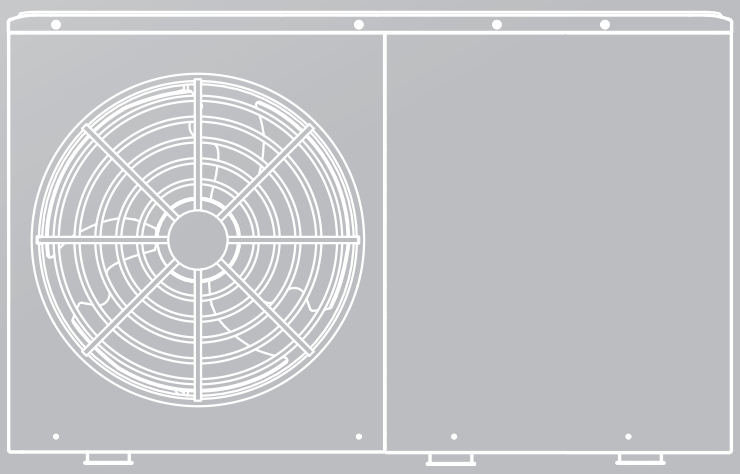
Kaysun

TECHNICAL DATA MANUAL

ATW Heat Pump



IMPORTANT NOTE:

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

Model	For medium - temperature application										
Outdoor unit	Energy efficiency class	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	kW	%	kWh	kW	%	kWh	kW	%	kWh
KHP-MO 4 DVP	A++	56	4.9	148.6	2668	4.3	124.3	3328	4.7	170.6	1446
KHP-MO 4 DVP-E**	A++	56	4.9	148.6	2668	4.3	124.3	3328	4.7	170.6	1446
KHP-MO 6 DVP	A++	58	5.9	149.7	3191	5.9	132.0	4325	6.0	179.0	1762
KHP-MO 6 DVP-E**	A++	58	5.9	149.7	3191	5.9	132.0	4325	6.0	179.0	1762
KHP-MO 8 DVP	A++	60	6.8	149.7	3676	7.0	135.2	4992	8.3	184.3	2368
KHP-MO 8 DVP-E**	A++	60	6.8	149.7	3676	7.0	135.2	4992	8.3	184.3	2368
KHP-MO 8 DVP-ER**	A++	60	6.8	149.7	3676	7.0	135.2	4992	8.3	184.3	2368
KHP-MO 10 DVP	A++	61	7.8	149.8	4215	8.0	136.4	5659	8.8	188.5	2456
KHP-MO 10 DVP -E**	A++	61	7.8	149.8	4215	8.0	136.4	5659	8.8	188.5	2456
KHP-MO 10 DVP -ER**	A++	61	7.8	149.8	4215	8.0	136.4	5659	8.8	188.5	2456
KHP-MO 12 DVP	A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724
KHP-MO 12 DVP -E**	A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724
KHP-MO 12 DVP -ER**	A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724
KHP-MO 14 DVP	A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256
KHP-MO 14 DVP -E**	A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256
KHP-MO 14 DVP -ER**	A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256
KHP-MO 16 DVP	A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306
KHP-MO 16 DVP-E**	A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306
KHP-MO 16 DVP-ER**	A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306
KHP-MO 12 DTP	A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724
KHP-MO 12 DTP-E**	A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724
KHP-MO 12 DTP-ER**	A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724
KHP-MO 14 DTP	A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256
KHP-MO 14 DTP -E**	A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256
KHP-MO 14 DTP -ER**	A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256
KHP-MO 16 DTP	A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306
KHP-MO 16 DTP -E**	A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306
KHP-MO 16 DTP -ER**	A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306

Unit type explanation:
1.KHP-MO ** DV(T)P, without back-up heater,
2.KHP-MO ** DV(T)P-E30, with 3kW back-up heater and 1-Phase power source
3.KHP-MO ** DV(T)P-ER60, with 6kW back-up heater and 3-Phase power source
4.KHP-MO ** DV(T)P-ER90, with 9kW back-up heater and 3-Phase power source

Model	For low - temperature application											
Outdoor unit	Energy efficiency class	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	kW	%	kWh	kW	%	kWh	kW	%	kWh	
KHP-MO 4 DVP	A+++	56	5.0	199.8	2034	5.0	158.3	3056	4.6	235.9	1024	
KHP-MO 4 DVP-E**	A+++	56	5.0	199.8	2034	5.0	158.3	3056	4.6	235.9	1024	
KHP-MO 6 DVP	A+++	58	6.4	192.6	2700	6.3	166.7	3663	5.5	242.4	1198	
KHP-MO 6 DVP-E**	A+++	58	6.4	192.6	2700	6.3	166.7	3663	5.5	242.4	1198	
KHP-MO 8 DVP	A+++	60	8.0	204.4	3184	6.8	174.5	3772	8.2	259.2	1669	
KHP-MO 8 DVP-E**	A+++	60	8.0	204.4	3184	6.8	174.5	3772	8.2	259.2	1669	
KHP-MO 8 DVP-ER**	A+++	60	8.0	204.4	3184	6.8	174.5	3772	8.2	259.2	1669	
KHP-MO 10 DVP	A+++	61	9.2	199.9	3744	7.9	178.7	4269	8.6	281.3	1614	
KHP-MO 10 DVP -E**	A+++	61	9.2	199.9	3744	7.9	178.7	4269	8.6	281.3	1614	
KHP-MO 10 DVP -ER**	A+++	61	9.2	199.9	3744	7.9	178.7	4269	8.6	281.3	1614	
KHP-MO 12 DVP	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	
KHP-MO 12 DVP -E**	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	
KHP-MO 12 DVP -ER**	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	
KHP-MO 14 DVP	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	
KHP-MO 14 DVP -E**	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	
KHP-MO 14 DVP -ER**	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	
KHP-MO 16 DVP	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	
KHP-MO 16 DVP-E**	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	
KHP-MO 16 DVP-ER**	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	
KHP-MO 12 DTP	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	
KHP-MO 12 DTP-E**	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	
KHP-MO 12 DTP-ER**	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	
KHP-MO 14 DTP	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	
KHP-MO 14 DTP -E**	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	
KHP-MO 14 DTP -ER**	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	
KHP-MO 16 DTP	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	
KHP-MO 16 DTP -E**	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	
KHP-MO 16 DTP -ER**	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	

