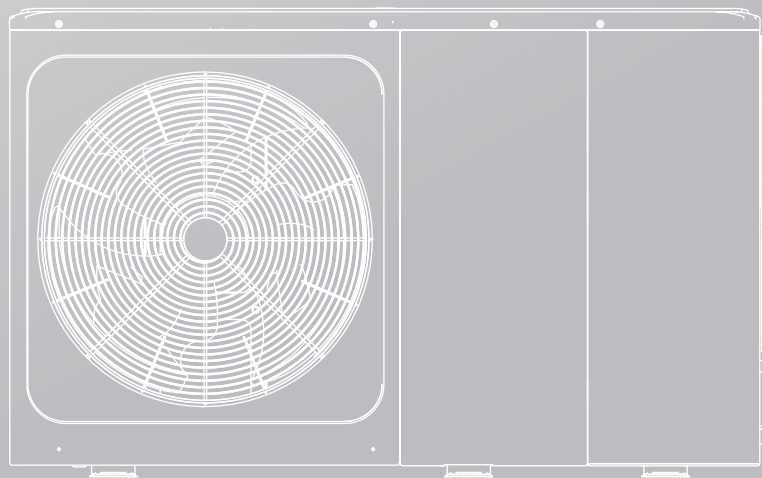


TECHNICAL DATA MANUAL

OPTIMUS PRO Mono
ATW Heat Pump



IMPORTANT NOTE:

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

Model	For medium - temperature application											
	Energy efficiency class	Unit sound power	average climate			colder climate			warmer climate			
			Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption	
	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh	kW	kWh
HOP4WMONO	A++	55	4.4	129.5	2744	102.1	3159	5.0	162.4	1621	5.0	1621
HOP4WMONO 3kW	A++	55	4.4	129.5	2744	102.1	3159	5.0	162.4	1621	5.0	1621
HOP6WMONO	A++	58	5.7	137.9	3345	111.1	3681	5.1	164.7	1640	5.1	1640
HOP6WMONO 3kW	A++	58	5.7	137.9	3345	111.1	3681	5.1	164.7	1640	5.1	1640
HOP8WMONO	A++	59	6.6	131.5	4056	112.0	4950	8.37	176.9	2485	8.37	2485
HOP8WMONO 3kW	A++	59	6.6	131.5	4056	112.0	4950	8.37	176.9	2485	8.37	2485
HOP8WMONO 9kW	A++	59	6.6	131.5	4056	112.0	4950	8.37	176.9	2485	8.37	2485
HOP10WMONO	A++	60	7.7	136.6	4539	116.4	5540	8.6	180.3	2516	8.6	2516
HOP10WMONO 3kW	A++	60	7.7	136.6	4539	116.4	5540	8.6	180.3	2516	8.6	2516
HOP10WMONO 9kW	A++	60	7.7	136.6	4539	116.4	5540	8.6	180.3	2516	8.6	2516
HOP12WMONO	A++	65	11.6	135.1	6927	117.8	8419	12.5	174.0	3776	12.5	3776
HOP12WMONO 3kW	A++	65	11.6	135.1	6927	117.8	8419	12.5	174.0	3776	12.5	3776
HOP12WMONO 9kW	A++	65	11.6	135.1	6927	117.8	8419	12.5	174.0	3776	12.5	3776
HOP14WMONO	A++	65	12.1	135.6	7202	118.9	8866	14.17	174.9	4258	14.17	4258
HOP14WMONO 3kW	A++	65	12.1	135.6	7202	118.9	8866	14.17	174.9	4258	14.17	4258
HOP14WMONO 9kW	A++	65	12.1	135.6	7202	118.9	8866	14.17	174.9	4258	14.17	4258
HOP16WMONO	A++	68	13.0	133.3	7895	121.8	9309	14.17	176.0	4231	14.17	4231
HOP16WMONO 3kW	A++	68	13.0	133.3	7895	121.8	9309	14.17	176.0	4231	14.17	4231
HOP16WMONO 9kW	A++	68	13.0	133.3	7895	121.8	9309	14.17	176.0	4231	14.17	4231
HOP12WMONO3	A++	65	11.6	135.1	6928	117.7	8420	12.5	173.8	3780	12.5	3780
HOP12WMONO3 3kW	A++	65	11.6	135.1	6928	117.7	8420	12.5	173.8	3780	12.5	3780
HOP12WMONO3 9kW	A++	65	11.6	135.1	6928	117.7	8420	12.5	173.8	3780	12.5	3780
HOP14WMONO3	A++	65	12.1	135.6	7203	118.9	8867	14.17	174.7	4262	14.17	4262
HOP14WMONO3 3kW	A++	65	12.1	135.6	7203	118.9	8867	14.17	174.7	4262	14.17	4262
HOP14WMONO3 9kW	A++	65	12.1	135.6	7203	118.9	8867	14.17	174.7	4262	14.17	4262
HOP16WMONO3	A++	68	13.0	133.2	7896	121.8	9310	14.17	175.8	4236	14.17	4236
HOP16WMONO3 3kW	A++	68	13.0	133.2	7896	121.8	9310	14.17	175.8	4236	14.17	4236
HOP16WMONO3 9kW	A++	68	13.0	133.2	7896	121.8	9310	14.17	175.8	4236	14.17	4236

Unit type explanation:

- 1.HOP**WMONO, without back-up heater,
- 2.HOP**WMONO 3kW, with 3kW back-up heater and 1-Phase Source
- 3.HOP**WMONO3 9kW, with 9kW back-up heater and 3-Phase Source

