

R290 HEAT PUMP

Technical data manual

MUAMR-H14 / MUAMR-H14T



For medium - temperature application													
Model	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	kWh
MUAMR-04-H14		A++	56	4.9	148.6	2668	4.3	124.3	3328	4.7	170.6	1446	1446
MUAMR-04-H14-E**		A++	56	4.9	148.6	2668	4.3	124.3	3328	4.7	170.6	1446	1446
MUAMR-06-H14		A++	58	5.9	149.7	3191	5.9	132.0	4325	6.0	179.0	1762	1762
MUAMR-06-H14-E**		A++	58	5.9	149.7	3191	5.9	132.0	4325	6.0	179.0	1762	1762
MUAMR-08-H14		A++	60	6.8	149.5	3684	7.0	135.2	4995	8.3	184.3	2368	2368
MUAMR-08-H14-E**		A++	60	6.8	149.5	3684	7.0	135.2	4995	8.3	184.3	2368	2368
MUAMR-08-H14-ER**		A++	60	6.8	149.5	3684	7.0	135.2	4995	8.3	184.3	2368	2368
MUAMR-10-H14		A++	61	7.8	149.5	4226	8.0	136.5	5654	8.8	188.5	2456	2456
MUAMR-10-H14-E**		A++	61	7.8	149.5	4226	8.0	136.5	5654	8.8	188.5	2456	2456
MUAMR-10-H14-ER**		A++	61	7.8	149.5	4226	8.0	136.5	5654	8.8	188.5	2456	2456
MUAMR-12-H14		A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724	3724
MUAMR-12-H14-E**		A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724	3724
MUAMR-12-H14-ER**		A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724	3724
MUAMR-14-H14		A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256	4256
MUAMR-14-H14-E**		A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256	4256
MUAMR-14-H14-ER**		A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256	4256
MUAMR-16-H14		A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306	4306
MUAMR-16-H14-E**		A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306	4306
MUAMR-16-H14-ER**		A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306	4306
MUAMR-12-H14T		A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724	3724
MUAMR-12-H14T-E**		A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724	3724
MUAMR-12-H14T-ER**		A++	65	12.0	141.8	6843	10.8	127.3	8197	12.4	174.9	3724	3724
MUAMR-14-H14T		A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256	4256
MUAMR-14-H14T-E**		A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256	4256
MUAMR-14-H14T-ER**		A++	65	13.0	141.4	7438	12.0	126.1	9168	14.1	174.1	4256	4256
MUAMR-16-H14T		A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306	4306
MUAMR-16-H14T-E**		A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306	4306
MUAMR-16-H14T-ER**		A++	69	14.4	139.9	8349	13.9	128.4	10408	14.9	181.9	4306	4306

Unit type explanation:

- 1.MUAMR-****H14, without back-up heater
- 2.MUAMR-****H14-E30, with 3kW back-up heater and 1-Phase power source
- 3.MUAMR-****H14-ER60, with 6kW back-up heater and 3-Phase power source
- 4.MUAMR-****H14-ER90, with 9kW back-up heater and 3-Phase power source