Unit type explanation:

1. KHP-MO ** DV(T)P, without back-up heater,
2. KHP-MO ** DV(T)P-E30, with 3kW back-up heater and 1-Phase power source
3. KHP-MO ** DV(T)P-ER60, with 6kW back-up heater and 3-Phase power source
4. KHP-MO ** DV(T)P-ER90, with 9kW back-up heater and 3-Phase power source

Product fiche 1

Heat pump space heater		Outdoor	KHP-MO 4 DVP-***	KHP-MO 6 DVP-***	KHP-MO 8 DVP-***	KHP-MO 10 DVP-***	KHP-MO 12 DVP-***
Outdoor unit sound power (*)	Average climate low temperature application	dB	56	58	60	61	65
	Average climate medium temperature application	dB	56	58	60	61	65
Capicity of the back-up heater integrated in the unit	Psup back-up heater (optional)	[kW]	0/3	0/3	0/3/6/9	0/3/6/9	0/3/6/9
Space heating	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++	A++
Average climate (Design temperature = –10°C)							
Space heating 35°C	Prated (declared heating capacity) @ –10°C	[kW]	5.0	6.4	8.0	9.2	12.1
	Seasonal space heating efficiency (ηs)	[%]	199.8	192.6	204.4	199.9	183.7
	Annual energy consumption	[kWh]	2,034	2,700	3,184	3,744	5,352
Space heating 55°C	Prated (declared heating capacity) @ –10°C	[kW]	4.9	5.9	6.8	7.8	12.0
	Seasonal space heating efficiency (ηs)	[%]	148.6	149.7	149.7	149.8	141.8
	Annual energy consumption	[kWh]	2,668	3,191	3,676	4,215	6,843
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	4.45	5.75	7.09	8.11	10.75
	COPd (declared COP)	-	3.39	3.10	3.06	2.84	2.78
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.75	3.71	4.53	5.10	6.73
	COPd (declared COP)	-	5.04	4.73	5.10	4.96	4.55
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.72	2.72	3.96	3.96	5.23
	COPd (declared COP)	-	6.72	6.92	7.47	7.47	6.89
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.14	3.15	4.51	4.48	5.34
	COPd (declared COP)	-	8.52	8.65	9.66	9.56	7.41
	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]	5.00	5.50	7.97	8.50	10.77
	COPd (declared COP)	-	2.92	2.87	2.56	2.52	2.61
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75

Product fiche 1

Heat pump space heater		Outdoor	KHP-MO 14 DVP-***	KHP-MO 16 DVP-***	KHP-MO 12 DTP-***	KHP-MO 14 DTP-***	KHP-MO 16 DTP-***
Outdoor unit sound power (*)	Average climate low temperature application	dB	65	69	65	65	69
	Average climate medium temperature application	dB	65	69	65	65	69
Capicity of the back-up heater integrated in the unit	Psup back-up heater (optional)	[kW]	0/3/6/9	0/3/6/9	0/3/6/9	0/3/6/9	0/3/6/9
Space heating	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++	A++
Average climate (Design temperature = –10°C)							
Space heating 35°C	Prated (declared heating capacity) @ –10°C	[kW]	13.7	14.7	12.1	13.7	14.7
	Seasonal space heating efficiency (ηs)	[%]	182.2	180.5	183.7	182.2	180.5
	Annual energy consumption	[kWh]	6,110	6,617	5,352	6,110	6,617
Space heating 55°C	Prated (declared heating capacity) @ –10°C	[kW]	13.0	14.4	12.0	13.0	14.4
	Seasonal space heating efficiency (ηs)	[%]	141.4	139.9	141.8	141.4	139.9
	Annual energy consumption	[kWh]	7,438	8,349	6,843	7,438	8,349
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	12.08	13.04	10.75	12.08	13.04
	COPd (declared COP)	-	2.66	2.54	2.78	2.66	2.54
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	7.55	8.00	6.73	7.55	8.00
	COPd (declared COP)	-	4.45	4.40	4.55	4.45	4.40
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	5.25	5.26	5.23	5.25	5.26
	COPd (declared COP)	-	7.06	7.12	6.89	7.06	7.12
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	5.23	5.28	5.34	5.23	5.28
	COPd (declared COP)	-	7.46	7.56	7.41	7.46	7.56
	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]	11.62	12.81	10.77	11.62	12.81
	COPd (declared COP)	-	2.53	2.37	2.61	2.53	2.37
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75