Model	For low - temperature application											
	average climate				colder climate				warmer climate			
	Energy efficiency class	Unit sound power	Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption	Rated heat output
	-	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh	kW
HOP4WWMONO	A+++	55	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	2769	5.5
HOP4WWMONO 3kW	A+++	55	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	2769	5.5
HOP6WWMONO	A+++	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	3300	6.1
HOP6WWMONO 3kW	A+++	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	3300	6.1
HOP8WWMONO	A+++	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	3976	8.1
HOP8WWMONO 3kW	A+++	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	3976	8.1
HOP8WWMONO 9kW	A+++	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	3976	8.1
HOP10WWMONO	A+++	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	4423	8.6
HOP10WWMONO 3kW	A+++	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	4423	8.6
HOP10WWMONO 9kW	A+++	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	4423	8.6
HOP12WWMONO	A+++	65	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	6870	11.1
HOP12WWMONO 3kW	A+++	65	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	6870	11.1
HOP12WWMONO 9kW	A+++	65	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	6870	11.1
HOP14WWMONO	A+++	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	7667	12.1
HOP14WWMONO 3kW	A+++	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	7667	12.1
HOP14WWMONO 9kW	A+++	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	7667	12.1
HOP16WWMONO	A+++	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	8431	13.1
HOP16WWMONO 3kW	A+++	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	8431	13.1
HOP16WWMONO 9kW	A+++	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	8431	13.1
HOP12WWMONO3	A+++	65	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	6871	11.1
HOP12WWMONO3 3kW	A+++	65	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	6871	11.1
HOP12WWMONO3 9kW	A+++	65	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	6871	11.1
HOP14WWMONO3	A+++	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	7667	12.1
HOP14WWMONO3 3kW	A+++	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	7667	12.1
HOP14WWMONO3 9kW	A+++	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	7667	12.1
HOP16WWMONO3	A+++	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	8431	13.1
HOP16WWMONO3 3kW	A+++	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	8431	13.1
HOP16WWMONO3 9kW	A+++	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	8431	13.1

Unit type explanation:

- 1.HOP**WMONO, without back-up heater,
- 2.HOP**WMONO 3kW, with 3kW back-up heater and 1-Phase Source
- 3.HOP**WMONO3 9kW, with 9kW back-up heater and 3-Phase Source

Product fiche 1

Heat pump space heating		Model	HOP4W/MONO	HOP6W/MONO	HOP8W/MONO	HOP10W/MONO	HOP12W/MONO
Unit sound power (*)	Average climate low temperature application	[dB]	55.0	58.0	59.0	60.0	65.0
	Average climate medium temperature application	[dB]	55.0	58.0	59.0	60.0	65.0
Capacity of the back-up heater integrated in the unit	Ps up back-up heater (optional)	[kW]	0/3	0/3	0/3/9	0/3/9	0/3/9
	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++	A++
Average climate (Design temperature = -10°C)							
Space heating 35°C	Prated (declared heating capacity) @ -10°C	[kW]	5.5	6.8	8.1	9.2	12.0
	Seasonal space heating efficiency (ηs)	[%]	191.0	195.0	205.6	204.8	189.4
	Annual energy consumption	[kWh]	2,351	2,845	3,218	3,644	5,152
Space heating 55°C	Prated (declared heating capacity) @ -10°C	[kW]	4.4	5.7	6.6	7.7	11.6
	Seasonal space heating efficiency (ηs)	[%]	129.5	137.9	131.5	136.6	135.1
	Annual energy consumption	[kWh]	2,744	3,345	4,056	4,539	6,927
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	4.88	6.03	7.18	8.10	10.61
	COPd (declared COP)	-	3.19	3.09	3.35	3.23	2.88
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	3.05	3.88	4.65	5.18	6.69
	COPd (declared COP)	-	4.78	4.85	5.09	5.01	4.65
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.93	2.39	2.90	3.32	4.44
	COPd (declared COP)	-	6.13	6.63	6.82	7.08	6.62
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.48	1.39	1.63	1.65	3.74
	COPd (declared COP)	-	8.05	7.93	8.35	8.58	8.47
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 1

Heat pump space heating		Model	HOP14WMMONO	HOP16WMMONO	HOP12WMMONO3	HOP14WMMONO3	HOP16WMMONO3
Unit sound power (*)	Average climate low temperature application [dB]	[dB]	65.0	68.0	65.0	65.0	68.0
Capacity of the back-up heater integrated in the unit	Average climate medium temperature application [dB]	[dB]	65.0	68.0	65.0	65.0	68.0
Space heating	Ps up back-up heater (optional) [kW]	[kW]	0/3/9	0/3/9	0/3/9	0/3/9	0/3/9
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	P_{rated} (declared heating capacity) @ -10°C [kW]	[kW]	13.7	15.2	12.0	13.7	15.2
Space heating 55°C	Seasonal space heating efficiency (ηs) [%]	[%]	185.7	181.7	189.3	185.6	181.6
	Annual energy consumption [kWh]	[kWh]	6,012	6,804	5,153	6,013	6,805
	P_{rated} (declared heating capacity) @ -10°C [kW]	[kW]	12.1	13.0	11.6	12.1	13.0
	Seasonal space heating efficiency (ηs) [%]	[%]	135.6	133.3	135.1	135.6	133.2
	Annual energy consumption [kWh]	[kWh]	7,202	7,895	6,928	7,203	7,896
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	P_{dlh} (declared heating capacity) [kW]	[kW]	12.14	13.45	10.61	12.14	13.45
	COP _d (declared COP) -	-	2.79	2.72	2.88	2.79	2.72
	Cdh(declared degradation coefficient) -	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	P_{dlh} (declared heating capacity) [kW]	[kW]	7.94	8.56	6.69	7.94	8.56
	COP _d (declared COP) -	-	4.52	4.41	4.65	4.52	4.41
	Cdh(declared degradation coefficient) -	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	P_{dlh} (declared heating capacity) [kW]	[kW]	5.20	5.70	4.44	5.20	5.70
	COP _d (declared COP) -	-	6.68	6.56	6.62	6.68	6.56
	Cdh(declared degradation coefficient) -	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	P_{dlh} (declared heating capacity) [kW]	[kW]	3.75	3.78	3.74	3.75	3.78
	COP _d (declared COP) -	-	8.52	8.51	8.47	8.52	8.51
	Cdh(declared degradation coefficient) -	-	0.90	0.90	0.90	0.90	0.90

