65	2.78						
	COPd (declared COP)	3.86	3.94	4.11	4.37	4.54						
(C) condition (7°C)	Cdh(declared coefficient)	0.90	0.90	0.90	0.90	0.90						
	Pdh (declared heating capacity)	1.36	1.37	1.46	1.47	3.33						
	COPd (declared COP)	6.28	6.35	5.92	5.96	6.25						
	Cdh(declared coefficient)	0.90	0.90	0.90	0.90	0.90						
	Tol (temperature operating limit)	-22.00	-22.00	-22.00	-22.00	-22.00						
(E) Tol (temperature operating limit)	Pdh (declared heating capacity)	1.64	2.09	2.80	2.80	4.19						
	COPd (declared COP)	1.02	1.13	1.22	1.22	1.13						
	WTOL (Heating water Operation Limit)	65	65	65	65	65						
	Tbvw	-15.00	-15.00	-15.00	-15.00	-15.00						
	Pdh (declared heating capacity)	2.74	3.47	4.71	5.47	8.41						
(F) Trivalent temperature	COPd (declared COP)	1.74	1.86	1.90	2.00	1.84						
	Psup (@Tdesign: -22°C)	1.72	2.17	2.97	3.91	6.12						
	Warmer climate (Design temperature = 2°C)											
	Space heating 35°C	Prated (declared heating capacity) @ 2°C	5.5	6.1	8.1	8.6	11.1					
		Seasonal space heating efficiency (ηs)	255.4	259.8	276.6	280.5	256.1					
Annual energy consumption		1,146	1,244	1,551	1,617	2,292						
Prated (declared heating capacity) @ 2°C		5.0	5.1	8.37	8.6	12.5						
Seasonal space heating efficiency (ηs)		162.4	164.7	176.9	180.3	174.0						
Space heating 55°C	Annual energy consumption	1,621	1,640	2,485	2,516	3,776						
	Part load conditions space heating warmer climate low temperature application											
	(B) condition (2°C)	Pdh (declared heating capacity)	5.34	5.93	7.56	8.44	11.10					
		COPd (declared COP)	3.94	3.91	3.98	3.84	3.59					
		Cdh(declared coefficient)	0.90	0.90	0.90	0.90	0.90					
Pdh (declared heating capacity)		3.56	3.93	5.22	5.52	7.14						
COPd (declared COP)		5.92	5.89	6.26	6.18	5.87						
(C) condition (7°C)	Cdh(declared coefficient)	0.90	0.90	0.90	0.90	0.90						

# Product fiche 4

## Heat pump space heating

		Outdoor	MHA-V16W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V12W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2RN8-B2
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.42	4.32	4.06	4.32	4.42	4.32	4.42
	COPd (declared COP)	-	3.79	3.66	3.60	3.79	3.66	3.66	3.79
	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]	2.97	3.06	2.78	3.06	2.97	3.06	2.97
	COPd (declared COP)	-	4.81	4.72	4.54	4.81	4.72	4.72	4.81
	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]	3.43	3.33	3.33	3.43	3.33	3.33	3.43
	COPd (declared COP)	-	6.25	6.25	6.25	6.25	6.25	6.25	6.29
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(E) ToI (temperature operating limit)	ToI (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	4.20	4.20	4.19	4.20	4.20	4.20	5.21
	COPd (declared COP)	-	1.13	1.13	1.13	1.23	1.13	1.13	1.23
(F) Tbv (bivalent temperature)	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65	65
	Tbv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	8.94	8.94	8.41	9.61	8.94	8.94	9.61
Supplementary capacity at P_design	COPd (declared COP)	-	1.79	1.79	1.84	1.86	1.79	1.79	1.86
	Psup (@Tdesignhi: -22°C)	[kW]	6.76	6.76	6.12	6.59	6.76	6.76	6.59
Warmer climate (Design temperature = 2°C)									
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	12.1	12.1	11.1	13.1	13.1	12.1	13.1
	Seasonal space heating efficiency (ηs)	[%]	260.3	248.5	255.6	248.5	259.8	259.8	248.1
	Annual energy consumption	[kWh]	2,457	2,781	2,296	2,781	2,462	2,462	2,786
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	14.17	14.17	12.5	14.17	14.17	14.17	14.17
	Seasonal space heating efficiency (ηs)	[%]	174.9	176.0	173.8	176.0	174.7	174.7	175.8
	Annual energy consumption	[kWh]	4,258	4,231	3,780	4,231	4,231	4,231	4,236
Part load conditions space heating warmer climate low temperature application									
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	12.04	12.04	11.10	13.10	13.10	12.04	13.10
	COPd (declared COP)	-	3.44	3.44	3.59	3.35	3.59	3.44	3.35
	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]	7.78	7.78	7.14	8.41	8.41	7.78	8.41
	COPd (declared COP)	-	5.84	5.84	5.87	5.36	5.87	5.84	5.36
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90

## Product fiche 5

### Heat pump space heating

		MHA-V4W/D2N8-B2	MHA-V6W/D2N8-B2	MHA-V8W/D2N8-B2	MHA-V10W/D2N8-B2	MHA-V12W/D2N8-B2
(D) condition (12°C)	Pdh (declared heating capacity)	1.63	1.79	2.62	2.62	3.55
	COPd (declared COP)	7.91	8.20	9.23	9.04	7.94
(E) Tol (temperature operating limit)	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
	Tol (temperature operating limit)	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	5.34	5.93	7.56	8.44	11.10
	COPd (declared COP)	3.94	3.91	3.98	3.84	3.59
	WTOL (Heating water Operation Limit)	65	65	65	65	65
(F) Tivalent temperature	Tbiv	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	3.56	3.93	5.22	5.52	7.14
	COPd (declared COP)	5.92	5.89	6.26	6.18	5.87
Supplementary capacity at P_design	Psup (@Tdesign: 2°C)	0.18	0.18	0.55	0.14	0.00
Part load conditions space heating warmer climate medium temperature application						
(B) condition (2°C)	Pdh (declared heating capacity)	4.83	5.02	7.55	8.06	12.07
	COPd (declared COP)	2.51	2.48	2.59	2.59	2.31
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	3.22	3.31	5.38	5.54	8.04
(C) condition (7°C)	COPd (declared COP)	3.68	3.67	4.01	4.10	3.86
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	1.47	1.59	2.31	2.53	3.75
(D) condition (12°C)	COPd (declared COP)	5.15	5.29	5.55	5.82	5.70
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
	Tol (temperature operating limit)	2.00	2.00	2.00	2.00	2.00
(E) Tol (temperature operating limit)	Pdh (declared heating capacity)	4.83	5.02	7.55	8.06	12.07
	COPd (declared COP)	2.51	2.48	2.59	2.59	2.31
	WTOL (Heating water Operation Limit)	65	65	65	65	65
(F) Tivalent temperature	Tbiv	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	3.22	3.31	5.38	5.54	8.04
	COPd (declared COP)	3.68	3.67	4.01	4.10	3.86
	Psup (@Tdesign: 2°C)	0.18	0.12	0.82	0.48	0.43

# Product fiche 5

Heat pump space heating		Outdoor				Indoor			
		MHA-V14W/D2N8-B2	MHA-V16W/D2N8-B2	MHA-V12W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2RN8-B2	
(D) condition (12°C)	Pdh (declared heating capacity)	3.75	3.87	3.55	3.75	3.87	3.75	3.87	
	COPd (declared COP)	8.25	8.11	7.94	8.25	8.11	8.25	8.11	
(E) Tol (temperature operating limit)	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
	Tol (temperature operating limit)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
(F) Trivalent temperature	Pdh (declared heating capacity)	12.04	13.10	11.10	12.04	13.10	12.04	13.10	
	COPd (declared COP)	3.44	3.35	3.59	3.44	3.35	3.44	3.35	
Supplementary capacity at P_design	WTOL (Heating water Operation Limit)	65	65	65	65	65	65	65	
	Tbiv	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
Part load conditions space heating warmer climate medium temperature application	Pdh (declared heating capacity)	7.78	8.41	7.14	7.78	8.41	7.78	8.41	
	COPd (declared COP)	5.84	5.36	5.87	5.84	5.36	5.84	5.36	
(B) condition (2°C)	Psup (@Tdesignh: 2°C)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Pdh (declared heating capacity)	13.04	13.38	12.07	13.04	13.38	13.04	13.38	
(C) condition (7°C)	COPd (declared COP)	2.20	2.29	2.31	2.20	2.29	2.20	2.29	
	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)	9.11	9.11	8.04	9.11	9.11	9.11	9.11	
	COPd (declared COP)	3.89	3.89	3.86	3.89	3.89	3.89	3.89	
(E) Tol (temperature operating limit)	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
	Tol (temperature operating limit)	4.08	4.06	3.75	4.08	4.06	4.08	4.06	
(F) Trivalent temperature	Pdh (declared heating capacity)	5.90	5.86	5.70	5.90	5.86	5.90	5.86	
	COPd (declared COP)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Supplementary capacity at P_design	WTOL (Heating water Operation Limit)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
	Tbiv	13.04	13.38	12.07	13.04	13.38	13.04	13.38	
Part load conditions space heating warmer climate medium temperature application	Pdh (declared heating capacity)	2.20	2.29	2.31	2.20	2.29	2.20	2.29	
	COPd (declared COP)	65	65	65	65	65	65	65	
(B) condition (2°C)	Tol (temperature operating limit)	7.00	7.00	7.00	7.00	7.00	7.00	7.00	
	Pdh (declared heating capacity)	9.11	9.11	8.04	9.11	9.11	9.11	9.11	
(C) condition (7°C)	COPd (declared COP)	3.89	3.89	3.86	3.89	3.89	3.89	3.89	
	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)	1.13	0.79	0.43	1.13	0.79	1.13	0.79	
	COPd (declared COP)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	