Product fiche 2

Heat pump space heater		Outdoor	KHP-MO 4 DVP-***	KHP-MO 6 DVP-***	KHP-MO 8 DVP-***	KHP-MO 10 DVP-***	KHP-MO 12 DVP-***
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	4.45	5.75	7.09	8.11	10.75
	COPd (declared COP)	-	3.39	3.10	3.06	2.84	2.78
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	0.00	0.90	0.05	0.66	1.33
Part load conditions space heating average climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	4.36	5.36	5.97	6.88	10.58
	COPd (declared COP)	-	2.60	2.41	2.37	2.31	2.23
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.65	3.12	3.71	4.23	6.59
	COPd (declared COP)	-	3.75	3.73	3.85	3.80	3.52
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.57	2.62	3.62	3.62	4.78
	COPd (declared COP)	-	4.97	5.21	5.12	5.21	4.99
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.04	3.03	4.31	4.31	5.59
	COPd (declared COP)	-	6.55	6.78	6.77	6.86	6.41
	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]	4.36	5.10	6.46	7.42	10.15
	COPd (declared COP)	-	2.08	2.15	2.08	1.99	2.05
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	4.36	5.36	5.97	6.88	10.58
	COPd (declared COP)	-	2.60	2.41	2.37	2.31	2.23
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	0.57	0.75	0.29	0.35	1.95
Colder climate (Design temperature = –22°C)							
Space heating 35°C	Prated (declared heating capacity) @ –22°C	[kW]	5.0	6.3	6.8	7.9	11.5
	Seasonal space heating efficiency (ηs)	[%]	158.3	166.7	174.5	178.7	162.1
	Annual energy consumption	[kWh]	3,056	3,663	3,772	4,269	6,869

Product fiche 2

Heat pump space heater		Outdoor	KHP-MO 14 DVP-***	KHP-MO 16 DVP-***	KHP-MO 12 DTP-***	KHP-MO 14 DTP-***	KHP-MO 16 DTP-***
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	12.08	13.04	10.75	12.08	13.04
	COPd (declared COP)	-	2.66	2.54	2.78	2.66	2.54
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	2.08	1.89	1.33	2.08	1.89
Part load conditions space heating average climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	11.47	12.78	10.58	11.47	12.78
	COPd (declared COP)	-	2.15	2.05	2.23	2.15	2.05
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	7.29	7.96	6.59	7.29	7.96
	COPd (declared COP)	-	3.50	3.44	3.52	3.50	3.44
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	4.85	4.78	4.78	4.85	4.78
	COPd (declared COP)	-	5.10	5.13	4.99	5.10	5.13
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	5.60	5.72	5.59	5.60	5.72
	COPd (declared COP)	-	6.46	6.58	6.41	6.46	6.58
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	10.97	12.54	10.15	10.97	12.54
	COPd (declared COP)	-	2.02	1.94	2.05	2.02	1.94
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	11.47	12.78	10.58	11.47	12.78
	COPd (declared COP)	-	2.15	2.05	2.23	2.15	2.05
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	2.03	1.86	1.95	2.03	1.86
Colder climate (Design temperature = –22°C)							
Space heating 35°C	Prated (declared heating capacity) @ –22°C	[kW]	12.6	14.6	11.5	12.6	14.6
	Seasonal space heating efficiency (ηs)	[%]	162.3	160.2	162.1	162.3	160.2
	Annual energy consumption	[kWh]	7,513	8,813	6,869	7,513	8,813

Product fiche 3

Heat pump space heater		Outdoor	KHP-MO 4 DVP-***	KHP-MO 6 DVP-***	KHP-MO 8 DVP-***	KHP-MO 10 DVP-***	KHP-MO 12 DVP-***
Space heating 55°C	Prated (declared heating capacity) @ –22°C	[kW]	4.3	5.9	7.0	8.0	10.8
	Seasonal space heating efficiency (ηs)	[%]	124.3	132.0	135.2	136.4	127.3
	Annual energy consumption	[kWh]	3,328	4,325	4,992	5,659	8,197
Part load conditions space heating colder climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	3.02	3.90	4.11	4.89	7.11
	COPd (declared COP)	-	3.54	3.71	3.97	3.74	3.47
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.20	2.34	3.18	3.07	4.33
	COPd (declared COP)	-	4.89	5.15	5.60	5.66	5.18
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.84
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.61	2.69	3.90	3.83	5.08
	COPd (declared COP)	-	6.60	6.85	6.46	7.63	6.46
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	2.86	2.91	4.43	4.46	5.15
	COPd (declared COP)	-	7.03	7.46	8.67	9.24	6.84
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	3.40	3.96	5.64	6.39	7.70
	COPd (declared COP)	-	1.98	1.95	2.09	2.08	2.04
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
(F) Tbivalent temperature	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	4.08	5.15	5.48	6.42	9.39
	COPd (declared COP)	-	2.56	2.56	2.73	2.69	2.49
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	1.60	2.35	1.15	1.48	3.80
Part load conditions space heating colder climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	2.60	3.56	4.49	4.85	6.76
	COPd (declared COP)	-	2.75	2.89	2.87	2.90	2.72
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 3