Product fiche 2

Heat pump space heating		Model	HOP4WMMONO	HOP6WMMONO	HOP8WMMONO	HOP10WMMONO	HOP12WMMONO
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	4.41	5.36	6.44	7.40	10.74
	COPd (declared COP)	-	2.86	2.76	3.04	2.96	2.77
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	4.88	6.03	7.18	8.10	10.61
	COPd (declared COP)	-	3.19	3.09	3.35	3.23	2.88
Supplementary capacity at P_design	Psup (@Tdesign: -10°C)	[kW]	1.11	1.45	1.68	1.76	1.26
Part load conditions space heating average climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	3.89	5.04	5.84	6.78	10.24
	COPd (declared COP)	-	2.17	2.17	2.16	2.24	2.01
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	2.38	3.12	3.75	4.28	6.52
(B) condition (2°C)	COPd (declared COP)	-	3.30	3.51	3.30	3.42	3.44
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	2.94	2.08	2.42	2.77	4.36
(C) condition (7°C)	COPd (declared COP)	-	4.41	4.54	4.34	4.52	4.59
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	1.32	1.28	1.39	1.58	3.29
	COPd (declared COP)	-	5.66	5.59	5.33	5.68	6.05
(D) condition (12°C)	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]	3.42	4.52	4.90	5.38	9.10
	COPd (declared COP)	-	1.91	1.91	1.84	1.83	1.79
(E) Tol (temperature operating limit)	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	3.89	5.04	5.84	6.78	10.24
	COPd (declared COP)	-	2.17	2.17	2.16	2.24	2.01

Product fiche 2

Heat pump space heating		Model	HOP14WMMONO	HOP16WMMONO	HOP12WMMONO3	HOP14WMMONO3	HOP16WMMONO3
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	P _{dh} (declared heating capacity)	[kW]	11.47	12.52	10.74	11.47	12.52
	COP _d (declared COP)	-	2.59	2.48	2.77	2.59	2.48
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tivalent temperature	T _{biv}	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	P _{dh} (declared heating capacity)	[kW]	12.14	13.45	10.61	12.14	13.45
	COP _d (declared COP)	-	2.79	2.72	2.88	2.79	2.72
	P _{sup} (@T _{design} : -10°C)	[kW]	2.23	2.68	1.26	2.23	2.68
Part load conditions space heating average climate medium temperature application							
(A) condition (-7°C)	P _{dh} (declared heating capacity)	[kW]	10.68	11.52	10.24	10.68	11.52
	COP _d (declared COP)	-	2.01	1.99	2.01	2.01	1.99
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	P _{dh} (declared heating capacity)	[kW]	6.86	7.18	6.52	6.86	7.18
(B) condition (2°C)	COP _d (declared COP)	-	3.43	3.34	3.44	3.43	3.34
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	P _{dh} (declared heating capacity)	[kW]	4.63	4.67	4.36	4.63	4.67
	COP _d (declared COP)	-	4.66	4.61	4.59	4.66	4.61
(C) condition (12°C)	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	P _{dh} (declared heating capacity)	[kW]	3.31	3.31	3.29	3.31	3.31
	COP _d (declared COP)	-	6.13	6.07	6.05	6.13	6.07
	C _{dh} (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
	P _{dh} (declared heating capacity)	[kW]	9.19	10.33	9.10	9.19	10.33
	COP _d (declared COP)	-	1.76	1.80	1.79	1.76	1.80
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) Tivalent temperature	T _{biv}	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	P _{dh} (declared heating capacity)	[kW]	10.68	11.52	10.24	10.68	11.52
	COP _d (declared COP)	-	2.01	1.99	2.01	2.01	1.99
	P _{sup} (@T _{design} : -10°C)	[kW]	2.91	2.67	2.50	2.91	2.67