# Product fiche 6

## Heat pump space heating

Product description		Outdoor		MHA-V4W/D2N8-B2	MHA-V6W/D2N8-B2	MHA-V8W/D2N8-B2	MHA-V10W/D2N8-B2	MHA-V12W/D2N8-B2
		Indoor		HB-A60/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A60/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A100/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A100/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B
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
Rated airflow (outdoor)		[m³/h]		2770	2770	4030	4030	4060
Rated water/brine flow (outdoor H/E)		-		/	/	/	/	/
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
Pek (Power crankcase heater mode)		[kW]		0.000	0.000	0.000	0.000	0.000
Qelec (Daily electricity consumption)		[kWh]		/	/	/	/	/
Ofuel (Daily fuel consumption)		[kWh]		/	/	/	/	/

**Note:**

Indoor unit type explanation:

Hydraulic module series

1) HB-A60/C\*\*\*GN8-B includes the following type:

HB-A60/CGN8-B: without back-up heater.

HB-A60/CD30GN8-B: with 3kW back-up heater and 1-Phase Source.

2) HB-A100/C\*\*\*GN8-B includes the following type:

HB-A100/CGN8-B: without back-up heater.

HB-A100/CD30GN8-B: with 3kW back-up heater and 1-Phase Source.

HB-A100/CD S90GN8-B: with 9kW back-up heater and 3-Phase Source.

3) HB-A160/C\*\*\*GN8-B includes the following type:

HB-A160/CGN8-B: without back-up heater.

HB-A160/CD30GN8-B: with 3kW back-up heater and 1-Phase Source.

HB-A160/CD S90GN8-B: with 9kW back-up heater and 3-Phase Source.

M-thermal tank series

1) HBT-A100/190CD\*\*\*GN8-B includes the following type:

HBT-A100/190CD30GN8-B: 190L tank with 3kW back-up heater and 1-Phase Source.

HBT-A100/190CD60GN8-B: 190L tank with 6kW back-up heater and 1-Phase Source.

HBT-A100/190CDS90GN8-B: 190L tank with 9kW back-up heater and 3-Phase Source.

2) HBT-A100/240CD\*\*\*GN8-B includes the following type:

HBT-A100/240CD30GN8-B: 240L tank with 3kW back-up heater and 1-Phase Source.

HBT-A100/240CD60GN8-B: 240L tank with 6kW back-up heater and 1-Phase Source.

HBT-A100/240CDS90GN8-B: 240L tank with 9kW back-up heater and 3-Phase Source.

3) HBT-A160/240CD\*\*\*GN8-B includes the following type:

HBT-A160/240CD30GN8-B: 240L tank with 3kW back-up heater and 1-Phase Source.

HBT-A160/240CD60GN8-B: 240L tank with 6kW back-up heater and 1-Phase Source.

HBT-A160/240CDS90GN8-B: 240L tank with 9kW back-up heater and 3-Phase Source.

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

		Outdoor	MHA-V14W/D2N8-B2	MHA-V16W/D2N8-B2	MHA-V12W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2RN8-B2
Product description		Y/N	Yes	Yes	Yes	Yes	Yes
Air-to-water heat pump		Y/N	No	No	No	No	No
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	Yes	Yes	Yes	Yes	Yes
Equipped with a supplementary heater		Y/N	Yes	Yes	Yes	Yes	Yes
Heat pump combination heater		Y/N	Yes	Yes	Yes	Yes	Yes
Rated airflow (outdoor)		[m <sup>3</sup> /h]	4060	4060	4060	4060	4650
Rated water/brine flow (outdoor H/E)		-	/	/	/	/	/
Capacity control		-	Inverter	Inverter	Inverter	Inverter	Inverter
Poff (Power consumption Off mode)		[kW]	0.014	0.014	0.020	0.020	0.020
Pto (Power consumption Thermostat off mode)		[kW]	0.024	0.024	0.030	0.030	0.030
Psb (Power consumption Standby mode)		[kW]	0.014	0.014	0.020	0.020	0.020
Pck (Power crankcase heater mode)		[kW]	0.000	0.000	0.000	0.000	0.000
Qelec (Daily electricity consumption)		[kWh]	/	/	/	/	/
Qfuel (Daily fuel consumption)		[kWh]	/	/	/	/	/

**Note:**

Indoor unit type explanation:

Hydraulic module series

1).HB-A60/C\*\*\*GN8-B includes the following type:

HB-A60/CGN8-B: without back-up heater.

HB-A60/CD30GN8-B: with 3kW back-up heater and 1-Phase Source.

2).HB-A100/C\*\*\*GN8-B includes the following type:

HB-A100/CGN8-B: without back-up heater.

HB-A100/CD30GN8-B: with 3kW back-up heater and 1-Phase Source.

HB-A100/CDS90GN8-B: with 9kW back-up heater and 1-Phase Source.

3).HB-A160/C\*\*\*GN8-B includes the following type:

HB-A160/CGN8-B: without back-up heater.

HB-A160/CD30GN8-B: with 3kW back-up heater and 1-Phase Source.

HB-A160/CDS90GN8-B: with 9kW back-up heater and 3-Phase Source.

M-thermal tank series

1).HBT-A100/190CD\*\*\*GN8-B includes the following type:

HBT-A100/190CD30GN8-B: 190L tank with 3kW back-up heater and 1-Phase Source.

HBT-A100/190CD60GN8-B: 190L tank with 6kW back-up heater and 1-Phase Source.

HBT-A100/190CDS90GN8-B: 190L tank with 9kW back-up heater and 3-Phase Source.

2).HBT-A100/240CD\*\*\*GN8-B includes the following type:

HBT-A100/240CD30GN8-B: 240L tank with 3kW back-up heater and 1-Phase Source.

HBT-A100/240CD60GN8-B: 240L tank with 6kW back-up heater and 1-Phase Source.

HBT-A100/240CDS90GN8-B: 240L tank with 9kW back-up heater and 3-Phase Source.

3).HBT-A160/240CD\*\*\*GN8-B includes the following type:

HBT-A160/240CD30GN8-B: 240L tank with 3kW back-up heater and 1-Phase Source.

HBT-A160/240CD60GN8-B: 240L tank with 6kW back-up heater and 1-Phase Source.

HBT-A160/240CDS90GN8-B: 240L tank with 9kW back-up heater and 3-Phase Source.

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

		MHA-V4W/D2N8-B2	MHA-V6W/D2N8-B2	MHA-V8W/D2N8-B2	MHA-V10W/D2N8-B2	MHA-V12W/D2N8-B2
Indoor unit sound power (*)		38	40	42	42	43
Outdoor unit sound power (*)		56	58	60	61	65
Average climate low temperature application		55	58	60	60	64
Average climate medium temperature application		4.7	7.0	7.4	8.2	11.6
Prated (declared cooling capacity) @ 35°C		196.2	209.5	230.1	235.3	194.2
Seasonal space cooling efficiency (ηs)		566	791	762	826	1,412
Annual energy consumption		4.5	6.55	8.4	10.0	12.0
Prated (declared cooling capacity) @ 35°C		307.7	326.8	354.9	348.8	282.4
Seasonal space cooling efficiency (ηs)		348	477	563	682	1,009
Annual energy consumption						
Part load conditions space cooling : low temperature application@7°C						
(A) condition (35°C)		Pdc (declared cooling capacity)	7.00	7.40	8.20	11.60
		EERd (declared EER)	3.00	3.38	3.30	2.75
		Cdc(degradation coefficient)	0.90	0.90	0.90	0.90
(B) condition (30°C)		Pdc (declared cooling capacity)	5.13	5.72	6.68	8.76
		EERd (declared EER)	4.00	4.71	4.47	3.93
		Cdc(degradation coefficient)	0.90	0.90	0.90	0.90
(C) condition (25°C)		Pdc (declared cooling capacity)	3.48	3.62	4.26	5.81
		EERd (declared EER)	6.45	6.65	7.02	5.73
		Cdc(degradation coefficient)	0.90	0.90	0.90	0.90
(D) condition (20°C)		Pdc (declared cooling capacity)	1.53	1.64	1.94	2.63
		EERd (declared EER)	7.73	8.55	9.54	6.75
		Cdc(degradation coefficient)	0.90	0.90	0.90	0.90