Heat pump space heater		Outdoor	KHP-MO 14 DVP-***	KHP-MO 16 DVP-***	KHP-MO 12 DTP-***	KHP-MO 14 DTP-***	KHP-MO 16 DTP-***
Space heating 55°C	Prated (declared heating capacity) @ –22°C	[kW]	12.0	13.9	10.8	12.0	13.9
	Seasonal space heating efficiency (ηs)	[%]	126.1	128.4	127.3	126.1	128.4
	Annual energy consumption	[kWh]	9,168	10,408	8,197	9,168	10,408
Part load conditions space heating colder climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	7.83	8.89	7.11	7.83	8.89
	COPd (declared COP)	-	3.35	3.25	3.47	3.35	3.25
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.77	5.87	4.33	4.77	5.87
	COPd (declared COP)	-	5.37	5.22	5.18	5.37	5.22
	Cdh(degradation coefficient)	-	0.89	0.90	0.84	0.89	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	5.08	5.24	5.08	5.08	5.24
	COPd (declared COP)	-	6.50	6.67	6.46	6.50	6.67
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	5.15	5.32	5.15	5.15	5.32
	COPd (declared COP)	-	6.85	7.26	6.84	6.85	7.26
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	8.57	10.06	7.70	8.57	10.06
	COPd (declared COP)	-	2.01	2.02	2.04	2.01	2.02
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
(F) Tbivalent temperature	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	10.31	11.91	9.39	10.31	11.91
	COPd (declared COP)	-	2.39	2.41	2.49	2.39	2.41
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	4.03	4.54	3.80	4.03	4.54
Part load conditions space heating colder climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	7.39	8.30	6.76	7.39	8.30
	COPd (declared COP)	-	2.67	2.70	2.72	2.67	2.70
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 4

Heat pump space heater		Outdoor	KHP-MO 4 DVP-***	KHP-MO 6 DVP-***	KHP-MO 8 DVP-***	KHP-MO 10 DVP-***	KHP-MO 12 DVP-***
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.11	2.28	3.07	3.09	4.14
	COPd (declared COP)	-	3.91	4.12	4.38	4.38	4.05
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.47	2.55	3.67	3.76	5.00
	COPd (declared COP)	-	5.04	5.31	5.58	5.64	5.15
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	2.77	2.82	4.36	4.32	5.01
	COPd (declared COP)	-	6.14	6.22	7.22	6.92	5.66
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	2.96	3.44	5.08	5.80	6.84
	COPd (declared COP)	-	1.43	1.44	1.54	1.57	1.52
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
(F) Tbivalent temperature	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	3.51	4.94	5.69	6.55	8.84
	COPd (declared COP)	-	2.11	2.08	2.09	1.99	1.98
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	1.34	2.48	1.92	2.20	3.96
Warmer climate (Design temperature = 2°C)							
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	4.6	5.5	8.2	8.6	11.7
	Seasonal space heating efficiency (ηs)	[%]	235.9	242.4	259.2	281.3	232.9
	Annual energy consumption	[kWh]	1,024	1,198	1,669	1,614	2,651
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	4.7	6.0	8.3	8.8	12.4
	Seasonal space heating efficiency (ηs)	[%]	170.6	179.0	184.3	188.5	174.9
	Annual energy consumption	[kWh]	1,446	1,762	2,368	2,456	3,724
Part load conditions space heating warmer climate low temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.47	5.48	8.27	8.61	11.58
	COPd (declared COP)	-	4.08	3.87	3.59	3.62	3.30
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.97	3.57	5.27	5.52	7.57
	COPd (declared COP)	-	5.78	5.77	6.03	6.26	5.78
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 4

Heat pump space heater		Outdoor	KHP-MO 14 DVP-***	KHP-MO 16 DVP-***	KHP-MO 12 DTP-***	KHP-MO 14 DTP-***	KHP-MO 16 DTP-***
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.56	5.18	4.14	4.56	5.18
	COPd (declared COP)	-	4.00	4.03	4.05	4.00	4.03
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	4.99	5.17	5.00	4.99	5.17
	COPd (declared COP)	-	5.20	5.44	5.15	5.20	5.44
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	5.06	5.23	5.01	5.06	5.23
	COPd (declared COP)	-	5.81	6.07	5.66	5.81	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]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	7.63	9.07	6.84	7.63	9.07
	COPd (declared COP)	-	1.53	1.56	1.52	1.53	1.56
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
(F) Tbivalent temperature	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	9.77	11.32	8.84	9.77	11.32
	COPd (declared COP)	-	1.95	1.97	1.98	1.95	1.97
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	4.37	4.83	3.96	4.37	4.83
Warmer climate (Design temperature = 2°C)							
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	12.7	14.3	11.7	12.7	14.3
	Seasonal space heating efficiency (ηs)	[%]	231.1	238.9	232.9	231.1	238.9
	Annual energy consumption	[kWh]	2,897	3,159	2,651	2,897	3,159
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	14.1	14.9	12.4	14.1	14.9
	Seasonal space heating efficiency (ηs)	[%]	174.1	181.9	174.9	174.1	181.9
	Annual energy consumption	[kWh]	4,256	4,306	3,724	4,256	4,306
Part load conditions space heating warmer climate low temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	12.41	13.82	11.58	12.41	13.82
	COPd (declared COP)	-	3.21	3.18	3.30	3.21	3.18
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	8.19	9.17	7.57	8.19	9.17
	COPd (declared COP)	-	5.67	5.82	5.78	5.67	5.82
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 5