Product fiche 3

Heat pump space heating													
Supplementary capacity at P_design		Psup (@Tdesignh: -10°C)		HOP4WMONO		HOP6WMONO		HOP8WMONO		HOP10WMONO		HOP12WMONO	
		[KW]		0.98		1.18		1.69		2.28		2.50	
Colder climate (Design temperature = -22°C)													
Space heating 35°C		Prated (declared heating capacity) @ -22°C		[KW]		4.6		5.6		7.0		7.7	
Seasonal space heating efficiency (ηs)		[%]		159.5		165.3		170.0		169.8		160.2	
Annual energy consumption		[KWh]		2,769		3,300		3,976		4,423		6,870	
Prated (declared heating capacity) @ -22°C		[KW]		3.4		4.3		5.8		6.7		10.3	
Seasonal space heating efficiency (ηs)		[%]		102.1		111.1		112.0		116.4		117.8	
Annual energy consumption		[KWh]		3,159		3,681		4,950		5,540		8,419	
Part load conditions space heating colder climate low temperature application													
(A) condition (-7°C)		Pd _h (declared heating capacity)		[KW]		2.75		3.42		4.46		4.83	
COP _d (declared COP)		-		3.49		3.59		3.66		3.60		3.48	
C _d h (degradation coefficient)		-		0.90		0.90		0.90		0.90		0.90	
(B) condition (2°C)		Pd _h (declared heating capacity)		[KW]		1.77		2.06		2.69		2.94	
COP _d (declared COP)		-		4.95		5.21		5.20		5.26		4.96	
C _d h (degradation coefficient)		-		0.90		0.90		0.90		0.90		0.90	
(C) condition (7°C)		Pd _h (declared heating capacity)		[KW]		1.17		1.46		1.65		1.92	
COP _d (declared COP)		-		5.53		6.24		6.53		7.08		6.10	
C _d h (degradation coefficient)		-		0.90		0.90		0.90		0.90		0.90	
(D) condition (12°C)		Pd _h (declared heating capacity)		[KW]		1.43		1.44		1.65		1.65	
COP _d (declared COP)		-		7.67		7.66		7.96		7.96		7.87	
C _d h (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	
Pd _h (declared heating capacity)		[KW]		2.80		3.48		4.06		4.62		7.01	
COP _d (declared COP)		-		1.97		1.96		1.95		1.97		1.98	
WTOL (Heating water Operation Limit)		[°C]		65.00		65.00		65.00		65.00		65.00	
(F) T _{biv} valent temperature		[°C]		-15.00		-15.00		-15.00		-15.00		-15.00	
Pd _h (declared heating capacity)		[KW]		3.72		4.59		5.69		6.32		9.28	
COP _d (declared COP)		-		2.57		2.53		2.83		2.64		2.59	
Supplementary capacity at P_design		[KW]		1.76		2.15		2.91		3.08		4.40	

Product fiche 3

Heat pump space heating		Model	HOP14WMONO	HOP16WMONO	HOP12WMONO3	HOP14WMONO3	HOP16WMONO3
Colder climate (Design temperature = -22°C)							
Space heating 35°C	P _{rated} (declared heating capacity) @ -22°C	[kW]	12.6	13.7	11.4	12.6	13.7
	Seasonal space heating efficiency (η _s)	[%]	159.6	157.8	160.2	159.6	157.8
	Annual energy consumption	[kWh]	7,667	8,431	6,871	7,667	8,431
Space heating 55°C	P _{rated} (declared heating capacity) @ -22°C	[kW]	11.0	11.8	10.3	11.0	11.8
	Seasonal space heating efficiency (η _s)	[%]	118.9	121.8	117.7	118.9	121.8
	Annual energy consumption	[kWh]	8,866	9,309	8,420	8,867	9,310
Part load conditions space heating colder climate low temperature application							
(A) condition (-7°C)	P _{dh} (declared heating capacity)	[kW]	7.96	8.31	7.05	7.96	8.31
	COP _d (declared COP)	-	3.44	3.37	3.48	3.44	3.37
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	P _{dh} (declared heating capacity)	[kW]	5.05	5.26	4.67	5.05	5.26
	COP _d (declared COP)	-	4.92	4.86	4.96	4.92	4.86
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	P _{dh} (declared heating capacity)	[kW]	3.15	3.62	3.14	3.15	3.62
	COP _d (declared COP)	-	6.11	6.49	6.10	6.11	6.49
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	P _{dh} (declared heating capacity)	[kW]	3.57	3.34	3.57	3.57	3.34
	COP _d (declared COP)	-	7.82	7.40	7.87	7.82	7.40
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	T _{ol} (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	P _{dh} (declared heating capacity)	[kW]	7.57	8.88	7.01	7.57	8.88
	COP _d (declared COP)	-	1.92	1.97	1.98	1.92	1.97
(F) T _{bivalent} temperature	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
	T _{biv}	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	P _{dh} (declared heating capacity)	[kW]	10.31	11.22	9.28	10.31	11.22
Supplementary capacity at P _{design}	COP _d (declared COP)	-	2.53	2.43	2.59	2.53	2.43
	P _{sup} (@T _{designh} : -22°C)	[kW]	5.03	4.82	4.40	5.03	4.82

Product fiche 4

Heat pump space heating

Part load conditions space heating colder climate medium temperature application		Model	HOP4WMONO	HOP6WMONO	HOP8WMONO	HOP10WMONO	HOP12WMONO
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	2.13	2.70	3.86	4.27	6.63
	COPd (declared COP)	-	2.32	2.46	2.48	2.54	2.63
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	1.28	1.60	2.21	2.57	4.06
(B) condition (2°C)	COPd (declared COP)	-	2.99	3.36	3.35	3.51	3.60
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	1.01	1.02	1.44	1.65	2.78
	COPd (declared COP)	-	3.86	3.94	4.11	4.37	4.54
(C) condition (7°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	1.36	1.37	1.46	1.47	3.33
	COPd (declared COP)	-	6.28	6.35	5.92	5.96	6.25
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Tol (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	1.64	2.09	2.80	2.80	4.19
	COPd (declared COP)	-	1.02	1.13	1.22	1.22	1.13
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(E) Tivalent temperature	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	2.74	3.47	4.71	5.47	8.41
	COPd (declared COP)	-	1.74	1.86	1.90	2.00	1.84
	Psup (@Tdesign: -22°C)	[kW]	1.72	2.17	2.97	3.91	6.12
Warmer climate (Design temperature = 2°C)							
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	5.5	6.1	8.1	8.6	11.1
	Seasonal space heating efficiency (ηs)	[%]	255.4	259.8	276.6	280.5	256.1
	Annual energy consumption	[kWh]	1,146	1,244	1,551	1,617	2,292
	Prated (declared heating capacity) @ 2°C	[kW]	5.0	5.1	8.37	8.6	12.5
Space heating 55°C	Seasonal space heating efficiency (ηs)	[%]	162.4	164.7	176.9	180.3	174.0
	Annual energy consumption	[kWh]	1,621	1,640	2,485	2,516	3,776