For low - temperature application														
Model	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			
Outdoor unit	-	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh	kW	%	kWh
MUAMR-04-H14	A+++	56	5.0	199.8	2034	5.0	158.3	3056	4.6	235.9	1024	4.6	235.9	1024
MUAMR-04-H14-E**	A+++	56	5.0	199.8	2034	5.0	158.3	3056	4.6	235.9	1024	4.6	235.9	1024
MUAMR-06-H14	A+++	58	6.4	192.6	2700	6.3	166.7	3663	5.5	242.4	1198	5.5	242.4	1198
MUAMR-06-H14-E**	A+++	58	6.4	192.6	2700	6.3	166.7	3663	5.5	242.4	1198	5.5	242.4	1198
MUAMR-08-H14	A+++	60	8.0	200.4	3251	6.8	174.5	3772	8.2	259.2	1669	8.2	259.2	1669
MUAMR-08-H14-E**	A+++	60	8.0	200.4	3251	6.8	174.5	3772	8.2	259.2	1669	8.2	259.2	1669
MUAMR-08-H14-ER**	A+++	60	8.0	200.4	3251	6.8	174.5	3772	8.2	259.2	1669	8.2	259.2	1669
MUAMR-10-H14	A+++	61	9.2	196.3	3814	7.9	177.8	4308	8.6	270.7	1679	8.6	270.7	1679
MUAMR-10-H14-E**	A+++	61	9.2	196.3	3814	7.9	177.8	4308	8.6	270.7	1679	8.6	270.7	1679
MUAMR-10-H14-ER**	A+++	61	9.2	196.3	3814	7.9	177.8	4308	8.6	270.7	1679	8.6	270.7	1679
MUAMR-12-H14	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	11.7	232.9	2651
MUAMR-12-H14-E**	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	11.7	232.9	2651
MUAMR-12-H14-ER**	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	11.7	232.9	2651
MUAMR-14-H14	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	12.7	231.1	2897
MUAMR-14-H14-E**	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	12.7	231.1	2897
MUAMR-14-H14-ER**	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	12.7	231.1	2897
MUAMR-16-H14	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	14.3	238.9	3159
MUAMR-16-H14-E**	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	14.3	238.9	3159
MUAMR-16-H14-ER**	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	14.3	238.9	3159
MUAMR-12-H14T	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	11.7	232.9	2651
MUAMR-12-H14T-E**	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	11.7	232.9	2651
MUAMR-12-H14T-ER**	A+++	65	12.1	183.7	5352	11.5	162.1	6869	11.7	232.9	2651	11.7	232.9	2651
MUAMR-14-H14T	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	12.7	231.1	2897
MUAMR-14-H14T-E**	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	12.7	231.1	2897
MUAMR-14-H14T-ER**	A+++	65	13.7	182.2	6110	12.6	162.3	7513	12.7	231.1	2897	12.7	231.1	2897
MUAMR-16-H14T	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	14.3	238.9	3159
MUAMR-16-H14T-E**	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	14.3	238.9	3159
MUAMR-16-H14T-ER**	A+++	69	14.7	180.5	6617	14.6	160.2	8813	14.3	238.9	3159	14.3	238.9	3159

Unit type explanation:
1.MUAMR-****H14, without back-up heater
2.MUAMR-****H14-E30, with 3kW back-up heater and 1-Phase power source
3.MUAMR-****H14-ER60, with 6kW back-up heater and 3-Phase power source
4.MUAMR-****H14-ER90, with 9kW back-up heater and 3-Phase power source

Product fiche 1

Heat pump space heater

	Outdoor	MUAMR-04-H14_***	MUAMR-06-H14_***	MUAMR-08-H14_***	MUAMR-10-H14_***	MUAMR-12-H14_***
Outdoor unit sound power (*)	dB	56	58	60	61	65
Average climate low temperature application	dB	56	58	60	61	65
Capacity of the back-up heater integrated in the unit	[kW]	0/3	0/3	0/3/6/9	0/3/6/9	0/3/6/9
Space heating	-	A+++	A+++	A+++	A+++	A+++
Space heating	-	A++	A++	A++	A++	A++
Average climate (Design temperature = -10°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	200.4	196.3	183.7
Annual energy consumption	[kWh]	2,034	2,700	3,251	3,814	5,352
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	149.5	149.5	141.8
Annual energy consumption	[kWh]	2,668	3,191	3,684	4,226	6,843
Part load conditions space heating average climate low temperature application						
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
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
Pdh (declared heating capacity)	[kW]	2.72	2.72	3.77	3.77	5.23
COPd (declared COP)	-	6.72	6.92	6.84	6.94	6.89
Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Pdh (declared heating capacity)	[kW]	3.14	3.15	4.46	4.46	5.34
COPd (declared COP)	-	8.52	8.65	9.13	9.18	7.41
Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
Pdh (declared heating capacity)	[kW]	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	MUAMR-14-H14 .***	MUAMR-16-H14 .***	MUAMR-12-H14T .***	MUAMR-14-H14T .***	MUAMR-16-H14T .***
Outdoor unit sound power (*)	Average climate low temperature application		65	69	65	65	69
	Average climate medium temperature application		65	69	65	65	69
Capacity of the back-up heater integrated in the unit	Psup back-up heater (optional)	[kW]	0/3/6/9	0/3/6/9	0/3/6/9	0/3/6/9	0/3/6/9
Space heating	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++	A++
Average climate (Design temperature = -10°C)							
Space heating 35°C	Prated (declared heating capacity) @ -10°C	[kW]	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	MUAMR-04-H14 -***	MUAMR-06-H14 -***	MUAMR-08-H14 -***	MUAMR-10-H14 -***	MUAMR-12-H14 -***
(F) Tivalent temperature	Tblv	[°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
	Psup (@Tdesign: -10°C)	[kW]	0.00	0.90	0.03	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	4.23	4.23	5.59
	COPd (declared COP)	-	6.55	6.78	6.61	6.65	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) Tivalent temperature	Tblv	[°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 (@Tdesign: -10°C)	[kW]	0.57	0.75	0.34	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 (ns)	[%]	158.3	166.7	174.5	177.8	162.1
	Annual energy consumption	[kW/h]	3,056	3,663	3,772	4,308	6,869