Heat pump space heater		Outdoor	KHP-MO 4 DVP-***	KHP-MO 6 DVP-***	KHP-MO 8 DVP-***	KHP-MO 10 DVP-***	KHP-MO 12 DVP-***
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.05	3.03	4.46	4.61	5.17
	COPd (declared COP)	-	7.64	7.67	8.58	9.84	6.98
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	4.47	5.48	8.27	8.61	11.58
	COPd (declared COP)	-	4.08	3.87	3.59	3.62	3.30
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	2.97	3.57	5.27	5.52	7.57
	COPd (declared COP)	-	5.78	5.77	6.03	6.26	5.78
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.13	0.02	0.00	0.00	0.12
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.61	5.96	7.99	8.54	11.41
	COPd (declared COP)	-	2.69	2.59	2.54	2.50	2.55
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.08	3.89	5.36	5.68	7.85
	COPd (declared COP)	-	3.91	4.00	4.15	4.20	3.99
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	2.94	2.99	4.21	4.29	5.47
	COPd (declared COP)	-	5.85	6.05	6.35	6.53	5.90
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	4.61	5.96	7.99	8.54	11.41
	COPd (declared COP)	-	2.69	2.59	2.54	2.50	2.55
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.08	3.89	5.36	5.68	7.85
	COPd (declared COP)	-	3.91	4.00	4.15	4.20	3.99
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.09	0.00	0.03	0.00	1.38

Product fiche 5

Heat pump space heater		Outdoor	KHP-MO 14 DVP-***	KHP-MO 16 DVP-***	KHP-MO 12 DTP-***	KHP-MO 14 DTP-***	KHP-MO 16 DTP-***
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	5.17	5.34	5.17	5.17	5.34
	COPd (declared COP)	-	7.02	7.33	6.98	7.02	7.33
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	12.41	13.82	11.58	12.41	13.82
	COPd (declared COP)	-	3.21	3.18	3.30	3.21	3.18
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	8.19	9.17	7.57	8.19	9.17
	COPd (declared COP)	-	5.67	5.82	5.78	5.67	5.82
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.29	0.48	0.12	0.29	0.48
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	12.05	13.47	11.41	12.05	13.47
	COPd (declared COP)	-	2.48	2.48	2.55	2.48	2.48
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	9.11	9.58	7.85	9.11	9.58
	COPd (declared COP)	-	3.98	4.04	3.99	3.98	4.04
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	5.49	5.64	5.47	5.49	5.64
	COPd (declared COP)	-	6.01	6.31	5.90	6.01	6.31
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	12.05	13.47	11.41	12.05	13.47
	COPd (declared COP)	-	2.48	2.48	2.55	2.48	2.48
	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	9.11	9.58	7.85	9.11	9.58
	COPd (declared COP)	-	3.98	4.04	3.99	3.98	4.04
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	2.35	1.43	1.38	2.35	1.43

Product fiche 6

Heat pump space heater		Outdoor	KHP-MO 4 DVP-***	KHP-MO 6 DVP-***	KHP-MO 8 DVP-***	KHP-MO 10 DVP-***	KHP-MO 12 DVP-***
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No	No	No
	Low-temperature heat pump	Y/N	No	No	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes
	Heat pump combination heater	Y/N	Yes	Yes	Yes	Yes	Yes
Air to water unit	Rated airflow (outdoor)	[m^3/h]	2770	2770	4030	4030	4450
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]	0.009	0.009	0.009	0.009	0.009
	Pto (Power consumption Thermostat off mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Psb (Power consumption Standby mode)	[kW]	0.009	0.009	0.009	0.009	0.009
	PCK (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Note：
Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.
(*)Sound power measured according to the EN12102 under conditions of the EN14825.
Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

Product fiche 6

Heat pump space heater		Outdoor	KHP-MO 14 DVP-***	KHP-MO 16 DVP-***	KHP-MO 12 DTP-***	KHP-MO 14 DTP-***	KHP-MO 16 DTP-***
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No	No	No
	Low-temperature heat pump	Y/N	No	No	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes
	Heat pump combination heater	Y/N	Yes	Yes	Yes	Yes	Yes
Air to water unit	Rated airflow (outdoor)	[m^3/h]	4450	5040	4450	4450	5040
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]	0.009	0.009	0.009	0.009	0.009
	Pto (Power consumption Thermostat off mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Psb (Power consumption Standby mode)	[kW]	0.009	0.009	0.009	0.009	0.009
	PCK (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Note：
Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.
(*)Sound power measured according to the EN12102 under conditions of the EN14825.
Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