Product fiche 4

Heat pump space heating

Part load conditions space heating colder climate medium temperature application		Model	HOP14WMONO	HOP16WMONO	HOP12WMONO3	HOP14WMONO3	HOP16WMONO3
(A) condition (-7°C)	P _{dh} (declared heating capacity)	[kW]	6.89	7.64	6.63	6.89	7.64
	COP _d (declared COP)	-	2.66	2.65	2.63	2.66	2.65
	C _d (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	P _{dh} (declared heating capacity)	[kW]	4.32	4.42	4.06	4.32	4.42
	COP _d (declared COP)	-	3.66	3.79	3.60	3.66	3.79
	C _d (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	P _{dh} (declared heating capacity)	[kW]	3.06	2.97	2.78	3.06	2.97
	COP _d (declared COP)	-	4.72	4.81	4.54	4.72	4.81
	C _d (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	P _{dh} (declared heating capacity)	[kW]	3.33	3.43	3.33	3.33	3.43
	COP _d (declared COP)	-	6.25	6.29	6.25	6.25	6.29
	C _d (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
	P _{dh} (declared heating capacity)	[kW]	4.20	5.21	4.19	4.20	5.21
	COP _d (declared COP)	-	1.13	1.23	1.13	1.13	1.23
(F) T bivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
	T _{biv}	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	P _{dh} (declared heating capacity)	[kW]	8.94	9.61	8.41	8.94	9.61
Supplementary capacity at P _{design}	COP _d (declared COP)	-	1.79	1.86	1.84	1.79	1.86
	P _{sup} (@T _{designh} : -22°C)	[kW]	6.80	6.59	6.12	6.80	6.59
Warmer climate (Design temperature = 2°C)							
Space heating 35°C	P _{rated} (declared heating capacity) @ 2°C	[kW]	12.1	13.1	11.1	12.1	13.1
	Seasonal space heating efficiency (η _s)	[%]	260.3	248.5	255.6	259.8	248.1
	Annual energy consumption	[kWh]	2,457	2,781	2,296	2,462	2,786
Space heating 55°C	P _{rated} (declared heating capacity) @ 2°C	[kW]	14.17	14.17	12.5	14.17	14.17
	Seasonal space heating efficiency (η _s)	[%]	174.9	176.0	173.8	174.9	175.8
	Annual energy consumption	[kWh]	4,258	4,231	3,780	4,262	4,236

Product fiche 5

Heat pump space heating		Model	HOP4W/MONO	HOP6W/MONO	HOP8W/MONO	HOP10W/MONO	HOP12W/MONO
Part load conditions space heating warmer climate low temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	5.34	5.93	7.56	8.44	11.10
	COPd (declared COP)	-	3.94	3.91	3.98	3.84	3.59
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	3.56	3.93	5.22	5.52	7.14
(C) condition (7°C)	COPd (declared COP)	-	5.92	5.89	6.26	6.18	5.87
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	1.63	1.79	2.62	2.62	3.55
	COPd (declared COP)	-	7.91	8.20	9.23	9.04	7.94
(D) condition (12°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	5.34	5.93	7.56	8.44	11.10
	COPd (declared COP)	-	3.94	3.91	3.98	3.84	3.59
(E) Tol (temperature operating limit)	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.56	3.93	5.22	5.52	7.14
	COPd (declared COP)	-	5.92	5.89	6.26	6.18	5.87
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.18	0.18	0.55	0.14	0.00
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.83	5.02	7.55	8.06	12.07
	COPd (declared COP)	-	2.51	2.48	2.59	2.59	2.31
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	3.22	3.31	5.38	5.54	8.04
(C) condition (7°C)	COPd (declared COP)	-	3.68	3.67	4.01	4.10	3.86
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
	Pdh (declared heating capacity)	[kW]	1.47	1.60	2.31	2.53	3.75
	COPd (declared COP)	-	5.15	5.29	5.55	5.82	5.70
(D) condition (12°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 5