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

## Product fiche 7

### Heat pump space cooling

		Outdoor	MHA-V14W/D2N8-B2	MHA-V16W/D2N8-B2	MHA-V12W/D2RN8-B2	MHA-V14W/D2RN8-B2	MHA-V16W/D2RN8-B2
Indoor unit sound power (*)		Indoor	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B
Average climate low temperature application		dB	44	44	43	44	44
Average climate medium temperature application		dB	65	68	65	65	68
Prated (declared cooling capacity) @ 35°C		dB	64	67	64	64	67
Space cooling 7°C		[kW]	12.7	14.0	11.6	12.7	14.0
Seasonal space cooling efficiency (ns)		[%]	192.4	184.1	193.0	191.4	183.3
Annual energy consumption		[kWh]	1,560	1,796	1,420	1,568	1,804
Prated (declared cooling capacity) @ 35°C		[kW]	13.5	14.2	12.0	13.5	14.2
Seasonal space cooling efficiency (ns)		[%]	274.4	266.8	280.1	272.5	265.0
Annual energy consumption		[kWh]	1,168	1,263	1,017	1,176	1,271
Part load conditions space cooling: low temperature application@7°C							
(A) condition (35°C)		[kW]	12.70	14.00	11.60	12.70	14.00
EERd (declared EER)		-	2.55	2.45	2.75	2.55	2.45
Cdc(degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)		[kW]	9.41	10.68	8.76	9.41	10.68
EERd (declared EER)		-	3.85	3.63	3.93	3.85	3.63
Cdc(degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)		[kW]	6.16	6.76	5.81	6.16	6.76
EERd (declared EER)		-	5.80	5.27	5.73	5.80	5.27
Cdc(degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)		[kW]	2.63	3.41	2.63	2.63	3.41
EERd (declared EER)		-	6.74	7.29	6.75	6.74	7.29
Cdc(degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90

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



# Product fiche 8

## Heat pump space cooling

		Outdoor	MHA-V4W/D2N8-B2	MHA-V6W/D2N8-B2	MHA-V8W/D2N8-B2	MHA-V10W/D2N8-B2	MHA-V12W/D2N8-B2
		Indoor	HB-A60/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A60/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A100/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A100/C***GN8-B HBT-A100/190CD***GN8-B HBT-A100/240CD***GN8-B	HB-A160/C***GN8-B HBT-A160/240CD***GN8-B
Part load conditions space cooling; medium temperature application@18°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	4.50	6.55	8.40	10.00	12.00
	EERd (declared EER)	-	5.55	4.90	5.05	4.80	4.00
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	3.44	4.84	6.47	7.71	9.21
	EERd (declared EER)	-	7.23	7.16	7.02	6.45	5.50
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	2.19	3.26	4.31	5.03	5.74
	EERd (declared EER)	-	8.94	9.64	10.67	10.36	8.66
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	1.13	1.41	1.80	2.32	3.33
	EERd (declared EER)	-	10.48	11.48	13.61	14.98	10.07
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m³/h]	2770	2770	4030	4030	4060
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pto (Power consumption Thermostat off mode)	[kW]	0.010	0.010	0.010	0.010	0.010
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

# Product fiche 8

## Heat pump space cooling

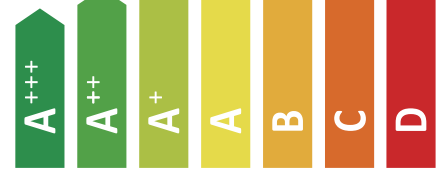
		Part load conditions space cooling: medium temperature application@18°C					
		Outdoor	MHA-V14W/D2N8-B2 HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	MHA-V16W/D2N8-B2 HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	MHA-V12W/D2RN8-B2 HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	MHA-V14W/D2RN8-B2 HB-A160/C***GN8-B HBT-A160/240CD***GN8-B	MHA-V16W/D2RN8-B2 HB-A160/C***GN8-B HBT-A160/240CD***GN8-B
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	13.50	14.20	12.00	13.50	14.20
	EERd (declared EER)	-	3.61	3.61	4.00	3.61	3.61
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	10.20	11.42	9.21	10.20	11.42
	EERd (declared EER)	-	5.26	5.14	5.50	5.26	5.14
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	6.57	7.27	5.74	6.57	7.27
	EERd (declared EER)	-	8.45	7.83	8.66	8.45	7.83
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	3.33	3.40	3.33	3.33	3.40
	EERd (declared EER)	-	10.07	10.35	10.07	10.07	10.35
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m <sup>3</sup> /h]	4060	4650	4060	4060	4650
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pto (Power consumption Thermostat off mode)	[kW]	0.010	0.010	0.010	0.010	0.010
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/



MHA-V4W/D2N8-B2  
HB-A60/CGN8-B



55°C 35°C



A+++  
A++  
A+

A+++  
A++

38dB

56dB

3 4 5 kW

3 4 5 kW

2019

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MHA-V4W/D2N8-B2  
HB-A60/CD30GN8-B



55°C 35°C



A+++  
A++  
A+

A+++  
A++

38dB

56dB

3 4 5 kW

3 4 5 kW

2019

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MHA-V4W/D2N8-B2  
HBT-A100/190CD30GN8-B



55°C

35°C



**A<sup>+++</sup>**

**A<sup>++</sup>**

**A<sup>+++</sup>**

**A<sup>++</sup>**

**38dB**

**56dB**

**3** **4** **5** kW

**5** **5** **5** kW

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MHA-V4W/D2N8-B2  
HBT-A100/190CDS90GN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D

A<sup>+++</sup>

A<sup>++</sup>

**38dB**

**56dB**

3 4 5 kW

5 5 5 kW



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MHA-V4W/D2N8-B2  
HBT-A100/240CD30GN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D

A<sup>+++</sup>

A<sup>++</sup>

**38dB**

**56dB**

3 4 5 kW

5 5 5 kW



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MHA-V4W/D2N8-B2  
HBT-A100/240CD60GN8-B



55°C

35°C



**A**  
+++

**A**  
++

**38dB**

**56dB**

■ 3  
■ 4  
■ 5  
kW

■ 5  
■ 5  
■ 5  
kW



2019

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MHA-V4W/D2N8-B2  
HBT-A100/240CDS90GN8-B



55°C

35°C



**A**  
+++

**A**  
++

**38dB**

**56dB**

■ 3  
■ 4  
■ 5  
kW

■ 5  
■ 5  
■ 5  
kW



2019

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MHA-V6W/D2N8-B2  
HB-A60/CGN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D

A<sup>+++</sup>

A<sup>++</sup>

**38dB**

**58dB**

4    6    5    kW

6    7    6    kW



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**ENERG**  
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MHA-V6W/D2N8-B2  
HB-A60/CD30GN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D

A<sup>+++</sup>

A<sup>++</sup>

**38dB**

**58dB**


4    6    5    kW

6    7    6    kW





2019

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MHA-V6W/D2N8-B2  
HBT-A100/190CD30GN8-B





55°C


35°C




A+++  
A++  
A+  
A  
B  
C  
D




A++



A+++




**38dB**



**58dB**


4    6    5    kW

6    7    6    kW





2019

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MHA-V6W/D2N8-B2  
HBT-A100/190CD60GN8-B





55°C


35°C




A+++  
A++  
A+  
A  
B  
C  
D




A++



A+++




**38dB**



**58dB**

4    6    5    kW


6    7    6    kW




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MHA-V6W/D2N8-B2  
HBT-A100/190CDS90GN8-B






55°C




35°C









**38dB**




**58dB**




4 6 5 kW  
6 7 6 kW

2019


811/2013




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енергия · ενεργεια




MHA-V6W/D2N8-B2  
HBT-A100/240CD30GN8-B






55°C




35°C









**38dB**



**58dB**



4 6 5 kW  
6 7 6 kW

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V6W/D2N8-B2  
HBT-A100/240CD60GN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D

A<sup>+++</sup>

A<sup>++</sup>

**38dB**

**58dB**

4 6 5 kW

6 7 6 kW



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MHA-V6W/D2N8-B2  
HBT-A100/240CDS90GN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D

A<sup>+++</sup>

A<sup>++</sup>

**38dB**

**58dB**

4 6 5 kW

6 7 6 kW



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MHA-V8W/D2N8-B2  
HB-A100/CGN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D

A<sup>+++</sup>

A<sup>++</sup>

55°C

35°C



**42dB**

6

7

8

kW

6

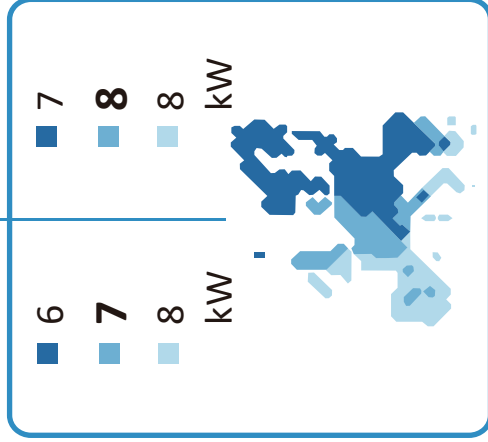
7

8

kW



**59dB**



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**ENERG**  
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Y IJA  
IE IA



MHA-V8W/D2N8-B2  
HBT-A100/190CD30GN8-B



35°C

55°C



**A**  
+++

**A**  
++

Two icons of a house with sound waves. The first icon is labeled **40dB**. The second icon is labeled **59dB**.