Product fiche 7

Heat pump space cooling		Outdoor	KHP-MO 4 DVP-***	KHP-MO 6 DVP-***	KHP-MO 8 DVP-***	KHP-MO 10 DVP-***	KHP-MO 12 DVP-***
Outdoor unit sound power (*)	Average climate low temperature application	dB	56	58	60	61	65
	Average climate medium temperature application	dB	56	58	60	61	65
Space cooling 7°C	Prated (declared cooling capacity) @ 35°C	[kW]	4.7	6.8	7.5	8.9	11.5
	Seasonal space cooling efficiency (ηs)	[%]	206.3	209.8	231.3	218.8	204.4
	Annual energy consumption	[kWh]	539	767	768	963	1,331
Space cooling 18°C	Prated (declared cooling capacity) @ 35°C	[kW]	4.5	6.5	8.3	10.0	12.0
	Seasonal space cooling efficiency (ηs)	[%]	251.4	263.1	322.5	323.3	253.8
	Annual energy consumption	[kWh]	424	586	612	735	1,122
Part load conditions space cooling: low temperature application@7°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	4.72	6.86	7.57	9.02	11.61
	EERd (declared EER)	-	3.64	3.10	3.51	3.25	3.06
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	3.57	5.22	5.74	6.85	8.58
	EERd (declared EER)	-	4.73	4.58	4.89	4.61	4.61
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	2.88	3.23	3.80	4.36	5.71
	EERd (declared EER)	-	6.16	6.19	6.68	5.98	5.89
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	2.88	2.89	4.32	4.32	5.15
	EERd (declared EER)	-	7.34	7.35	9.13	9.13	6.85
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 7

Heat pump space cooling		Outdoor	KHP-MO 14 DVP-***	KHP-MO 16 DVP-***	KHP-MO 12 DTP-***	KHP-MO 14 DTP-***	KHP-MO 16 DTP-***
Outdoor unit sound power (*)	Average climate low temperature application	dB	66	69	65	66	69
	Average climate medium temperature application	dB	66	69	65	66	69
Space cooling 7°C	Prated (declared cooling capacity) @ 35°C	[kW]	12.7	14.0	11.5	12.7	14.0
	Seasonal space cooling efficiency (ηs)	[%]	204.1	201.6	204.4	204.1	201.6
	Annual energy consumption	[kWh]	1,472	1,624	1,331	1,472	1,624
Space cooling 18°C	Prated (declared cooling capacity) @ 35°C	[kW]	14.0	16.0	12.0	14.0	16.0
	Seasonal space cooling efficiency (ηs)	[%]	266.8	263.1	253.8	266.8	263.1
	Annual energy consumption	[kWh]	1,245	1,443	1,122	1,245	1,443
Part load conditions space cooling: low temperature application@7°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	12.87	14.42	11.61	12.87	14.42
	EERd (declared EER)	-	2.87	2.73	3.06	2.87	2.73
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	9.72	10.78	8.58	9.72	10.78
	EERd (declared EER)	-	4.43	4.22	4.61	4.43	4.22
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	6.19	6.94	5.71	6.19	6.94
	EERd (declared EER)	-	6.05	6.06	5.89	6.05	6.06
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	5.18	5.20	5.15	5.18	5.20
	EERd (declared EER)	-	6.88	6.93	6.85	6.88	6.93
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 8

Heat pump space cooling		Outdoor	KHP-MO 4 DVP-***	KHP-MO 6 DVP-***	KHP-MO 8 DVP-***	KHP-MO 10 DVP-***	KHP-MO 12 DVP-***
Part load conditions space cooling: medium temperature application@18°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	4.66	6.77	8.53	10.14	12.29
	EERd (declared EER)	-	5.51	5.12	5.34	4.87	4.62
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	3.50	5.09	6.55	7.68	9.26
	EERd (declared EER)	-	7.36	6.16	7.27	6.91	6.62
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	3.29	3.46	5.05	5.05	6.27
	EERd (declared EER)	-	7.06	7.74	9.60	9.60	7.12
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	3.29	3.21	5.16	5.16	5.94
	EERd (declared EER)	-	7.98	8.14	11.62	11.62	7.29
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m^3/h]	2770	2770	4030	4030	4450
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]	0.009	0.009	0.009	0.009	0.009
	Pto (Power consumption Thermostat off mode)	[kW]	0.011	0.011	0.011	0.011	0.011
	Psb (Power consumption Standby mode)	[kW]	0.009	0.009	0.009	0.009	0.009
	PCK (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Note：
Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.
(*)Sound power measured according to the EN12102 under conditions of the EN14825.
Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