Heat pump space heating

	Model	HOP14WMONO	HOP16WMONO	HOP12WMONO3	HOP14WMONO3	HOP16WMONO3	
Part load conditions space heating warmer climate low temperature application							
(B) condition (2°C)	P _{dh} (declared heating capacity)	[kW]	12.04	13.10	11.10	12.04	13.10
	COP _d (declared COP)	-	3.44	3.35	3.59	3.44	3.35
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	P _{dh} (declared heating capacity)	[kW]	7.78	8.41	7.14	7.78	8.41
	COP _d (declared COP)	-	5.84	5.36	5.87	5.84	5.36
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	P _{dh} (declared heating capacity)	[kW]	3.75	3.87	3.55	3.75	3.87
	COP _d (declared COP)	-	8.25	8.11	7.94	8.25	8.11
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	T _{ol} (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	P _{dh} (declared heating capacity)	[kW]	12.04	13.10	11.10	12.04	13.10
	COP _d (declared COP)	-	3.44	3.35	3.59	3.44	3.35
(F) T_{biv}valent temperature	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
	T _{biv}	[°C]	7.00	7.00	7.00	7.00	7.00
	P _{dh} (declared heating capacity)	[kW]	7.78	8.41	7.14	7.78	8.41
Supplementary capacity at P_{design}	COP _d (declared COP)	-	5.84	5.36	5.87	5.84	5.36
	P _{sup} (@T _{design} : 2°C)	[kW]	0.06	0.00	0.00	0.06	0.00
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	P _{dh} (declared heating capacity)	[kW]	13.04	13.38	12.07	13.04	13.38
	COP _d (declared COP)	-	2.20	2.29	2.31	2.20	2.29
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	P _{dh} (declared heating capacity)	[kW]	9.11	9.11	8.04	9.11	9.11
	COP _d (declared COP)	-	3.89	3.89	3.86	3.89	3.89
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	P _{dh} (declared heating capacity)	[kW]	4.08	4.06	3.75	4.08	4.06
	COP _d (declared COP)	-	5.90	5.86	5.70	5.90	5.86
	C _{dh} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 6

Heat pump space heating		Model	HOP4W/MONO	HOP6W/MONO	HOP8W/MONO	HOP10W/MONO	HOP12W/MONO
(E) ToI (temperature operating limit)	ToI (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	4.83	5.02	7.55	8.06	12.07
	COPd (declared COP)	-	2.51	2.48	2.59	2.59	2.31
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
(F) TbiValent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.22	3.31	5.38	5.54	8.04
	COPd (declared COP)	-	3.68	3.67	4.01	4.10	3.86
	Psup (@Tdesignh: 2°C)	[kW]	0.18	0.12	0.82	0.48	0.43
Supplementary capacity at P_design							
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	No	No	No	No	No
	Rated airflow	[m³/h]	2770	2770	4030	4030	4060
	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.014	0.014	0.014
Other	Pto (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.024	0.024	0.024
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	PCK (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
Qfuel (Daily fuel consumption)	[kW/h]	/	/	/	/	/	

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

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

Product fiche 6

Heat pump space heating		Model	HOP14WMONO	HOP16WMONO	HOP12WMONO3	HOP14WMONO3	HOP16WMONO3
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	P _{dh} (declared heating capacity)	[kW]	13.04	13.38	12.07	13.04	13.38
	COP _d (declared COP)	-	2.20	2.29	2.31	2.20	2.29
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00	65.00	65.00
	T _{biv}	[°C]	7.00	7.00	7.00	7.00	7.00
	P _{dh} (declared heating capacity)	[kW]	9.11	9.11	8.04	9.11	9.11
Supplementary capacity at P _{design}	COP _d (declared COP)	-	3.89	3.89	3.86	3.89	3.89
	P _{sup} (@T _{designh} : 2°C)	[kW]	1.13	0.79	0.43	1.13	0.79
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	No	No	No	No	No
	Rated airflow	[m³/h]	4060	4650	4060	4060	4650
	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	P _{off} (Power consumption Off mode)	[kW]	0.014	0.014	0.02	0.02	0.02
Other	P _{to} (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.030	0.030	0.030
	P _{sb} (Power consumption Standby mode)	[kW]	0.014	0.014	0.02	0.02	0.02
	P _{ck} (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000
	Q _{elec} (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Q _{fuel} (Daily fuel consumption)	[kWh]	/	/	/	/	/

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

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

Product fiche 7

Heat pump space cooling

	Model	HOP4WMMONO	HOP6WMMONO	HOP8WMMONO	HOP10WMMONO	HOP12WMMONO
Unit sound power (*)	Average climate low temperature application	56	60	60	60	65
	Average climate medium temperature application	56	58	60	60	64
Space cooling 7°C	Prated (declared cooling capacity) @ 35°C	4.70	7.00	7.45	8.20	11.50
	Seasonal space cooling efficiency (ηs)	196.2	209.5	229.9	234.9	194.1
	Annual energy consumption	566	791	768	827	1,400
	Prated (declared cooling capacity) @ 35°C	4.50	6.50	8.30	9.90	12.00
Space cooling 18°C	Seasonal space cooling efficiency (ηs)	307.4	325.9	354.7	346.3	282.0
	Annual energy consumption	348	474	557	680	1,011
Part load conditions space cooling: low temperature application@7°C						
(A) condition (35°C)	Pdc (declared cooling capacity)	4.70	7.00	7.45	8.20	11.50
	EERd (declared EER)	-	3.45	3.35	3.25	2.75
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	3.66	5.13	5.72	6.68	8.76
	EERd (declared EER)	-	4.76	4.71	4.47	3.93
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	2.21	3.48	3.62	4.26	5.81
	EERd (declared EER)	-	5.72	6.65	7.02	5.73
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	0.94	1.53	1.64	1.94	2.63
	EERd (declared EER)	-	5.72	8.55	9.54	6.75
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90