A chart showing energy consumption in kW for three scenarios: 6 kW, 7 kW, and 8 kW. A map of Europe is shown with a blue shaded area indicating the product's availability.

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Y IJA  
IE IA



MHA-V8W/D2N8-B2  
HB-A100/CDS90GN8-B



35°C

55°C



**A**  
+++

**A**  
++

Two icons of a house with sound waves. The first icon is labeled **42dB**. The second icon is labeled **59dB**.

A chart showing energy consumption in kW for three scenarios: 6 kW, 7 kW, and 8 kW. A map of Europe is shown with a blue shaded area indicating the product's availability.

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MHA-V8W/D2N8-B2  
HBT-A100/190CD60GN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D



**40dB**

**59dB**

2019

6 7 8 kW

7 8 8 kW

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V8W/D2N8-B2  
HBT-A100/190CDS90GN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D



**40dB**

**59dB**

2019

6 7 8 kW

7 8 8 kW

811/2013



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MHA-V8W/D2N8-B2  
HBT-A100/240CD30GN8-B



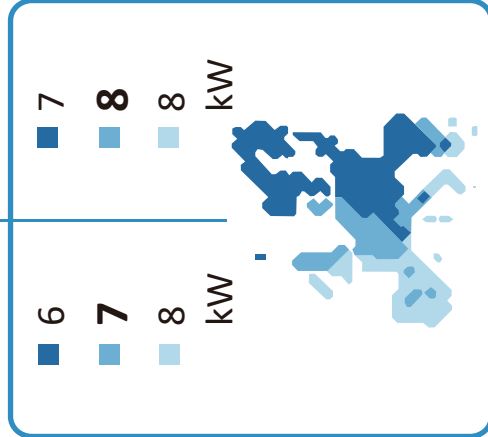
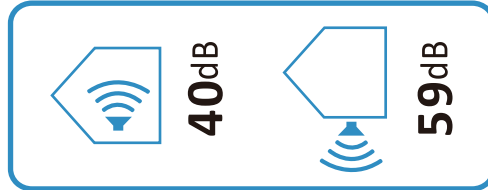
55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**



2019

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MHA-V8W/D2N8-B2  
HBT-A100/240CD60GN8-B



55°C

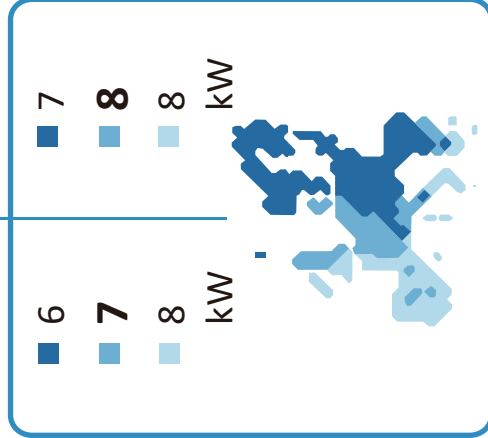
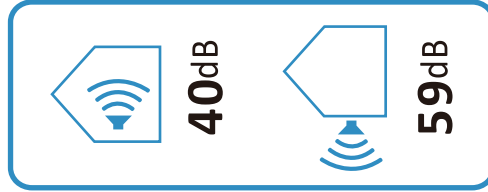
35°C



**A<sup>+++</sup>**

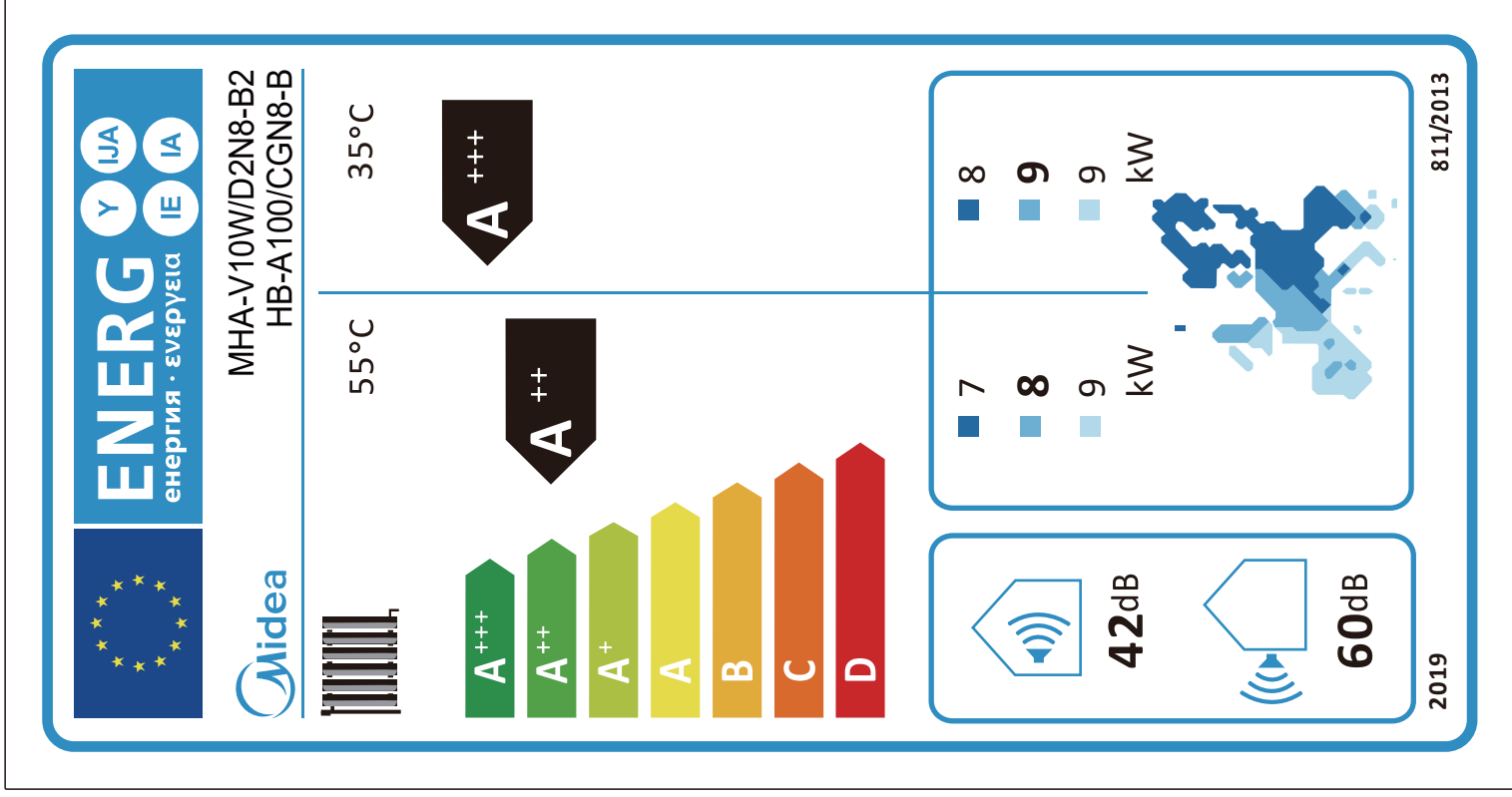
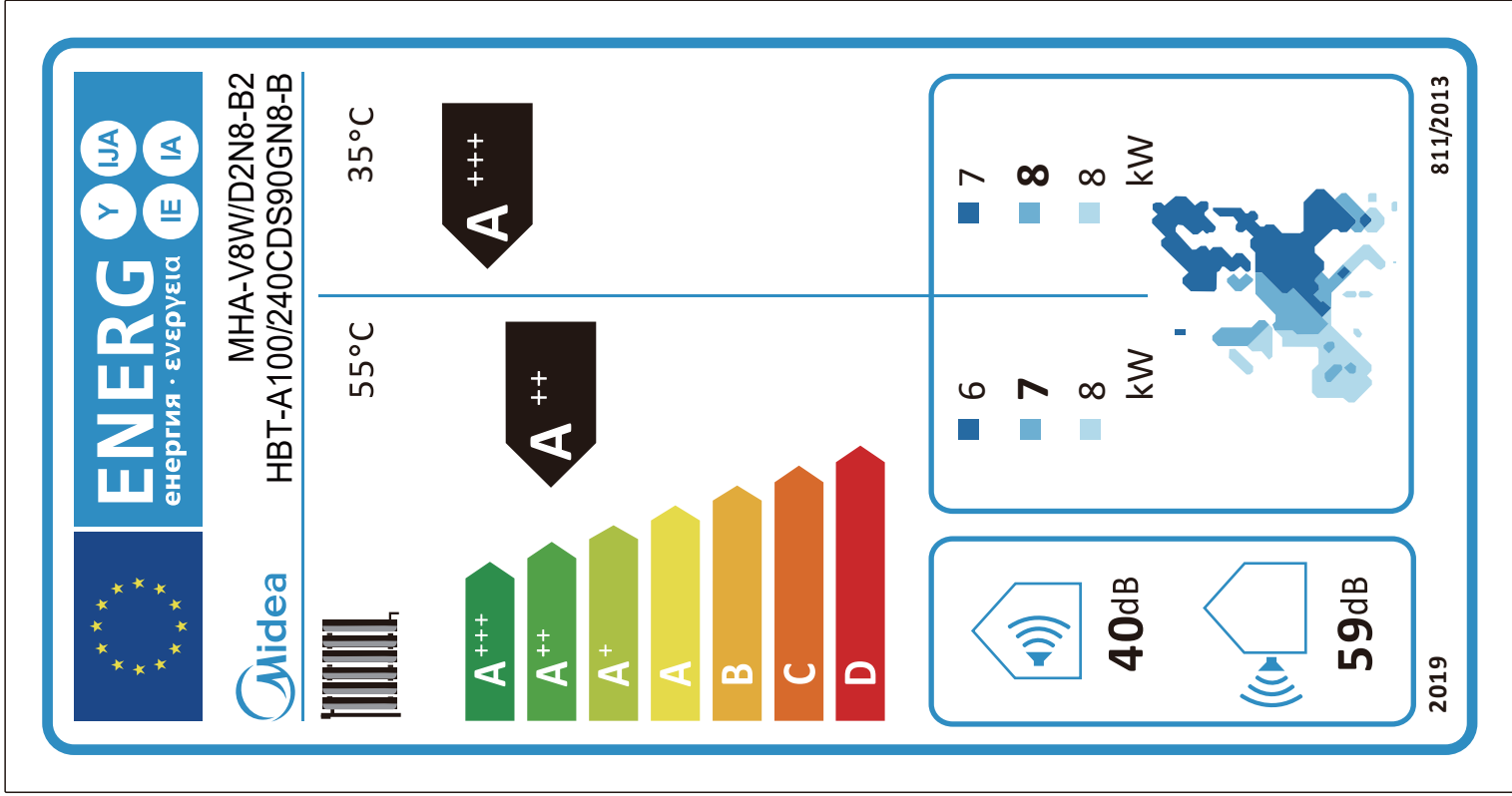
**A<sup>++</sup>**