Product fiche 8

Heat pump space cooling		Outdoor	KHP-MO 14 DVP-***	KHP-MO 16 DVP-***	KHP-MO 12 DTP-***	KHP-MO 14 DTP-***	KHP-MO 16 DTP-***
Part load conditions space cooling: medium temperature application@18°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	14.16	16.00	12.29	14.16	16.00
	EERd (declared EER)	-	4.19	3.94	4.62	4.19	3.94
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	10.60	11.81	9.26	10.60	11.81
	EERd (declared EER)	-	6.34	5.93	6.62	6.34	5.93
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	6.77	7.69	6.27	6.77	7.69
	EERd (declared EER)	-	8.20	8.23	7.12	8.20	8.23
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	5.96	5.99	5.94	5.96	5.99
	EERd (declared EER)	-	7.31	7.34	7.29	7.31	7.34
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m^3/h]	4450	5040	4450	4450	5040
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]	0.009	0.009	0.009	0.009	0.009
	Pto (Power consumption Thermostat off mode)	[kW]	0.011	0.011	0.011	0.011	0.011
	Psb (Power consumption Standby mode)	[kW]	0.009	0.009	0.009	0.009	0.009
	PCK (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Note :
Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.
(*)Sound power measured according to the EN12102 under conditions of the EN14825.
Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature：35/24 Water temperature：12/7	KHP-MO 4 DVP-***	4.7	1.29	3.65
	KHP-MO 6 DVP-***	6.8	2.19	3.10
	KHP-MO 8 DVP-***	7.5	2.17	3.45
	KHP-MO 10 DVP-***	8.9	2.74	3.25
	KHP-MO 12 DVP-***	11.5	3.77	3.05
	KHP-MO 14 DVP-***	12.7	4.38	2.90
	KHP-MO 16 DVP-***	14.0	5.09	2.75
	KHP-MO 12 DTP-***	11.5	3.77	3.05
	KHP-MO 14 DTP-***	12.7	4.38	2.90
	KHP-MO 16 DTP-***	14.0	5.09	2.75
Ambient Temperature：35/24 Water temperature：23/18	KHP-MO 4 DVP-***	4.5	0.82	5.50
	KHP-MO 6 DVP-***	6.5	1.27	5.10
	KHP-MO 8 DVP-***	8.3	1.61	5.15
	KHP-MO 10 DVP-***	10.0	2.11	4.75
	KHP-MO 12 DVP-***	12.0	2.67	4.50
	KHP-MO 14 DVP-***	14.0	3.33	4.20
	KHP-MO 16 DVP-***	16.0	4.10	3.90
	KHP-MO 12 DTP-***	12.0	2.67	4.50
	KHP-MO 14 DTP-***	14.0	3.33	4.20
	KHP-MO 16 DTP-***	16.0	4.10	3.90
Ambient Temperature：7/6 Water temperature：30/35	KHP-MO 4 DVP-***	4.5	0.87	5.15
	KHP-MO 6 DVP-***	6.2	1.27	4.90
	KHP-MO 8 DVP-***	8.4	1.68	5.00
	KHP-MO 10 DVP-***	10.0	2.13	4.70
	KHP-MO 12 DVP-***	12.0	2.50	4.80
	KHP-MO 14 DVP-***	14.0	3.11	4.50
	KHP-MO 16 DVP-***	15.0	3.41	4.40
	KHP-MO 12 DTP-***	12.0	2.50	4.80
	KHP-MO 14 DTP-***	14.0	3.11	4.50
	KHP-MO 16 DTP-***	15.0	3.41	4.40
Ambient Temperature：2/1 Water temperature：30/35	KHP-MO 4 DVP-***	4.4	1.07	4.10
	KHP-MO 6 DVP-***	5.6	1.44	3.90
	KHP-MO 8 DVP-***	7.1	1.84	3.85
	KHP-MO 10 DVP-***	8.2	2.25	3.65
	KHP-MO 12 DVP-***	9.1	2.39	3.80
	KHP-MO 14 DVP-***	10.8	3.09	3.50
	KHP-MO 16 DVP-***	12.8	4.00	3.20
	KHP-MO 12 DTP-***	9.1	2.39	3.80
	KHP-MO 14 DTP-***	10.8	3.09	3.50
	KHP-MO 16 DTP-***	12.8	4.00	3.20

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature：-7/-8 Water temperature：30/35	KHP-MO 4 DVP-***	4.5	1.45	3.10
	KHP-MO 6 DVP-***	5.9	2.00	2.95
	KHP-MO 8 DVP-***	7.0	2.33	3.00
	KHP-MO 12 DVP-***	8.0	2.81	2.85
	KHP-MO 14 DVP-***	10.0	3.57	2.80
	KHP-MO 16 DVP-***	11.5	4.26	2.70
	KHP-MO 16 DVP-***	12.7	5.08	2.50
	KHP-MO 12 DTP-***	10.0	3.57	2.80
	KHP-MO 14 DTP-***	11.5	4.26	2.70
	KHP-MO 16 DTP-***	12.7	5.08	2.50
Ambient Temperature：7/6 Water temperature：40/45	KHP-MO 4 DVP-***	4.5	1.11	4.05
	KHP-MO 6 DVP-***	6.4	1.68	3.80
	KHP-MO 8 DVP-***	8.2	2.13	3.85
	KHP-MO 10 DVP-***	10.0	2.74	3.65
	KHP-MO 12 DVP-***	12.0	3.24	3.70
	KHP-MO 14 DVP-***	14.0	4.00	3.50
	KHP-MO 16 DVP-***	15.0	4.48	3.35
	KHP-MO 12 DTP-***	12.0	3.24	3.70
	KHP-MO 14 DTP-***	14.0	4.00	3.50
	KHP-MO 16 DTP-***	15.0	4.48	3.35
Ambient Temperature：2/1 Water temperature：40/45	KHP-MO 4 DVP-***	4.4	1.31	3.35
	KHP-MO 6 DVP-***	5.8	1.87	3.10
	KHP-MO 8 DVP-***	7.7	2.57	3.00
	KHP-MO 10 DVP-***	8.2	2.78	2.95
	KHP-MO 12 DVP-***	11.3	3.90	2.90
	KHP-MO 14 DVP-***	12.0	4.21	2.85
	KHP-MO 16 DVP-***	13.1	4.76	2.75
	KHP-MO 12 DTP-***	11.3	3.90	2.90
	KHP-MO 14 DTP-***	12.0	4.21	2.85
	KHP-MO 16 DTP-***	13.1	4.76	2.75
Ambient Temperature：-7/-8 Water temperature：40/45	KHP-MO 4 DVP-***	4.7	1.74	2.70
	KHP-MO 6 DVP-***	5.5	2.20	2.50
	KHP-MO 8 DVP-***	7.1	3.09	2.30
	KHP-MO 10 DVP-***	7.6	3.38	2.25
	KHP-MO 12 DVP-***	10.5	4.29	2.45
	KHP-MO 14 DVP-***	11.4	4.96	2.30
	KHP-MO 16 DVP-***	12.5	5.56	2.25
	KHP-MO 12 DTP-***	10.5	4.29	2.45
	KHP-MO 14 DTP-***	11.4	4.96	2.30
	KHP-MO 16 DTP-***	12.5	5.56	2.25