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

Product fiche 7

Heat pump space cooling		Model	HOP14WMMONO	HOP16WMMONO	HOP12WMMONO3	HOP14WMMONO3	HOP16WMMONO3
Unit sound power (*)	Average climate low temperature application	dB	65	69	65	65	69
	Average climate medium temperature application	dB	64	69	64	64	69
Space cooling 7°C	Prated (declared cooling capacity) @ 35°C	[kW]	12.40	14.00	11.50	12.40	14.00
	Seasonal space cooling efficiency (ηs)	[%]	191.9	184.6	193.0	190.8	183.7
	Annual energy consumption	[kWh]	1,527	1,791	1,408	1,535	1,799
Space cooling 18°C	Prated (declared cooling capacity) @ 35°C	[kW]	13.50	14.20	12.00	13.50	14.20
	Seasonal space cooling efficiency (ηs)	[%]	274.4	266.8	279.7	272.5	265.0
	Annual energy consumption	[kWh]	1,168	1,263	1,019	1,176	1,271
Part load conditions space cooling: low temperature application@7°C							
(A) condition (35°C)	P _{dc} (declared cooling capacity)	[kW]	12.40	14.00	11.50	12.40	14.00
	EER _d (declared EER)	-	2.50	2.50	2.75	2.50	2.50
	C _{dc} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	P _{dc} (declared cooling capacity)	[kW]	9.41	10.68	8.76	9.41	10.68
	EER _d (declared EER)	-	3.85	3.63	3.93	3.85	3.63
	C _{dc} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	P _{dc} (declared cooling capacity)	[kW]	6.16	6.76	5.81	6.16	6.76
	EER _d (declared EER)	-	5.80	5.27	5.73	5.80	5.27
	C _{dc} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	P _{dc} (declared cooling capacity)	[kW]	2.63	3.41	2.63	2.63	3.41
	EER _d (declared EER)	-	6.74	7.29	6.75	6.74	7.29
	C _{dc} (degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

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

Product fiche 8

Heat pump space cooling		Model	HOP4WMMONO	HOP6WMMONO	HOP8WMMONO	HOP10WMMONO	HOP12WMMONO
Part load conditions space cooling: medium temperature application@18°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	4.50	6.50	8.30	9.90	12.00
	EERd (declared EER)	-	5.50	4.80	5.05	4.55	3.95
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	3.44	4.84	6.47	7.71	9.21
	EERd (declared EER)	-	7.23	7.16	7.02	6.45	5.50
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	2.19	3.26	4.31	5.03	5.74
	EERd (declared EER)	-	8.94	9.64	10.67	10.36	8.66
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	1.13	1.41	1.80	2.32	3.33
	EERd (declared EER)	-	10.48	11.48	13.61	14.98	10.07
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m ³ /h]	2770	2770	4030	4030	4060
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pto (Power consumption Thermostat off mode)	[kW]	0.010	0.010	0.010	0.010	0.010
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Product fiche 8

Heat pump space cooling

		Model	HOP14WMMONO	HOP16WMMONO	HOP12WMMONO3	HOP14WMMONO3	HOP16WMMONO3
Part load conditions space cooling: medium temperature application@18°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	13.50	14.20	12.00	13.50	14.20
	EERd (declared EER)	-	3.61	3.61	3.95	3.61	3.61
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	10.20	11.42	9.21	10.20	11.42
	EERd (declared EER)	-	5.26	5.14	5.50	5.26	5.14
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	6.57	7.27	5.74	6.57	7.27
	EERd (declared EER)	-	8.45	7.83	8.66	8.45	7.83
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	3.33	3.40	3.33	3.33	3.40
	EERd (declared EER)	-	10.07	10.35	10.07	10.07	10.35
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m ³ /h]	4060	4650	4060	4060	4650
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pto (Power consumption Thermostat off mode)	[kW]	0.010	0.010	0.010	0.010	0.010
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature: 35/24 Water temperature: 12/7	HOP4WMONO	4.70	1.36	3.45
	HOP6WMONO	7.00	2.33	3.00
	HOP8WMONO	7.45	2.22	3.35
	HOP10WMONO	8.20	2.52	3.25
	HOP12WMONO	11.5	4.18	2.75
	HOP14WMONO	12.4	4.96	2.50
	HOP16WMONO	14.0	5.60	2.50
	HOP12WMONO3	11.5	4.18	2.75
	HOP14WMONO3	12.4	4.96	2.50
	HOP16WMONO3	14.0	5.60	2.50
Ambient Temperature: 35/24 Water temperature: 23/18	HOP4WMONO	4.50	0.82	5.50
	HOP6WMONO	6.50	1.35	4.80
	HOP8WMONO	8.30	1.64	5.05
	HOP10WMONO	9.90	2.18	4.55
	HOP12WMONO	12.00	3.04	3.95
	HOP14WMONO	13.50	3.74	3.61
	HOP16WMONO	14.20	3.94	3.61
	HOP12WMONO3	12.00	3.04	3.95
	HOP14WMONO3	13.50	3.74	3.61
	HOP16WMONO3	14.20	3.94	3.61
Ambient Temperature: 7/6 Water temperature: 30/35	HOP4WMONO	4.20	0.82	5.10
	HOP6WMONO	6.35	1.28	4.95
	HOP8WMONO	8.40	1.63	5.15
	HOP10WMONO	10.0	2.02	4.95
	HOP12WMONO	12.1	2.44	4.95
	HOP14WMONO	14.5	3.15	4.60
	HOP16WMONO	15.9	3.53	4.50
	HOP12WMONO3	12.1	2.44	4.95
	HOP14WMONO3	14.5	3.15	4.60
	HOP16WMONO3	15.9	3.53	4.50
Ambient Temperature: 2/1 Water temperature: 30/35	HOP4WMONO	4.40	1.10	4.00
	HOP6WMONO	5.50	1.41	3.90
	HOP8WMONO	7.10	1.73	4.10
	HOP10WMONO	8.20	2.05	4.00
	HOP12WMONO	9.2	2.36	3.90
	HOP14WMONO	11.0	3.06	3.60
	HOP16WMONO	13.0	3.77	3.45
	HOP12WMONO3	9.2	2.36	3.90
	HOP14WMONO3	11.0	3.06	3.60
	HOP16WMONO3	13.0	3.77	3.45