**A<sup>+++</sup>**



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MHA-V10W/D2N8-B2  
HB-A100/CDS90GN8-B



55°C      35°C



42dB      60dB

7	8	9	kW
8	9	9	kW

2019

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MHA-V10W/D2N8-B2  
HB-A100/CD30GN8-B



55°C      35°C



42dB      60dB

7	8	9	kW
8	9	9	kW

2019

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**ENERG**  
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MHA-V10W/D2N8-B2  
HBT-A100/190CD30GN8-B



55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**

**40dB**

**60dB**

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V10W/D2N8-B2  
HBT-A100/190CD60GN8-B



55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**

**40dB**

**60dB**

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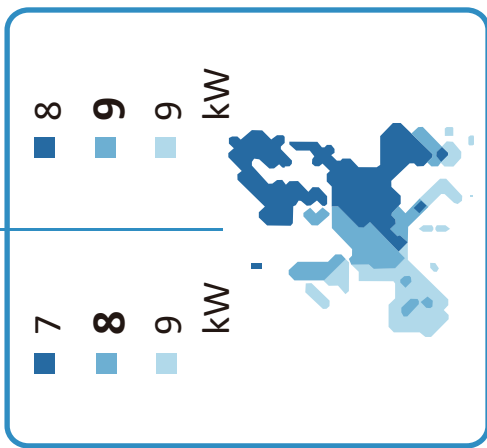
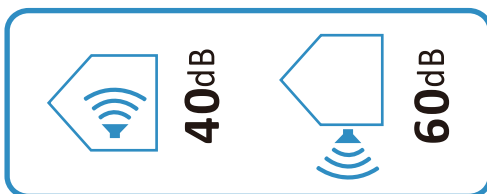


MHA-V10W/D2N8-B2  
HBT-A100/190CDS90GN8-B



55°C

35°C



2019

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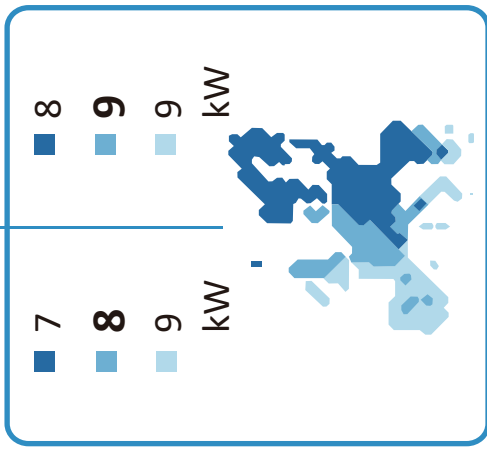
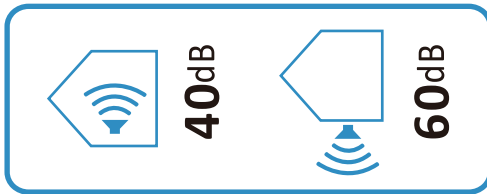


MHA-V10W/D2N8-B2  
HBT-A100/240CD30GN8-B



55°C

35°C



2019

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**ENERG**  
енергия · ενεργεια



MHA-V10W/D2N8-B2  
HBT-A100/240CD60GN8-B



55°C

35°C



**A**  
++

**A**  
+++

**40dB**

**60dB**

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V10W/D2N8-B2  
HBT-A100/240CDS90GN8-B



55°C

35°C



**A**  
++

**A**  
+++

**40dB**

**60dB**

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V12W/D2N8-B2  
HB-A160/CGN8-B



55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**

**43dB**

**64dB**

■ 10  
■ **12**  
■ 12  
kW

■ 11  
■ **12**  
■ 11  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V12W/D2N8-B2  
HB-A160/CD30GN8-B



55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**

**43dB**

**64dB**

■ 10  
■ **12**  
■ 12  
kW

■ 11  
■ **12**  
■ 11  
kW



2019

811/2013



MHA-V12W/D2N8-B2  
HB-A160/CDS90GN8-B



55°C 35°C



A+++  
A++  
A+  
A  
B  
C  
D

A++

A+++

**43dB**

**64dB**

10 12 12 kW

11 12 11 kW

2019

811/2013



MHA-V12W/D2N8-B2  
HBT-A160/240CD30GN8-B



55°C 35°C



A+++  
A++  
A+  
A  
B  
C  
D

A++

A+++

**42dB**

**64dB**

10 12 12 kW

11 12 11 kW

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V12W/D2N8-B2  
HBT-A160/240CD60GN8-B



55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**

**42dB**

10    12    11 kW

12    12    11 kW

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V12W/D2N8-B2  
HBT-A160/240CDS90GN8-B



55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**

**42dB**

10    12    11 kW

12    12    11 kW

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V12W/D2RN8-B2  
HB-A160/CGN8-B



55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**

**43dB**

**64dB**

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V12W/D2RN8-B2  
HB-A160/CD30GN8-B



55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**

**43dB**

**64dB**

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V12W/D2RN8-B2  
HB-A160/CDS90GN8-B



55°C      35°C



**A<sup>+++</sup>**

**A<sup>++</sup>**

**43dB**

■ 10	■ 12	■ 11	kW
■ 10	■ 12	■ 11	kW

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V12W/D2RN8-B2  
HBT-A160/240CD30GN8-B



55°C      35°C



**A<sup>+++</sup>**

**A<sup>++</sup>**

**42dB**

■ 10	■ 12	■ 11	kW
■ 10	■ 12	■ 11	kW

2019

811/2013





**ENERG**  
енергия · ενεργεια



MHA-V12W/D2RN8-B2  
HBT-A160/240CD60GN8-B



55°C      35°C



**A<sup>+++</sup>**

**A<sup>++</sup>**

**42dB**

**64dB**

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V12W/D2RN8-B2  
HBT-A160/240CDS90GN8-B



55°C      35°C



**A<sup>+++</sup>**

**A<sup>++</sup>**

**A<sup>+</sup>**

**A**

**B**

**C**

**D**

**42dB**

**64dB**

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V14W/D2N8-B2  
HB-A160/CGN8-B