Product fiche 2

Heat pump space heater

	Outdoor	MUAMR-14-H14 .***	MUAMR-16-H14 .***	MUAMR-12-H14T .***	MUAMR-14-H14T .***	MUAMR-16-H14T .***
(F) Tivalent temperature	Outdoor					
Tblv	[°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
Psup (@Tdesignh: -10°C)	[kW]	2.08	1.89	1.33	2.08	1.89
Supplementary capacity at P_design	[kW]					
Part load conditions space heating average climate medium temperature application						
(A) condition (-7°C)	[kW]	11.47	12.78	10.58	11.47	12.78
Pdh (declared heating capacity)	[kW]					
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)	[kW]	7.29	7.96	6.59	7.29	7.96
Pdh (declared heating capacity)	[kW]					
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)	[kW]	4.85	4.78	4.78	4.85	4.78
Pdh (declared heating capacity)	[kW]					
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)	[kW]	5.60	5.72	5.59	5.60	5.72
Pdh (declared heating capacity)	[kW]					
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)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
Tol (temperature operating limit)	[°C]					
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) Tivalent temperature	[°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
Psup (@Tdesignh: -10°C)	[kW]	2.03	1.86	1.95	2.03	1.86
Supplementary capacity at P_design	[kW]					
Colder climate (Design temperature = -22°C)						
Prated (declared heating capacity) @ -22°C	[kW]	12.6	14.6	11.5	12.6	14.6
Seasonal space heating efficiency (ns)	[%]	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	MUAMR-04-H14 .***	MUAMR-06-H14 .***	MUAMR-08-H14 .***	MUAMR-10-H14 .***	MUAMR-12-H14 .***
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	136.5	127.3
	Annual energy consumption	[kWh]	3,328	4,325	4,995	5,654	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	3.89	5.08
	COPd (declared COP)	-	6.60	6.85	6.46	7.34	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	8.98	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
(F) Tbivalent temperature	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
	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
Supplementary capacity at P_design	COPd (declared COP)	-	2.56	2.56	2.73	2.69	2.49
	P sup (@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	MUAMR-14-H14 .***	MUAMR-16-H14 .***	MUAMR-12-H14T .***	MUAMR-14-H14T .***	MUAMR-16-H14T .***
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
(F) Tblvalent temperature						
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
Tblv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
(Supplementary capacity at P_design)						
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
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	MUAMR-04-H14_***	MUAMR-06-H14_***	MUAMR-08-H14_***	MUAMR-10-H14_***	MUAMR-12-H14_***	
(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	4.36	5.01
	COPd (declared COP)	-	6.14	6.22	7.13	7.22	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) Tbiivalent temperature	Tblv	[°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		[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	270.7	232.9
	Annual energy consumption	[kWh]	1,024	1,198	1,669	1,679	2,651
	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	8.20	8.60	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	MUAMR-14-H14 .***	MUAMR-16-H14 .***	MUAMR-12-H14T .***	MUAMR-14-H14T .***	MUAMR-16-H14T .***
(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
	Pdh (declared heating capacity)	[kW]	4.99	5.17	5.00	4.99	5.17
(C) condition (7°C)	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
	Pdh (declared heating capacity)	[kW]	5.06	5.23	5.01	5.06	5.23
	Cdh(degradation coefficient)	-	5.81	6.07	5.66	5.81	6.07
(D) condition (12°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	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
(E) Tol (temperature operating limit)	WTOL (Heating water Operation Limit)	[°C]	75	75	75	75	75
	Tblv	[°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
	Prated (declared heating capacity) @ 2°C	[kW]	14.1	14.9	12.4	14.1	14.9
Space heating 55°C	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	MUAMR-04-H14 .***	MUAMR-06-H14 .***	MUAMR-08-H14 .***	MUAMR-10-H14 .***	MUAMR-12-H14 .***
(D) condition (12°C)						
Pdh (declared heating capacity)	[kW]	3.05	3.03	4.46	4.46	5.17
COPd (declared COP)	-	7.64	7.67	8.58	8.91	6.98
Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
Pdh (declared heating capacity)	[kW]	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
Tblv	[°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
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
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
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
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
Tblv	[°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
Psup (@Tdesignh: 2°C)	[kW]	0.09	0.04	0.30	0.26	0.99