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature：7/6 Water temperature：47/55	KHP-MO 4 DVP-***	4.6	1.44	3.20
	KHP-MO 6 DVP-***	6.2	2.00	3.10
	KHP-MO 8 DVP-***	7.8	2.44	3.20
	KHP-MO 12 DVP-***	9.5	3.11	3.05
	KHP-MO 14 DVP-***	12.0	3.87	3.10
	KHP-MO 16 DVP-***	14.0	4.67	3.00
	KHP-MO 16 DVP-***	15.0	5.26	2.85
	KHP-MO 12 DTP-***	12.0	3.87	3.10
	KHP-MO 14 DTP-***	14.0	4.67	3.00
	KHP-MO 16 DTP-***	15.0	5.26	2.85
Ambient Temperature：2/1 Water temperature：47/55	KHP-MO 4 DVP-***	4.6	1.70	2.70
	KHP-MO 6 DVP-***	5.8	2.19	2.65
	KHP-MO 8 DVP-***	7.8	3.06	2.55
	KHP-MO 10 DVP-***	8.4	3.36	2.50
	KHP-MO 12 DVP-***	11.3	4.43	2.55
	KHP-MO 14 DVP-***	12.0	4.80	2.50
	KHP-MO 16 DVP-***	13.1	5.35	2.45
	KHP-MO 12 DTP-***	11.3	4.43	2.55
	KHP-MO 14 DTP-***	12.0	4.80	2.50
	KHP-MO 16 DTP-***	13.1	5.35	2.45
Ambient Temperature：-7/-8 Water temperature：47/55	KHP-MO 4 DVP-***	4.7	2.14	2.20
	KHP-MO 6 DVP-***	5.2	2.42	2.15
	KHP-MO 8 DVP-***	6.9	3.21	2.15
	KHP-MO 10 DVP-***	7.4	3.52	2.10
	KHP-MO 12 DVP-***	10.4	4.84	2.15
	KHP-MO 14 DVP-***	11.3	5.38	2.10
	KHP-MO 16 DVP-***	12.4	6.05	2.05
	KHP-MO 12 DTP-***	10.4	4.84	2.15
	KHP-MO 14 DTP-***	11.3	5.38	2.10
	KHP-MO 16 DTP-***	12.4	6.05	2.05

Unit type explanation:
1.KHP-MO ** DV(T)P, without back-up heater,
2.KHP-MO ** DV(T)P-E30, with 3kW back-up heater and 1-Phase power source
3.KHP-MO ** DV(T)P-ER60, with 6kW back-up heater and 3-Phase power source
4.KHP-MO ** DV(T)P-ER90, with 9kW back-up heater and 3-Phase power source
Note
EER and COP calculation is based in accordance to EN14511

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	ZKSN-170-8-3L-1	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	η_{target} =	28.6%
2	Overall efficiency (η_e) =	34.0%
3	Pass or not (Criteria: $\eta_e \geqq \eta_{target}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =45.4
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.156
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.290m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	36Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	750r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	SHISHISHI TONGDA MOTOR CO.,LTD.

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	ZKSN-170-8- 3L-1	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	η_{target} =	28.5%
2	Overall efficiency (η_e) =	33.9%
3	Pass or not (Criteria: $\eta_e \geqq \eta_{target}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =45.4
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.153
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.248m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	36Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	750r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	GUANGDONG WELLING MOTOR MANUFACTURING CO.,LTD.

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	ZKSN-200-10-4L-1	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	η_{target} =	29.41%
2	Overall efficiency (η_e) =	33.44%
3	Pass or not (Criteria: $\eta_e \geqq \eta_{target}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =42.6
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.211
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.35 m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	50 Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	GUANGDONG WELLING MOTOR MANUFACTURING CO.,LTD.

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	ZKSN-200-10-4L-1	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	η_{target} =	29.23%
2	Overall efficiency (η_e) =	36.14%
3	Pass or not (Criteria: $\eta_e \geqq \eta_{target}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =45.3
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.198
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.35 m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	50 Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	Jiangsu Shangqi Group Co.,Ltd.

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	ZKSN-200-10-2L-1	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	ηtarget =	29.1%
2	Overall efficiency (ηe) =	33.6%
3	Pass or not (Criteria: ηe ≧ηtarget)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =44.6
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.186
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.292m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	43Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	GUANGDONG WELLING MOTOR MANUFACTURING CO.,LTD.

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	ZKSN-200-10-2L-1	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	ηtarget =	28.9%
2	Overall efficiency (ηe) =	33.0%
3	Pass or not (Criteria: ηe ≧ηtarget)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =44.1
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.178
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.420m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	36Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	JIANGSU SHANGQI GROUP CO., LTD.

NOTE

NOTE

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