55°C

35°C



**A+++**

**A++**

**43dB**

**65dB**

■ 11  
■ **12**  
■ 14  
kW

■ 13  
■ **14**  
■ 12  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V14W/D2N8-B2  
HB-A160/CD30GN8-B



55°C

35°C



**A+++**

**A++**

**43dB**

**65dB**


■ 11  
■ **12**  
■ 14  
kW

■ 13  
■ **14**  
■ 12  
kW





2019

811/2013




енергия · ενεργεια

MHA-V14W/D2N8-B2  
HB-A160/CDS90GN8-B


55°C

35°C




**A** **+++**

**A** **++**




**43dB**



**65dB**


11    **12**    14    kW

13    **14**    12    kW





2019

811/2013




енергия · ενεργεια

MHA-V14W/D2N8-B2  
HBT-A160/240CD30GN8-B


55°C

35°C




**A** **+++**

**A** **++**




**44dB**



**65dB**

11    **12**    14    kW

13    **14**    12    kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V14W/D2N8-B2  
HBT-A160/240CD60GN8-B



55°C

35°C



**A**<sup>++</sup>

**A**<sup>+++</sup>

**44dB**

**65dB**

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V14W/D2N8-B2  
HBT-A160/240CDS90GN8-B



55°C

35°C



**A**<sup>++</sup>

**A**<sup>+++</sup>

**44dB**

**65dB**

2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V14W/D2RN8-B2  
HB-A160/CGN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

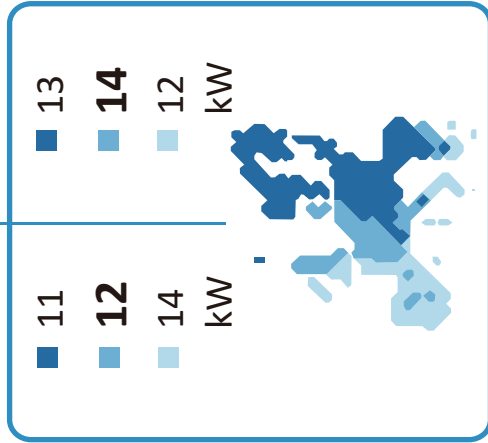
D

A<sup>+++</sup>

A<sup>++</sup>



**43dB**



**65dB**



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V14W/D2RN8-B2  
HB-A160/CD30GN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

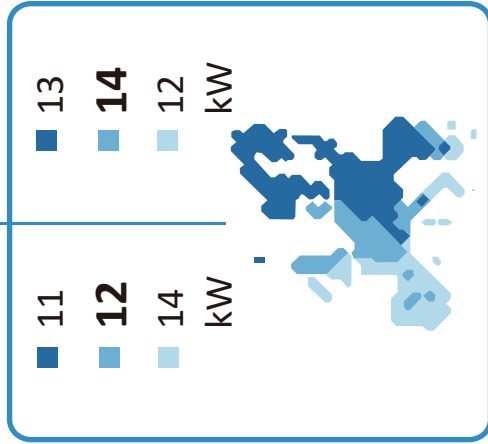
D

A<sup>+++</sup>

A<sup>++</sup>



**43dB**



**65dB**



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V14W/D2RN8-B2  
HB-A160/CDS90GN8-B



55°C

35°C



**A**  
+++

**A**  
++

**43dB**

**65dB**

■ 11  
■ **12**  
■ 14  
kW

■ 13  
■ **14**  
■ 12  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V14W/D2RN8-B2  
HBT-A160/240CD30GN8-B



55°C

35°C



**A**  
+++

**A**  
++

**44dB**

**65dB**

■ 11  
■ **12**  
■ 14  
kW

■ 13  
■ **14**  
■ 12  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V14W/D2RN8-B2  
HBT-A160/240CD60GN8-B



55°C

35°C

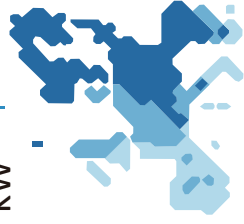


**44dB**

**65dB**

■ 11  
■ **12**  
■ 14  
kW

■ 13  
■ **14**  
■ 12  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V14W/D2RN8-B2  
HBT-A160/240CDS90GN8-B



55°C

35°C



**44dB**

**65dB**

■ 11  
■ **12**  
■ 14  
kW

■ 13  
■ **14**  
■ 12  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V16W/D2N8-B2  
HB-A160/CGN8-B



55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**

**43dB**

**68dB**

■ 12  
■ **13**  
■ 14  
kW

■ 14  
■ **15**  
■ 13  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V16W/D2N8-B2  
HB-A160/CD30GN8-B



55°C

35°C



**A<sup>++</sup>**

**A<sup>+++</sup>**

**43dB**

**68dB**

■ 12  
■ **13**  
■ 14  
kW

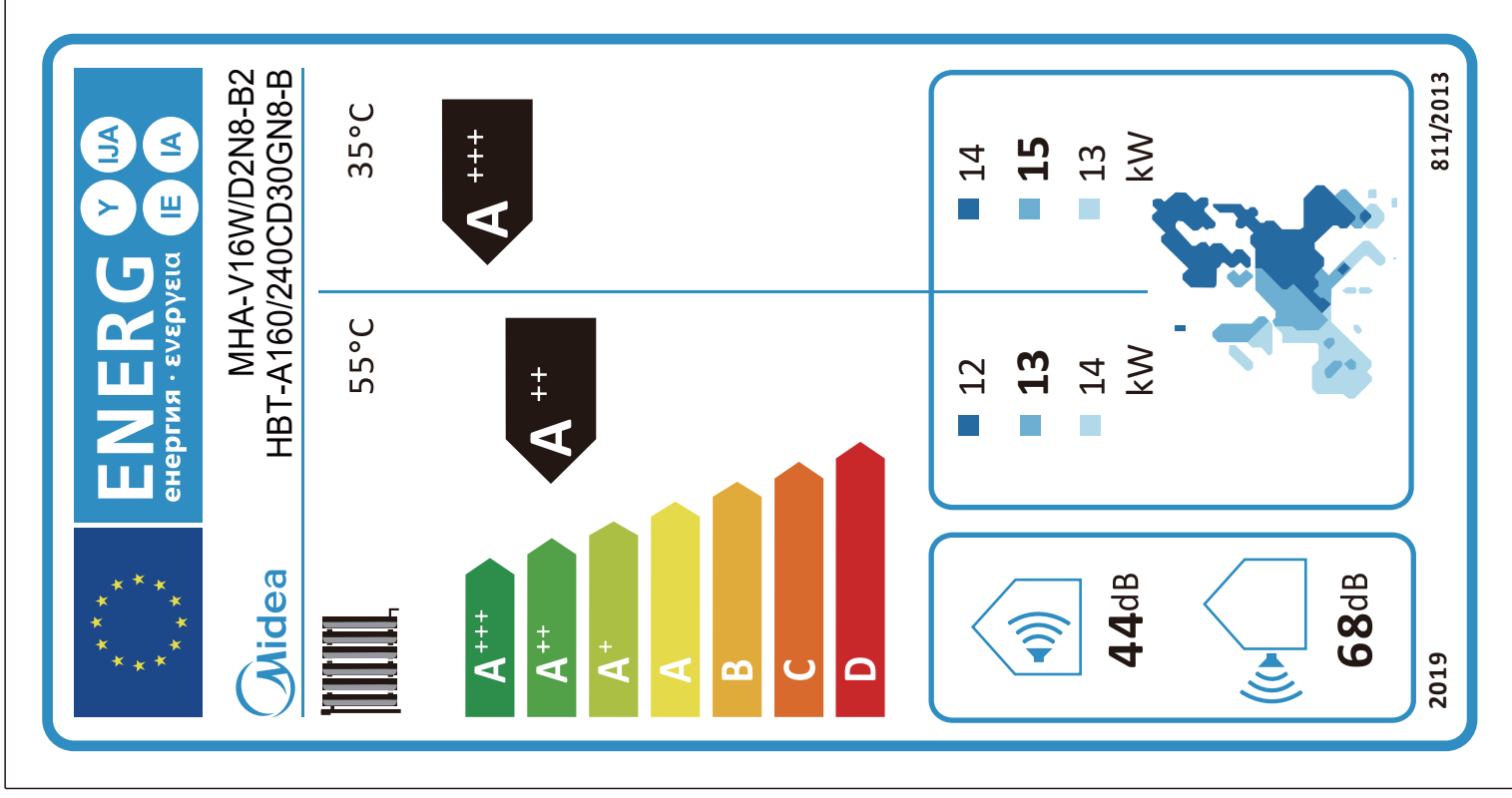
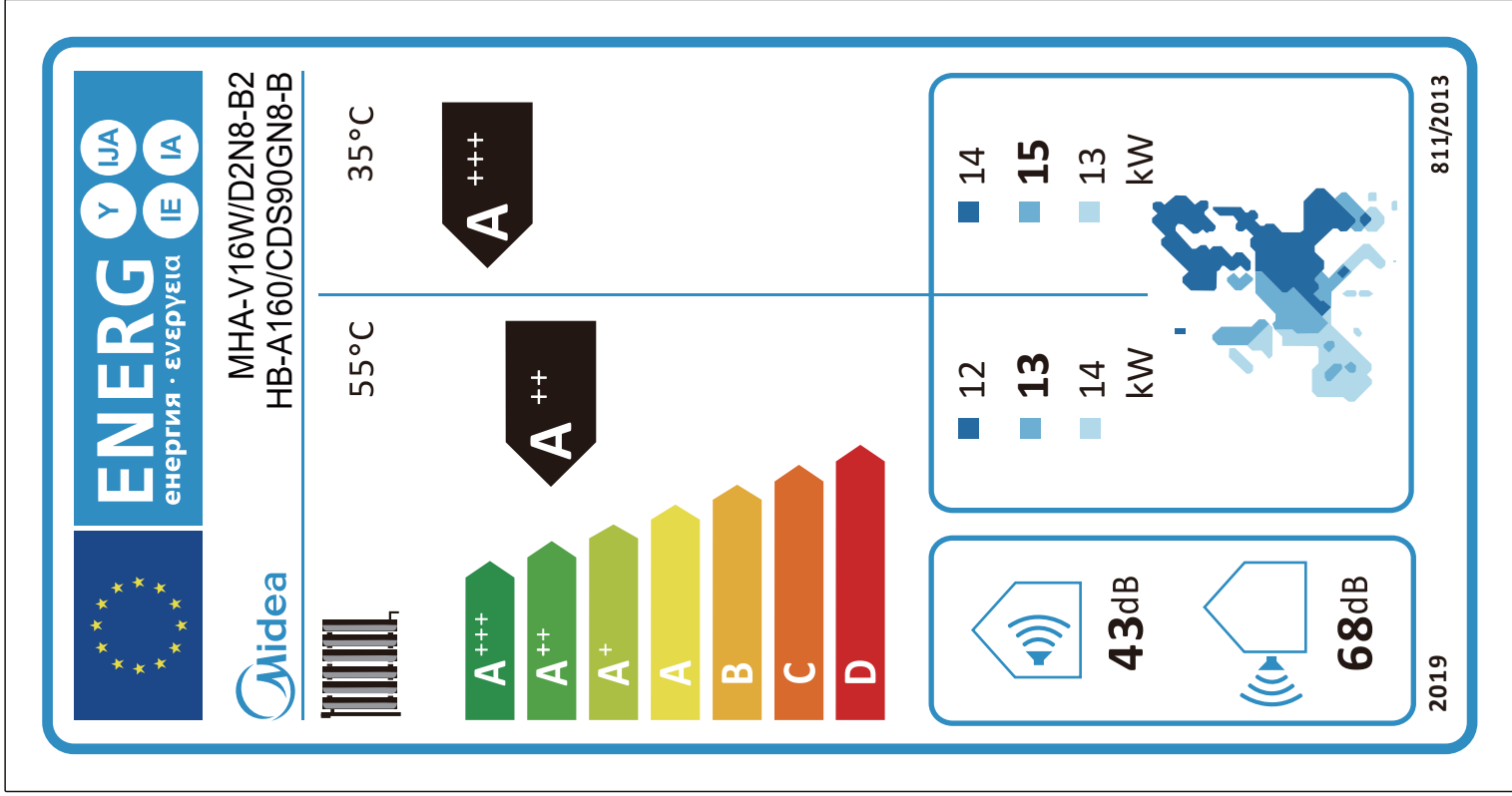
■ 14  
■ **15**  
■ 13  
kW