Product fiche 5

Heat pump space heater

	Outdoor	MUAMR-14-H14 .***	MUAMR-16-H14 .***	MUAMR-12-H14T .***	MUAMR-14-H14T .***	MUAMR-16-H14T .***
(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) Tivalent temperature	Tblv [°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) Tivalent temperature	Tblv [°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	MUAMR-04-H14 .***	MUAMR-06-H14 .***	MUAMR-08-H14 .***	MUAMR-10-H14 .***	MUAMR-12-H14 .***
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
	Rated airflow (outdoor)	[m³/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	MUAMR-14-H14 .***	MUAMR-16-H14 .***	MUAMR-12-H14T .***	MUAMR-14-H14T .***	MUAMR-16-H14T .***
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No	No	No
	Low-temperature heat pump	Y/N	No	No	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes
	Heat pump combination heater	Y/N	Yes	Yes	Yes	Yes	Yes
Air to water unit	Rated airflow (outdoor)	[m³/h]	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	MUAMR-04-H14 .***	MUAMR-06-H14 .***	MUAMR-08-H14 .***	MUAMR-10-H14 .***	MUAMR-12-H14 .***
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	224.0	213.8	204.4
	Annual energy consumption	[kWh]	539	767	793	985	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	297.5	312.2	253.8
	Annual energy consumption	[kWh]	424	586	663	761	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	3.84	3.98	5.15
	EERd (declared EER)	-	7.34	7.35	7.71	8.08	6.85
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 7

Heat pump space cooling

	Outdoor	MUAMR-14-H14 .***	MUAMR-16-H14 .***	MUAMR-12-H14T .***	MUAMR-14-H14T .***	MUAMR-16-H14T .***
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
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
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

Part load conditions space cooling : medium temperature application@18°C

		Outdoor	MUAMR-04-H14_***	MUAMR-06-H14_***	MUAMR-08-H14_***	MUAMR-10-H14_***	MUAMR-12-H14_***
(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	4.66	5.05	6.27
	EERd (declared EER)	-	7.06	7.74	8.50	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	4.58	4.58	5.94
	EERd (declared EER)	-	7.98	8.14	9.65	9.72	7.29
	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	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