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature: -7/-8 Water temperature: 30/35	HOP4WMONO	4.70	1.52	3.10
	HOP6WMONO	6.00	2.00	3.00
	HOP8WMONO	7.00	2.19	3.20
	HOP10WMONO	8.00	2.62	3.05
	HOP12WMONO	10.00	3.33	3.00
	HOP14WMONO	12.00	4.21	2.85
	HOP16WMONO	13.10	4.85	2.70
	HOP12WMONO3	10.00	3.33	3.00
	HOP14WMONO3	12.00	4.21	2.85
	HOP16WMONO3	13.10	4.85	2.70
Ambient Temperature: 7/6 Water temperature: 40/45	HOP4WMONO	4.30	1.13	3.80
	HOP6WMONO	6.30	1.70	3.70
	HOP8WMONO	8.10	2.10	3.85
	HOP10WMONO	10.0	2.67	3.75
	HOP12WMONO	12.3	3.32	3.70
	HOP14WMONO	14.1	3.92	3.60
	HOP16WMONO	16.0	4.57	3.50
	HOP12WMONO3	12.3	3.32	3.70
	HOP14WMONO3	14.1	3.92	3.60
	HOP16WMONO3	16.0	4.57	3.50
Ambient Temperature: 2/1 Water temperature: 40/45	HOP4WMONO	5.10	1.70	3.00
	HOP6WMONO	5.80	1.93	3.00
	HOP8WMONO	7.40	2.28	3.25
	HOP10WMONO	7.85	2.45	3.20
	HOP12WMONO	10.60	3.53	3.00
	HOP14WMONO	11.50	4.04	2.85
	HOP16WMONO	12.70	4.46	2.85
	HOP12WMONO3	10.60	3.53	3.00
	HOP14WMONO3	11.50	4.04	2.85
	HOP16WMONO3	12.70	4.46	2.85
Ambient Temperature: -7/-8 Water temperature: 40/45	HOP4WMONO	4.30	1.83	2.35
	HOP6WMONO	5.40	2.25	2.40
	HOP8WMONO	6.60	2.59	2.55
	HOP10WMONO	7.35	2.88	2.55
	HOP12WMONO	10.20	4.25	2.40
	HOP14WMONO	11.70	4.98	2.35
	HOP16WMONO	12.80	5.69	2.25
	HOP12WMONO3	10.20	4.25	2.40
	HOP14WMONO3	11.70	4.98	2.35
	HOP16WMONO3	12.80	5.69	2.25

Condition(°C)	Model	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature: 7/6 Water temperature: 47/55	HOP4WMONO	4.40	1.49	2.95
	HOP6WMONO	6.00	2.03	2.95
	HOP8WMONO	7.50	2.36	3.18
	HOP10WMONO	9.50	3.06	3.10
	HOP12WMONO	11.9	3.90	3.05
	HOP14WMONO	13.8	4.68	2.95
	HOP16WMONO	16.0	5.61	2.85
	HOP12WMONO3	11.9	3.90	3.05
	HOP14WMONO3	13.8	4.68	2.95
	HOP16WMONO3	16.0	5.61	2.85
Ambient Temperature: 2/1 Water temperature: 47/55	HOP4WMONO	5.10	2.08	2.45
	HOP6WMONO	5.65	2.31	2.45
	HOP8WMONO	7.10	2.73	2.60
	HOP10WMONO	8.10	3.16	2.56
	HOP12WMONO	11.30	4.52	2.50
	HOP14WMONO	12.40	5.06	2.45
	HOP16WMONO	13.30	5.54	2.40
	HOP12WMONO3	11.30	4.52	2.50
	HOP14WMONO3	12.40	5.06	2.45
	HOP16WMONO3	13.30	5.54	2.40
Ambient Temperature: -7/-8 Water temperature: 47/55	HOP4WMONO	4.00	2.05	1.95
	HOP6WMONO	5.15	2.58	2.00
	HOP8WMONO	6.15	3.00	2.05
	HOP10WMONO	6.85	3.43	2.00
	HOP12WMONO	9.80	4.78	2.05
	HOP14WMONO	11.00	5.37	2.05
	HOP16WMONO	12.50	6.25	2.00
	HOP12WMONO3	9.80	4.78	2.05
	HOP14WMONO3	11.00	5.37	2.05
	HOP16WMONO3	12.50	6.25	2.00

ErP Information

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

Specified Information of Fan:

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

ErP Information

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

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	29.1%
2	Overall efficiency (η_e) =	33.7%
3	Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =44.6
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.186kw
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.37m ³ /s
10.3	Rated motor pressure(s) at optimum energy efficiency	40Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	GUANGDONG WELLING MOTOR MANUFACTURING CO.,LTD.

ErP Information

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

Specified Information of Fan:

No.	Information Item	Comment
1	$\eta_{\text{target}} =$	29.0%
2	Overall efficiency (η_e) =	34.6%
3	Pass or not (Criteria: $\eta_e \geq \eta_{\text{target}}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =45.7
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.180kW
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.378m ³ /s
10.3	Rated motor pressure(s) at optimum energy efficiency	40Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	Panasonic Motor (HangZhou) CO.,LTD.

NOTE

A series of horizontal dotted lines for writing notes.

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