2019

811/2013







**ENERG**  
енергия · ενεργεια

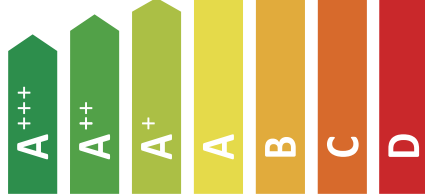


MHA-V16W/D2N8-B2  
HBT-A160/240CD60GN8-B



55°C

35°C



**A**  
+++

**A**  
++

**44dB**

**68dB**

■ 12  
■ **13**  
■ 14  
kW

■ 14  
■ **15**  
■ 13  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V16W/D2N8-B2  
HBT-A160/240CDS90GN8-B



55°C

35°C



**A**  
+++

**A**  
++

**44dB**

**68dB**

■ 12  
■ **13**  
■ 14  
kW

■ 14  
■ **15**  
■ 13  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V16W/D2RN8-B2  
HB-A160/CGN8-B



55°C

35°C

A+++

A++

A+

A

B

C

D

A+++

A++

A+++

A++



**43dB**



**68dB**

■ 12  
■ 13  
■ 14  
kW

■ 14  
■ 15  
■ 13  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V16W/D2RN8-B2  
HB-A160/CD30GN8-B



55°C

35°C

A+++

A++

A+

A

B

C

D

A+++

A++



**43dB**



**68dB**

■ 12  
■ 13  
■ 14  
kW

■ 14  
■ 15  
■ 13  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V16W/D2RN8-B2  
HB-A160/CDS90GN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D

A<sup>++</sup>

A<sup>+++</sup>



**43dB**



**68dB**

■ 12  
■ **13**  
■ 14  
kW

■ 14  
■ **15**  
■ 13  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V16W/D2RN8-B2  
HBT-A160/240CD30GN8-B



55°C

35°C

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

D

A<sup>++</sup>

A<sup>+++</sup>



**44dB**



**68dB**

■ 12  
■ **13**  
■ 14  
kW

■ 14  
■ **15**  
■ 13  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V16W/D2RN8-B2  
HBT-A160/240CD60GN8-B



55°C

35°C

A+++

A++

A+

A

B

C

D

A+++

A++

A+++

A++

**44dB**

**68dB**

■ 12  
■ 13  
■ 14  
kW

■ 14  
■ 15  
■ 13  
kW



2019

811/2013



**ENERG**  
енергия · ενεργεια



MHA-V16W/D2RN8-B2  
HBT-A160/240CDS90GN8-B



55°C

35°C

A+++

A++

A+

A

B

C

D

A+++

A++

A+++

A++

**44dB**

**68dB**

■ 12  
■ 13  
■ 14  
kW

■ 14  
■ 15  
■ 13  
kW



2019

811/2013

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-V4W/D2N8-B2	HB-A60/C***GN8-B	4.50	0.81	5.55	4.70	1.36	3.45	4.25	0.82	5.20	4.45	1.10	4.05
	HBT-A100/190CD***GN8-B	4.50	0.81	5.55	4.70	1.36	3.45	4.25	0.82	5.20	4.45	1.10	4.05
	HBT-A100/240CD***GN8-B	4.50	0.81	5.55	4.70	1.36	3.45	4.25	0.82	5.20	4.45	1.10	4.05
MHA-V6W/D2N8-B2	HB-A60/C***GN8-B	6.55	1.34	4.90	7.00	2.33	3.00	6.20	1.24	5.00	5.50	1.39	3.95
	HBT-A100/190CD***GN8-B	6.55	1.34	4.90	7.00	2.33	3.00	6.20	1.24	5.00	5.50	1.39	3.95
	HBT-A100/240CD***GN8-B	6.55	1.34	4.90	7.00	2.33	3.00	6.20	1.24	5.00	5.50	1.39	3.95
MHA-V8W/D2N8-B2	HB-A100/C***GN8-B	8.40	1.66	5.05	7.40	2.19	3.38	8.30	1.60	5.20	7.10	1.73	4.10
	HBT-A100/190CD***GN8-B	8.40	1.66	5.05	7.40	2.19	3.38	8.30	1.60	5.20	7.10	1.73	4.10
	HBT-A100/240CD***GN8-B	8.40	1.66	5.05	7.40	2.19	3.38	8.30	1.60	5.20	7.10	1.73	4.10
MHA-V10W/D2N8-B2	HB-A100/C***GN8-B	10.00	2.08	4.80	8.20	2.48	3.30	10.00	2.00	5.00	8.20	2.02	4.05
	HBT-A100/190CD***GN8-B	10.00	2.08	4.80	8.20	2.48	3.30	10.00	2.00	5.00	8.20	2.02	4.05
	HBT-A100/240CD***GN8-B	10.00	2.08	4.80	8.20	2.48	3.30	10.00	2.00	5.00	8.20	2.02	4.05
MHA-V12W/D2N8-B2	HB-A160/C***GN8-B	12.00	3.00	4.00	11.60	4.22	2.75	12.10	2.44	4.95	9.30	2.35	3.95
	HBT-A160/240CD***GN8-B	12.00	3.00	4.00	11.60	4.22	2.75	12.10	2.44	4.95	9.30	2.35	3.95
	HBT-A160/240CD***GN8-B	12.00	3.00	4.00	11.60	4.22	2.75	12.10	2.44	4.95	9.30	2.35	3.95
MHA-V14W/D2N8-B2	HB-A160/C***GN8-B	13.50	3.74	3.61	12.70	4.98	2.55	14.50	3.09	4.70	11.40	3.12	3.65
	HBT-A160/240CD***GN8-B	13.50	3.74	3.61	12.70	4.98	2.55	14.50	3.09	4.70	11.40	3.12	3.65
	HBT-A160/240CD***GN8-B	13.50	3.74	3.61	12.70	4.98	2.55	14.50	3.09	4.70	11.40	3.12	3.65
MHA-V16W/D2N8-B2	HB-A160/C***GN8-B	14.20	3.94	3.61	14.00	5.71	2.45	16.00	3.56	4.50	13.00	3.71	3.50
	HBT-A160/240CD***GN8-B	14.20	3.94	3.61	14.00	5.71	2.45	16.00	3.56	4.50	13.00	3.71	3.50
	HBT-A160/240CD***GN8-B	14.20	3.94	3.61	14.00	5.71	2.45	16.00	3.56	4.50	13.00	3.71	3.50