Part load conditions space cooling : medium temperature application@18°C

	Outdoor	MUAMR-14-H14 .***	MUAMR-16-H14 .***	MUAMR-12-H14T .***	MUAMR-14-H14T .***	MUAMR-16-H14T .***
(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
Rated water/brine flow (outdoor H/E)		/	/	/	/	/
Brine/water to water unit						
Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
Other						
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	MUAMR-04-H14-***	4.7	1.29	3.65
	MUAMR-06-H14-***	6.8	2.19	3.10
	MUAMR-08-H14-***	7.5	2.17	3.45
	MUAMR-10-H14-***	8.9	2.74	3.25
	MUAMR-12-H14-***	11.5	3.77	3.05
	MUAMR-14-H14-***	12.7	4.38	2.90
	MUAMR-16-H14-***	14.0	5.09	2.75
	MUAMR-12-H14T-***	11.5	3.77	3.05
	MUAMR-14-H14T-***	12.7	4.38	2.90
	MUAMR-16-H14T-***	14.0	5.09	2.75
Ambient Temperature: 35/24 Water temperature: 23/18	MUAMR-04-H14-***	4.5	0.82	5.50
	MUAMR-06-H14-***	6.5	1.27	5.10
	MUAMR-08-H14-***	8.3	1.61	5.15
	MUAMR-10-H14-***	10.0	2.11	4.75
	MUAMR-12-H14-***	12.0	2.67	4.50
	MUAMR-14-H14-***	14.0	3.33	4.20
	MUAMR-16-H14-***	16.0	4.10	3.90
	MUAMR-12-H14T-***	12.0	2.67	4.50
	MUAMR-14-H14T-***	14.0	3.33	4.20
	MUAMR-16-H14T-***	16.0	4.10	3.90
Ambient Temperature: 7/6 Water temperature: 30/35	MUAMR-04-H14-***	4.5	0.87	5.15
	MUAMR-06-H14-***	6.2	1.27	4.90
	MUAMR-08-H14-***	8.4	1.68	5.00
	MUAMR-10-H14-***	10.0	2.13	4.70
	MUAMR-12-H14-***	12.0	2.50	4.80
	MUAMR-14-H14-***	14.0	3.11	4.50
	MUAMR-16-H14-***	15.0	3.41	4.40
	MUAMR-12-H14T-***	12.0	2.50	4.80
	MUAMR-14-H14T-***	14.0	3.11	4.50
	MUAMR-16-H14T-***	15.0	3.41	4.40
Ambient Temperature: 2/1 Water temperature: 30/35	MUAMR-04-H14-***	4.4	1.07	4.10
	MUAMR-06-H14-***	5.6	1.44	3.90
	MUAMR-08-H14-***	7.1	1.84	3.85
	MUAMR-10-H14-***	8.2	2.25	3.65
	MUAMR-12-H14-***	9.1	2.39	3.80
	MUAMR-14-H14-***	10.8	3.09	3.50
	MUAMR-16-H14-***	12.8	4.00	3.20
	MUAMR-12-H14T-***	9.1	2.39	3.80
	MUAMR-14-H14T-***	10.8	3.09	3.50
	MUAMR-16-H14T-***	12.8	4.00	3.20

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature: -7/-8 Water temperature: 30/35	MUAMR-04-H14-***	4.5	1.45	3.10
	MUAMR-06-H14-***	5.9	2.00	2.95
	MUAMR-08-H14-***	7.0	2.33	3.00
	MUAMR-10-H14-***	8.0	2.81	2.85
	MUAMR-12-H14-***	10.0	3.57	2.80
	MUAMR-14-H14-***	11.5	4.26	2.70
	MUAMR-16-H14-***	12.7	5.08	2.50
	MUAMR-12-H14T-***	10.0	3.57	2.80
	MUAMR-14-H14T-***	11.5	4.26	2.70
	MUAMR-16-H14T-***	12.7	5.08	2.50
Ambient Temperature: 7/6 Water temperature: 40/45	MUAMR-04-H14-***	4.5	1.11	4.05
	MUAMR-06-H14-***	6.4	1.68	3.80
	MUAMR-08-H14-***	8.2	2.13	3.85
	MUAMR-10-H14-***	10.0	2.74	3.65
	MUAMR-12-H14-***	12.0	3.24	3.70
	MUAMR-14-H14-***	14.0	4.00	3.50
	MUAMR-16-H14-***	15.0	4.48	3.35
	MUAMR-12-H14T-***	12.0	3.24	3.70
	MUAMR-14-H14T-***	14.0	4.00	3.50
	MUAMR-16-H14T-***	15.0	4.48	3.35
Ambient Temperature: 2/1 Water temperature: 40/45	MUAMR-04-H14-***	4.4	1.31	3.35
	MUAMR-06-H14-***	5.8	1.87	3.10
	MUAMR-08-H14-***	7.7	2.57	3.00
	MUAMR-10-H14-***	8.2	2.78	2.95
	MUAMR-12-H14-***	11.3	3.90	2.90
	MUAMR-14-H14-***	12.0	4.21	2.85
	MUAMR-16-H14-***	13.1	4.76	2.75
	MUAMR-12-H14T-***	11.3	3.90	2.90
	MUAMR-14-H14T-***	12.0	4.21	2.85
	MUAMR-16-H14T-***	13.1	4.76	2.75
Ambient Temperature: -7/-8 Water temperature: 40/45	MUAMR-04-H14-***	4.7	1.74	2.70
	MUAMR-06-H14-***	5.5	2.20	2.50
	MUAMR-08-H14-***	7.1	3.09	2.30
	MUAMR-10-H14-***	7.6	3.38	2.25
	MUAMR-12-H14-***	10.5	4.29	2.45
	MUAMR-14-H14-***	11.4	4.96	2.30
	MUAMR-16-H14-***	12.5	5.56	2.25
	MUAMR-12-H14T-***	10.5	4.29	2.45
	MUAMR-14-H14T-***	11.4	4.96	2.30
	MUAMR-16-H14T-***	12.5	5.56	2.25

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature: 7/6 Water temperature: 47/55	MUAMR-04-H14-***	4.6	1.44	3.20
	MUAMR-06-H14-***	6.2	2.00	3.10
	MUAMR-08-H14-***	7.8	2.44	3.20
	MUAMR-10-H14-***	9.5	3.11	3.05
	MUAMR-12-H14-***	12.0	3.87	3.10
	MUAMR-14-H14-***	14.0	4.67	3.00
	MUAMR-16-H14-***	15.0	5.26	2.85
	MUAMR-12-H14T-***	12.0	3.87	3.10
	MUAMR-14-H14T-***	14.0	4.67	3.00
	MUAMR-16-H14T-***	15.0	5.26	2.85
Ambient Temperature: 2/1 Water temperature: 47/55	MUAMR-04-H14-***	4.6	1.70	2.70
	MUAMR-06-H14-***	5.8	2.19	2.65
	MUAMR-08-H14-***	7.8	3.06	2.55
	MUAMR-10-H14-***	8.4	3.36	2.50
	MUAMR-12-H14-***	11.3	4.43	2.55
	MUAMR-14-H14-***	12.0	4.80	2.50
	MUAMR-16-H14-***	13.1	5.35	2.45
	MUAMR-12-H14T-***	11.3	4.43	2.55
	MUAMR-14-H14T-***	12.0	4.80	2.50
	MUAMR-16-H14T-***	13.1	5.35	2.45
Ambient Temperature: -7/-8 Water temperature: 47/55	MUAMR-04-H14-***	4.7	2.14	2.20
	MUAMR-06-H14-***	5.2	2.42	2.15
	MUAMR-08-H14-***	6.9	3.21	2.15
	MUAMR-10-H14-***	7.4	3.52	2.10
	MUAMR-12-H14-***	10.4	4.84	2.15
	MUAMR-14-H14-***	11.3	5.38	2.10
	MUAMR-16-H14-***	12.4	6.05	2.05
	MUAMR-12-H14T-***	10.4	4.84	2.15
	MUAMR-14-H14T-***	11.3	5.38	2.10
	MUAMR-16-H14T-***	12.4	6.05	2.05

Unit type explanation:

1.MUAMR-*****H14, without back-up heater

2.MUAMR-*****H14-E30, with 3kW back-up heater and 1-Phase power source

3.MUAMR-*****H14-ER60, with 6kW back-up heater and 3-Phase power source

4.MUAMR-*****H14-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+ZL-580*190*12-3	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	28.6%
2	Overall efficiency (η_e) =	34.0%
3	Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =45.4
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.156
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+ZL-580*190*12-3	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	28.5%
2	Overall efficiency (η_e) =	33.9%
3	Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =45.4
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.153
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+ZL-580*190*12-3	Rev.	
Prepare by			

Specified Information of Fan:

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

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation	ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011		
Model Name	ZKSN-200-10-4L-1+ZL-580*190*12-3	Rev.	
Prepare by			

Specified Information of Fan:

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

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	ZKSN-200-10-2L-1+ZL-580*190*12-3	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{target} =$	29.1%
2	Overall efficiency (η_e) =	33.6%
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 =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+ZL-580*190*12-3	Rev.	
Prepare by			

Specified Information of Fan:

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

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