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-V4W/D2N8-B2	HB-A60/C***GN8-B	4.80	1.52	3.15	4.35	1.14	3.80	5.10	1.70	3.00	4.30	1.83	2.35
	HBT-A100/190CD***GN8-B	4.80	1.52	3.15	4.35	1.14	3.80	5.10	1.70	3.00	4.30	1.83	2.35
	HBT-A100/240CD***GN8-B	4.80	1.52	3.15	4.35	1.14	3.80	5.10	1.70	3.00	4.30	1.83	2.35
MHA-V6W/D2N8-B2	HB-A60/C***GN8-B	6.10	2.00	3.05	6.35	1.69	3.75	5.80	1.93	3.00	5.40	2.25	2.40
	HBT-A100/190CD***GN8-B	6.10	2.00	3.05	6.35	1.69	3.75	5.80	1.93	3.00	5.40	2.25	2.40
	HBT-A100/240CD***GN8-B	6.10	2.00	3.05	6.35	1.69	3.75	5.80	1.93	3.00	5.40	2.25	2.40
MHA-V8W/D2N8-B2	HB-A100/C***GN8-B	7.10	2.18	3.25	8.20	2.08	3.95	7.40	2.28	3.25	6.60	2.59	2.55
	HBT-A100/190CD***GN8-B	7.10	2.18	3.25	8.20	2.08	3.95	7.40	2.28	3.25	6.60	2.59	2.55
	HBT-A100/240CD***GN8-B	7.10	2.18	3.25	8.20	2.08	3.95	7.40	2.28	3.25	6.60	2.59	2.55
MHA-V10W/D2N8-B2	HB-A100/C***GN8-B	8.25	2.62	3.15	10.00	2.63	3.80	7.85	2.45	3.20	7.35	2.88	2.55
	HBT-A100/190CD***GN8-B	8.25	2.62	3.15	10.00	2.63	3.80	7.85	2.45	3.20	7.35	2.88	2.55
	HBT-A100/240CD***GN8-B	8.25	2.62	3.15	10.00	2.63	3.80	7.85	2.45	3.20	7.35	2.88	2.55
MHA-V12W/D2N8-B2	HB-A160/C***GN8-B	10.00	3.33	3.00	12.30	3.24	3.80	10.70	3.57	3.00	10.20	4.25	2.40
	HBT-A100/240CD***GN8-B	10.00	3.33	3.00	12.30	3.24	3.80	10.70	3.57	3.00	10.20	4.25	2.40
	HBT-A160/C***GN8-B	10.00	3.33	3.00	12.30	3.24	3.80	10.70	3.57	3.00	10.20	4.25	2.40
MHA-V14W/D2N8-B2	HB-A160/C***GN8-B	12.00	4.29	2.80	14.20	3.89	3.65	11.70	4.09	2.86	11.80	5.02	2.35
	HBT-A160/240CD***GN8-B	12.00	4.29	2.80	14.20	3.89	3.65	11.70	4.09	2.86	11.80	5.02	2.35
	HB-A160/C***GN8-B	12.00	4.29	2.80	14.20	3.89	3.65	11.70	4.09	2.86	11.80	5.02	2.35
MHA-V16W/D2N8-B2	HB-A160/C***GN8-B	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.49	2.85	12.90	5.78	2.23
	HBT-A160/240CD***GN8-B	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.49	2.85	12.90	5.78	2.23
	HB-A160/C***GN8-B	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.49	2.85	12.90	5.78	2.23
MHA-V16W/D2N8-B2	HB-A160/C***GN8-B	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.44	2.85	12.90	5.78	2.23
	HBT-A160/240CD***GN8-B	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.44	2.85	12.90	5.78	2.23
	HB-A160/C***GN8-B	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.44	2.85	12.90	5.78	2.23

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-V4W/D2N8-B2	HB-A60/C***GN8-B	4.40	1.49	2.95	5.10	2.08	2.45	4.00	2.05	1.95
	HBT-A100/190CD***GN8-B	4.40	1.49	2.95	5.10	2.08	2.45	4.00	2.05	1.95
	HBT-A100/240CD***GN8-B	4.40	1.49	2.95	5.10	2.08	2.45	4.00	2.05	1.95
MHA-V6W/D2N8-B2	HB-A60/C***GN8-B	6.00	2.00	3.00	5.65	2.31	2.45	5.15	2.58	2.00
	HBT-A100/190CD***GN8-B	6.00	2.00	3.00	5.65	2.31	2.45	5.15	2.58	2.00
	HBT-A100/240CD***GN8-B	6.00	2.00	3.00	5.65	2.31	2.45	5.15	2.58	2.00
MHA-V8W/D2N8-B2	HB-A100/C***GN8-B	7.50	2.36	3.18	7.10	2.73	2.60	6.15	3.00	2.05
	HBT-A100/190CD***GN8-B	7.50	2.36	3.18	7.10	2.73	2.60	6.15	3.00	2.05
	HBT-A100/240CD***GN8-B	7.50	2.36	3.18	7.10	2.73	2.60	6.15	3.00	2.05
MHA-V10W/D2N8-B2	HB-A100/C***GN8-B	9.50	3.06	3.10	8.10	3.16	2.56	6.85	3.43	2.00
	HBT-A100/190CD***GN8-B	9.50	3.06	3.10	8.10	3.16	2.56	6.85	3.43	2.00
	HBT-A100/240CD***GN8-B	9.50	3.06	3.10	8.10	3.16	2.56	6.85	3.43	2.00
MHA-V12W/D2N8-B2	HB-A160/C***GN8-B	12.00	3.87	3.10	11.40	4.47	2.55	10.00	4.88	2.05
	HBT-A160/240CD***GN8-B	12.00	3.87	3.10	11.40	4.47	2.55	10.00	4.88	2.05
	HBT-A160/240CD***GN8-B	12.00	3.87	3.10	11.40	4.47	2.55	10.00	4.88	2.05
MHA-V14W/D2N8-B2	HB-A160/C***GN8-B	13.80	4.60	3.00	12.40	5.06	2.45	11.00	5.37	2.05
	HBT-A160/240CD***GN8-B	13.80	4.60	3.00	12.40	5.06	2.45	11.00	5.37	2.05
	HBT-A160/240CD***GN8-B	13.80	4.60	3.00	12.40	5.06	2.45	11.00	5.37	2.05
MHA-V16W/D2N8-B2	HB-A160/C***GN8-B	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02
	HBT-A160/240CD***GN8-B	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02
	HBT-A160/240CD***GN8-B	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02
MHA-V16W/D2RN8-B2	HB-A160/C***GN8-B	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02
	HBT-A160/240CD***GN8-B	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02



# ErP Information

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

## Specified Information of Fan:

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

# ErP Information

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

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	29.1%
2	Overall efficiency ( $\eta_e$ ) =	33.7%
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	1.37m <sup>3</sup> /s
10.3	Rated motor pressure(s) at optimum energy efficiency	40Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	GUANGDONG WELLING MOTOR MANUFACTURING CO.,LTD.

# ErP Information

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

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{target} =$	29.0%
2	Overall efficiency ( $\eta_e$ ) =	34.6%
3	Pass or not (Criteria: $\eta_e \geq \eta_{target}$ )	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =4.57
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.180kw
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.378m <sup>3</sup> /s
10.3	Rated motor pressure(s) at optimum energy efficiency	40Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency, such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	Panasonic Motor (HangZhou) CO.,LTD



## 印刷技术要求

材质	封面铜板纸105g, 内页80g双胶纸
规格	210*297(胶装, 双面打印, 沿短边装订)
颜色	彩色
其他	

## 设计更改记录表 (仅做说明用, 不做菲林)

版本升级	更改人	更改日期	更改主要内容	涉及更改页面 (印刷页码)
V. A-V. B	钟永华	2024. 1. 16	见附件修改记录表	见附件修改记录表

颜色标注, 请参照下图:

