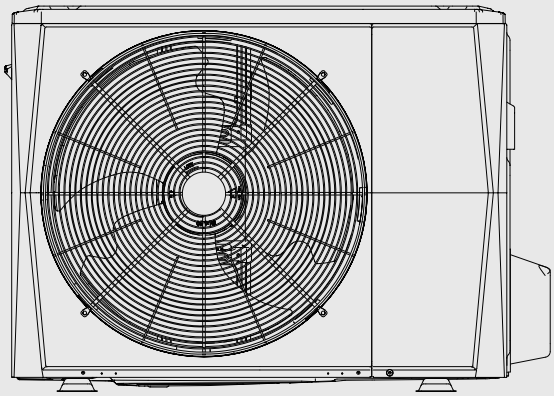
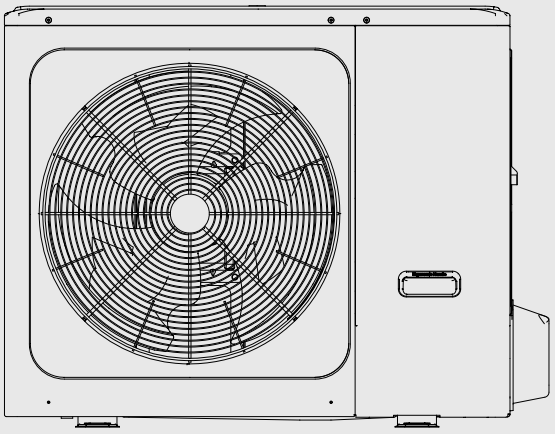
SPLIT HEAT PUMPS

TECHNICAL

DATA MANUAL





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.

INVERTER

Model		For low - temperature application											
Outdoor unit	Indoor unit	Energy efficiency class	Indoor unit sound power	Outdoor unit sound power	average climate			colder climate			warmer climate		
					Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption
		-	dB	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh
SHPAO4RP24MI	SHPAI60RP24MI	A+++	38	56	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146
	SHPAI60RP24MI-EH	A+++	38	56	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146
SHPAO6RP24MI	SHPAI60RP24MI	A+++	38	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244
	SHPAI60RP24MI-EH	A+++	38	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244
SHPAO8RP24MI	SHPAI100RP24MI	A+++	42	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551
	SHPAI100RP24MI-EH	A+++	42	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551
SHPAO10RP24MI	SHPAI100RP24MI	A+++	42	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617
	SHPAI100RP24MI-EH	A+++	42	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617
SHPAO12RP24MI	SHPAI160RP24MI	A+++	43	64	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	2292
	SHPAI160RP24MI-EH	A+++	43	64	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	2292
SHPAO14RP24MI	SHPAI160RP24MI	A+++	43	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	2457
	SHPAI160RP24MI-EH	A+++	43	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	2457
SHPAO16RP24MI	SHPAI160RP24MI	A+++	43	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	2781
	SHPAI160RP24MI-EH	A+++	43	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	2781
SHPAO12RP24P3MI	SHPAI160RP24MI	A+++	43	64	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	2296
	SHPAI160RP24MI-EH	A+++	43	64	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	2296
SHPAO14RP24P3MI	SHPAI160RP24MI	A+++	43	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	2462
	SHPAI160RP24MI-EH	A+++	43	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	2462
SHPAO16RP24P3MI	SHPAI160RP24MI	A+++	43	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	2786
	SHPAI160RP24MI-EH	A+++	43	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	2786

Indoor unit type explanation:

1. SHPAI**RP24MI, without back-up heater,

2. SHPAI**RP24MI-EH, with 3kW back-up heater and 1-Phase

Model		For medium - temperature application											
Outdoor unit	Indoor unit	Energy efficiency class	Indoor unit sound power	Outdoor unit sound power	average climate			colder climate			warmer climate		
					Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption
		-	dB	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh
SHPAO4RP24MI	SHPAI60RP24MI	A++	38	56	4.4	129.5	2742	3.4	102.1	3158	5.0	163.1	1614
	SHPAI60RP24MI-EH	A++	38	56	4.4	129.5	2742	3.4	102.1	3158	5.0	163.1	1614
SHPAO6RP24MI	SHPAI60RP24MI	A++	38	58	5.7	137.9	3343	4.3	111.1	3680	5.1	165.4	1634
	SHPAI60RP24MI-EH	A++	38	58	5.7	137.9	3343	4.3	111.1	3680	5.1	165.4	1634
SHPAO8RP24MI	SHPAI100RP24MI	A++	42	59	6.6	131.6	4054	5.8	112.1	4948	7.6	177.2	2242
	SHPAI100RP24MI-EH	A++	42	59	6.6	131.6	4054	5.8	112.1	4948	7.6	177.2	2242
SHPAO10RP24MI	SHPAI100RP24MI	A++	42	60	7.7	135.7	4567	6.7	116.5	5539	8.6	181.7	2496
	SHPAI100RP24MI-EH	A++	42	60	7.7	135.7	4567	6.7	116.5	5539	8.6	181.7	2496
SHPAO12RP24MI	SHPAI160RP24MI	A++	43	64	11.6	135.1	6927	10.3	117.8	8419	12.5	174.1	3376
	SHPAI160RP24MI-EH	A++	43	64	11.6	135.1	6927	10.3	117.8	8419	12.5	174.1	3376
SHPAO14RP24MI	SHPAI160RP24MI	A++	43	65	12.1	135.6	7202	11.0	118.9	8866	13.7	176.5	4088
	SHPAI160RP24MI-EH	A++	43	65	12.1	135.6	7202	11.0	118.9	8866	13.7	176.5	4088
SHPAO16RP24MI	SHPAI160RP24MI	A++	43	68	13.0	133.3	7895	11.8	121.8	9309	13.8	176.1	4112
	SHPAI160RP24MI-EH	A++	43	68	13.0	133.3	7895	11.8	121.8	9309	13.8	176.1	4112
SHPAO12RP24P3MI	SHPAI160RP24MI	A++	43	64	11.6	135.1	6928	10.3	117.7	8420	12.5	173.8	3780
	SHPAI160RP24MI-EH	A++	43	64	11.6	135.1	6928	10.3	117.7	8420	12.5	173.8	3780
SHPAO14RP24P3MI	SHPAI160RP24MI	A++	43	65	12.1	135.6	7203	11.0	118.9	8867	13.7	176.4	4092
	SHPAI160RP24MI-EH	A++	43	65	12.1	135.6	7203	11.0	118.9	8867	13.7	176.4	4092
SHPAO16RP24P3MI	SHPAI160RP24MI	A++	43	68	13.0	133.2	7896	11.8	121.8	9310	13.8	175.9	4116
	SHPAI160RP24MI-EH	A++	43	68	13.0	133.2	7896	11.8	121.8	9310	13.8	175.9	4116

Indoor unit type explanation:

1. SHPAI**RP24MI, without back-up heater,

2. SHPAI**RP24MI-EH, with 3kW back-up heater and 1-Phase

Product fiche 1

Heat pump space heater		Outdoor	SHPAO4RP24MI	SHPAO6RP24MI	SHPAO8RP24MI	SHPAO10RP24MI	SHPAO12RP24MI
		Indoor	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
Indoor unit sound power (*)		[dB]	38.0	38.0	42.0	42.0	43.0
Outdoor unit sound power (*)	**Average climate low temperature application**	[dB]	56.0	58.0	59.0	60.0	64.0
	Average climate medium temperature application	[dB]	56.0	58.0	59.0	60.0	64.0
Capicity of the back-up heater integrated in the unit	**Psup back-up heater (optional)**	[kW]	0/3	0/3	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	**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	131.6	135.7	135.1
	Annual energy consumption	[kWh]	2,742	3,343	4,054	4,567	6,927
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	**Pdh (declared heating capacity)**	[kW]	4.88	6.03	7.18	8.10	10.61
	COPd (declared COP)	-	3.19	3.09	3.35	3.23	2.88
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	3.05	3.88	4.65	5.18	6.69
	COPd (declared COP)	-	4.78	4.85	5.09	5.01	4.65
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	1.93	2.39	2.90	3.32	4.44
	COPd (declared COP)	-	6.13	6.63	6.82	7.08	6.62
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	1.48	1.39	1.63	1.65	3.74
	COPd (declared COP)	-	8.05	7.93	8.35	8.58	8.47
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	4.41	5.36	6.44	7.40	10.74
	COPd (declared COP)	-	2.86	2.76	3.04	2.96	2.77
	WTOL (Heating water Operation Limit)	[°C]	60.00	60.00	60.00	60.00	60.00

Product fiche 1

Heat pump space heater		Outdoor	SHPAO14RP24MI	SHPAO16RP24MI	SHPAO12RP24P3MI	SHPAO14RP24P3MI	SHPAO16RP24P3MI
		Indoor	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
Indoor unit sound power (*)		[dB]	43.0	43.0	43.0	43.0	43.0
Outdoor unit sound power (*)	**Average climate low temperature application**	[dB]	65.0	68.0	64.0	65.0	68.0
	Average climate medium temperature application	[dB]	65.0	68.0	64.0	65.0	68.0
Capicity of the back-up heater integrated in the unit	**Psup back-up heater (optional)**	[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	**Prated (declared heating capacity) @ –10°C**	[kW]	13.7	15.2	12.0	13.7	15.2
	Seasonal space heating efficiency (ηs)	[%]	185.7	181.7	189.3	185.6	181.6
	Annual energy consumption	[kWh]	6,012	6,804	5,153	6,013	6,805
Space heating 55°C	**Prated (declared heating capacity) @ –10°C**	[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]	7,202	7,895	6,928	7,203	7,896
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	**Pdh (declared heating capacity)**	[kW]	12.14	13.45	10.61	12.14	13.45
	COPd (declared COP)	-	2.79	2.72	2.88	2.79	2.72
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	7.94	8.56	6.69	7.94	8.56
	COPd (declared COP)	-	4.52	4.41	4.65	4.52	4.41
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	5.20	5.70	4.44	5.20	5.70
	COPd (declared COP)	-	6.68	6.56	6.62	6.68	6.56
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	3.75	3.78	3.74	3.75	3.78
	COPd (declared COP)	-	8.52	8.51	8.47	8.52	8.51
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	11.47	12.52	10.74	11.47	12.52
	COPd (declared COP)	-	2.59	2.48	2.77	2.59	2.48
	WTOL (Heating water Operation Limit)	[°C]	60.00	60.00	60.00	60.00	60.00

Product fiche 2

Heat pump space heater		Outdoor	SHPAO4RP24MI	SHPAO6RP24MI	SHPAO8RP24MI	SHPAO10RP24MI	SHPAO12RP24MI
		Indoor	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
(F) Tbivalent 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 (@Tdesignh: –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
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.38	3.12	3.76	4.28	6.52
	COPd (declared COP)	-	3.30	3.51	3.30	3.42	3.44
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.94	2.08	2.43	2.77	4.36
	COPd (declared COP)	-	4.41	4.54	4.34	4.52	4.59
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	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
	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]	3.42	4.52	4.91	5.38	9.10
	COPd (declared COP)	-	1.91	1.91	1.84	1.83	1.79
	WTOL (Heating water Operation Limit)	[°C]	60.00	60.00	60.00	60.00	60.00
(F) Tbivalent temperature	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	10.27
	COPd (declared COP)	-	2.17	2.17	2.16	2.24	2.01
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[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	11.4
	Seasonal space heating efficiency (ηs)	[%]	159.5	165.3	170	169.8	160.2
	Annual energy consumption	[kWh]	2,769	3,300	3,976	4,423	6,870

Product fiche 2

Heat pump space heater		Outdoor	SHPAO14RP24MI	SHPAO16RP24MI	SHPAO12RP24P3MI	SHPAO14RP24P3MI	SHPAO16RP24P3MI
		Indoor	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
(F) Tbivalent temperature	**Tbiv**	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	12.14	13.45	10.61	12.14	13.45
	COPd (declared COP)	-	2.79	2.72	2.88	2.79	2.72
Supplementary capacity at P_design	**Psup (@Tdesignh: –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)	**Pdh (declared heating capacity)**	[kW]	10.68	11.52	10.24	10.68	11.52
	COPd (declared COP)	-	2.01	1.99	2.01	2.01	1.99
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	6.86	7.18	6.52	6.86	7.18
	COPd (declared COP)	-	3.43	3.34	3.44	3.43	3.34
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	4.63	4.67	4.36	4.63	4.67
	COPd (declared COP)	-	4.66	4.61	4.59	4.66	4.61
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	3.31	3.32	3.29	3.31	3.32
	COPd (declared COP)	-	6.13	6.07	6.05	6.13	6.07
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	9.19	10.33	9.10	9.19	10.33
	COPd (declared COP)	-	1.76	1.80	1.79	1.76	1.80
	WTOL (Heating water Operation Limit)	[°C]	60.00	60.00	60.00	60.00	60.00
(F) Tbivalent temperature	**Tbiv**	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	10.68	11.52	10.27	10.68	11.52
	COPd (declared COP)	-	2.01	1.99	2.01	2.01	1.99
Supplementary capacity at P_design	**Psup (@Tdesignh: –10°C)**	[kW]	2.91	2.67	2.50	2.91	2.67
Colder climate (Design temperature = –22°C)							
Space heating 35°C	**Prated (declared heating capacity) @ –22°C**	[kW]	12.6	13.7	11.4	12.6	13.7
	Seasonal space heating efficiency (ηs)	[%]	159.6	157.8	160.2	159.6	157.8
	Annual energy consumption	[kWh]	7,667	8,431	6,871	7,667	8,431

Product fiche 3

Heat pump space heater		Outdoor	SHPAO4RP24MI	SHPAO6RP24MI	SHPAO8RP24MI	SHPAO10RP24MI	SHPAO12RP24MI
		Indoor	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
Space heating 55°C	**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	112.1	116.5	117.8
	Annual energy consumption	[kWh]	3,158	3,680	4,948	5,539	8,419
Part load conditions space heating colder climate low temperature application							
(A) condition (-7°C)	**Pdh (declared heating capacity)**	[kW]	2.75	3.42	4.46	4.83	7.05
	COPd (declared COP)	-	3.49	3.59	3.66	3.60	3.48
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	1.77	2.06	2.69	2.94	4.67
	COPd (declared COP)	-	4.95	5.21	5.20	5.26	4.96
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	1.17	1.46	1.65	1.92	3.14
	COPd (declared COP)	-	5.53	6.24	6.53	7.08	6.10
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	1.43	1.44	1.65	1.65	3.57
	COPd (declared COP)	-	7.67	7.66	7.96	7.96	7.87
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	2.80	3.48	4.06	4.62	7.01
	COPd (declared COP)	-	1.97	1.96	1.95	1.97	1.98
	WTOL (Heating water Operation Limit)	[°C]	51.00	51.00	51.00	51.00	51.00
(F) Tbivalent temperature	**Tbiv**	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	3.72	4.59	5.69	6.32	9.28
	COPd (declared COP)	-	2.57	2.53	2.83	2.64	2.59
Supplementary capacity at P_design	**Psup (@Tdesignh: –22°C)**	[kW]	1.76	2.15	2.91	3.08	4.40
Part load conditions space heating colder climate medium temperature application							
(A) condition (-7°C)	**Pdh (declared heating capacity)**	[kW]	2.13	2.69	3.86	4.27	6.63
	COPd (declared COP)	-	2.32	2.46	2.48	2.54	2.63
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 3

Heat pump space heater		Outdoor	SHPAO14RP24MI	SHPAO16RP24MI	SHPAO12RP24P3MI	SHPAO14RP24P3MI	SHPAO16RP24P3MI
		Indoor	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
Space heating 55°C	**Prated (declared heating capacity) @ –22°C**	[kW]	11.0	11.8	10.3	11.0	11.8
	Seasonal space heating efficiency (ηs)	[%]	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)	**Pdh (declared heating capacity)**	[kW]	7.96	8.31	7.05	7.96	8.31
	COPd (declared COP)	-	3.44	3.37	3.48	3.44	3.37
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	**Pdh (declared heating capacity)**	[kW]	5.05	5.26	4.67	5.05	5.26
	COPd (declared COP)	-	4.92	4.86	4.96	4.92	4.86
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	**Pdh (declared heating capacity)**	[kW]	3.15	3.62	3.14	3.15	3.62
	COPd (declared COP)	-	6.11	6.49	6.10	6.11	6.49
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	**Pdh (declared heating capacity)**	[kW]	3.57	3.34	3.57	3.57	3.34
	COPd (declared COP)	-	7.82	7.40	7.87	7.82	7.40
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	**Tol (temperature operating limit)**	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	7.57	8.88	7.01	7.57	8.88
	COPd (declared COP)	-	1.92	1.97	1.98	1.92	1.97
	WTOL (Heating water Operation Limit)	[°C]	51.00	51.00	51.00	51.00	51.00
(F) Tbivalent temperature	**Tbiv**	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	10.31	11.22	9.28	10.31	11.22
	COPd (declared COP)	-	2.53	2.43	2.59	2.53	2.43
Supplementary capacity at P_design	**Psup (@Tdesignh: –22°C)**	[kW]	5.03	4.82	4.40	5.03	4.82
Part load conditions space heating colder climate medium temperature application							
(A) condition (-7°C)	**Pdh (declared heating capacity)**	[kW]	6.89	7.64	6.63	6.89	7.64
	COPd (declared COP)	-	2.66	2.65	2.63	2.66	2.65
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 4

Heat pump space heater		Outdoor	SHPAO4RP24MI	SHPAO6RP24MI	SHPAO8RP24MI	SHPAO10RP24MI	SHPAO12RP24MI
		Indoor	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	1.28	1.60	2.21	2.57	4.06
	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
(C) condition (7°C)	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
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.36	1.37	1.47	1.48	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
(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]	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]	51.00	51.00	51.00	51.00	51.00
(F) Tbivalent 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
Supplementary capacity at P_design	Psup (@Tdesignh: –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
Space heating 55°C	Prated (declared heating capacity) @ 2 °C	[kW]	5.0	5.1	7.6	8.6	12.5
	Seasonal space heating efficiency (ηs)	[%]	163.1	165.4	177.2	181.7	174.1
	Annual energy consumption	[kWh]	1,614	1,634	2,242	2,496	3,376
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	11.26
	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
(C) condition (7°C)	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
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 4

Heat pump space heater		Outdoor	SHPAO14RP24MI	SHPAO16RP24MI	SHPAO12RP24P3MI	SHPAO14RP24P3MI	SHPAO16RP24P3MI
		Indoor	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.32	4.42	4.06	4.32	4.42
	COPd (declared COP)	-	3.66	3.79	3.60	3.66	3.79
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.06	2.97	2.78	3.06	2.97
	COPd (declared COP)	-	4.72	4.81	4.54	4.72	4.81
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.33	3.43	3.33	3.33	3.43
	COPd (declared COP)	-	6.25	6.29	6.25	6.25	6.29
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	4.20	5.21	4.19	4.20	5.21
	COPd (declared COP)	-	1.13	1.23	1.13	1.13	1.23
	WTOL (Heating water Operation Limit)	[°C]	51.00	51.00	51.00	51.00	51.00
(F) Tbivalent temperature	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	8.94	9.61	8.41	8.94	9.61
	COPd (declared COP)	-	1.79	1.86	1.84	1.79	1.86
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	6.76	6.59	6.12	6.76	6.59
Warmer climate (Design temperature = 2°C)							
Space heating 35°C	Prated (declared heating capacity) @ 2 °C	[kW]	12.1	13.1	11.1	12.1	13.1
	Seasonal space heating efficiency (ηs)	[%]	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	Prated (declared heating capacity) @ 2 °C	[kW]	13.7	13.8	12.5	13.7	13.8
	Seasonal space heating efficiency (ηs)	[%]	176.5	176.1	173.8	176.4	175.9
	Annual energy consumption	[kWh]	4,088	4,112	3,780	4,092	4,116
Part load conditions space heating warmer climate low temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	12.04	13.10	11.26	12.04	13.10
	COPd (declared COP)	-	3.44	3.35	3.59	3.44	3.35
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	7.78	8.41	7.14	7.78	8.41
	COPd (declared COP)	-	5.84	5.36	5.87	5.84	5.36
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 5

Heat pump space heater		Outdoor	SHPAO4RP24MI	SHPAO6RP24MI	SHPAO8RP24MI	SHPAO10RP24MI	SHPAO12RP24MI
		Indoor	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
(D) condition (12°C)	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
	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]	5.34	5.93	7.56	8.44	11.26
	COPd (declared COP)	-	3.94	3.91	3.98	3.84	3.59
	WTOL (Heating water Operation Limit)	[°C]	62.00	62.00	62.00	62.00	62.00
(F) Tbivalent temperature	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
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.22	3.31	4.86	5.54	8.04
	COPd (declared COP)	-	3.68	3.67	3.92	4.10	3.86
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.47	1.59	2.32	2.53	3.75
	COPd (declared COP)	-	5.15	5.29	5.55	5.82	5.70
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	4.83	5.02	7.83	8.15	12.07
	COPd (declared COP)	-	2.51	2.48	2.66	2.61	2.31
	WTOL (Heating water Operation Limit)	[°C]	62.00	62.00	62.00	62.00	62.00
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.22	3.31	4.86	5.54	8.04
	COPd (declared COP)	-	3.68	3.67	3.92	4.10	3.86
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.18	0.12	0.00	0.48	0.43

Product fiche 5

Heat pump space heater		Outdoor	SHPAO14RP24MI	SHPAO16RP24MI	SHPAO12RP24P3MI	SHPAO14RP24P3MI	SHPAO16RP24P3MI
		Indoor	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.75	3.87	3.55	3.75	3.87
	COPd (declared COP)	-	8.25	8.11	7.94	8.25	8.11
	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]	12.04	13.10	11.26	12.04	13.10
	COPd (declared COP)	-	3.44	3.35	3.59	3.44	3.35
	WTOL (Heating water Operation Limit)	[°C]	62.00	62.00	62.00	62.00	62.00
(F) Tbivalent temperature	Tblv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	7.78	8.41	7.14	7.78	8.41
	COPd (declared COP)	-	5.84	5.36	5.87	5.84	5.36
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.00	0.00	0.00	0.00	0.00
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	13.04	13.38	12.07	13.04	13.38
	COPd (declared COP)	-	2.20	2.29	2.31	2.20	2.29
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	8.83	8.86	8.04	8.83	8.86
	COPd (declared COP)	-	3.91	3.84	3.86	3.91	3.84
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	4.08	4.06	3.75	4.08	4.06
	COPd (declared COP)	-	5.90	5.86	5.70	5.90	5.86
	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]	13.04	13.38	12.07	13.04	13.38
	COPd (declared COP)	-	2.20	2.29	2.31	2.20	2.29
	WTOL (Heating water Operation Limit)	[°C]	62.00	62.00	62.00	62.00	62.00
(F) Tbivalent temperature	Tblv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	8.83	8.86	8.04	8.83	8.86
	COPd (declared COP)	-	3.91	3.84	3.86	3.91	3.84
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.66	0.42	0.43	0.66	0.42

Product fiche 6

Heat pump space heater		Outdoor	SHPAO4RP24MI	SHPAO6RP24MI	SHPAO8RP24MI	SHPAO10RP24MI	SHPAO12RP24MI
		Indoor	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI60RP24MI SHPAI60RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI100RP24MI SHPAI100RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
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	NBVCXZ	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
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]	0.024	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 model)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (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 6

Heat pump space heater		Outdoor	SHPAO14RP24MI	SHPAO16RP24MI	SHPAO12RP24P3MI	SHPAO14RP24P3MI	SHPAO16RP24P3MI
		Indoor	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH	SHPAI160RP24MI SHPAI160RP24MI-EH
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	NBVCXZ	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
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	0.02	0.02	0.02
	Pto (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.030	0.030	0.030
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.02	0.02	0.02
	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]	/	/	/	/	/

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.

Technical parameters

Model(s):	Outdoor unit: SHPAO4RP24MI Indoor unit: SHPAI60RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.4	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	3.89	kW
Tj = 2℃	Pdh	2.38	kW
Tj = 7℃	Pdh	2.94	kW
Tj = 12℃	Pdh	1.32	kW
Tj = bivalent temperature	Pdh	3.89	kW
Tj = operating limit	Pdh	3.42	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	129.5	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.17	-
Tj = 2℃	COPd	3.30	-
Tj = 7℃	COPd	4.41	-
Tj = 12℃	COPd	5.66	-
Tj = bivalent temperature	COPd	2.17	-
Tj = operating limit	COPd	1.91	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.98	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	38/56	dB
Annual energy consumption	Q_{HE}	2744	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO4RP24MI Indoor unit: SHPAI60RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	3.4	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	2.13	kW
Tj = 2℃	Pdh	1.28	kW
Tj = 7℃	Pdh	1.01	kW
Tj = 12℃	Pdh	1.36	kW
Tj = bivalent temperature	Pdh	2.74	kW
Tj = operating limit	Pdh	1.64	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	102.1	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.32	-
Tj = 2℃	COPd	2.99	-
Tj = 7℃	COPd	3.86	-
Tj = 12℃	COPd	6.28	-
Tj = bivalent temperature	COPd	1.74	-
Tj = operating limit	COPd	1.02	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.72	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	3159	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh
Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO4RP24MI Indoor unit: SHPAI60RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	4.83	kW
Tj = 7℃	Pdh	3.22	kW
Tj = 12℃	Pdh	1.47	kW
Tj = bivalent temperature	Pdh	3.22	kW
Tj = operating limit	Pdh	4.83	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	162.4	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.51	-
Tj = 7℃	COPd	3.68	-
Tj = 12℃	COPd	5.15	-
Tj = bivalent temperature	COPd	3.68	-
Tj = operating limit	COPd	2.51	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.18	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	1621	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fu5.1el consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO6RP24MI Indoor unit: SHPAI60RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.7	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	5.04	kW
Tj = 2℃	Pdh	3.12	kW
Tj = 7℃	Pdh	2.08	kW
Tj = 12℃	Pdh	1.28	kW
Tj = bivalent temperature	Pdh	5.04	kW
Tj = operating limit	Pdh	4.52	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	137.9	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.17	-
Tj = 2℃	COPd	3.51	-
Tj = 7℃	COPd	4.54	-
Tj = 12℃	COPd	5.59	-
Tj = bivalent temperature	COPd	2.17	-
Tj = operating limit	COPd	1.91	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.18	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	38/58	dB
Annual energy consumption	Q_{HE}	3345	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO6RP24MI Indoor unit: SHPAI60RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.3	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	2.70	kW
Tj = 2℃	Pdh	1.60	kW
Tj = 7℃	Pdh	1.02	kW
Tj = 12℃	Pdh	1.37	kW
Tj = bivalent temperature	Pdh	3.47	kW
Tj = operating limit	Pdh	2.09	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	111.1	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.46	-
Tj = 2℃	COPd	3.36	-
Tj = 7℃	COPd	3.94	-
Tj = 12℃	COPd	6.35	-
Tj = bivalent temperature	COPd	1.86	-
Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	5.10	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	3681	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO6RP24MI Indoor unit: SHPAI60RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.1	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	5.02	kW
Tj = 7℃	Pdh	3.31	kW
Tj = 12℃	Pdh	1.60	kW
Tj = bivalent temperature	Pdh	3.31	kW
Tj = operating limit	Pdh	5.02	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	164.7	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.48	-
Tj = 7℃	COPd	3.67	-
Tj = 12℃	COPd	5.29	-
Tj = bivalent temperature	COPd	3.67	-
Tj = operating limit	COPd	2.48	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	1640	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh
Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO8RP24MI Indoor unit: SHPAI100RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	5.84	kW
Tj = 2℃	Pdh	3.75	kW
Tj = 7℃	Pdh	2.42	kW
Tj = 12℃	Pdh	1.39	kW
Tj = bivalent temperature	Pdh	5.84	kW
Tj = operating limit	Pdh	4.90	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	131.5	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.16	-
Tj = 2℃	COPd	3.30	-
Tj = 7℃	COPd	4.34	-
Tj = 12℃	COPd	5.33	-
Tj = bivalent temperature	COPd	2.16	-
Tj = operating limit	COPd	1.84	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.69	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	42/59	dB
Annual energy consumption	Q_{HE}	4056	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO8RP24MI Indoor unit: SHPAI100RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.8	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	3.86	kW
Tj = 2℃	Pdh	2.21	kW
Tj = 7℃	Pdh	1.44	kW
Tj = 12℃	Pdh	1.46	kW
Tj = bivalent temperature	Pdh	4.71	kW
Tj = operating limit	Pdh	2.80	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	112.0	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.48	-
Tj = 2℃	COPd	3.35	-
Tj = 7℃	COPd	4.11	-
Tj = 12℃	COPd	5.92	-
Tj = bivalent temperature	COPd	1.90	-
Tj = operating limit	COPd	1.22	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	2.97	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	4950	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO8RP24MI Indoor unit: SHPAI100RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	7.55	kW
Tj = 7℃	Pdh	4.86	kW
Tj = 12℃	Pdh	2.31	kW
Tj = bivalent temperature	Pdh	4.86	kW
Tj = operating limit	Pdh	7.55	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	175.8	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.59	-
Tj = 7℃	COPd	3.92	-
Tj = 12℃	COPd	5.55	-
Tj = bivalent temperature	COPd	3.92	-
Tj = operating limit	COPd	2.59	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	2259	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO10RP24MI Indoor unit: SHPAI100RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7.7	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.78	kW
Tj = 2℃	Pdh	4.28	kW
Tj = 7℃	Pdh	2.77	kW
Tj = 12℃	Pdh	1.58	kW
Tj = bivalent temperature	Pdh	6.78	kW
Tj = operating limit	Pdh	5.38	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	136.6	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.24	-
Tj = 2℃	COPd	3.42	-
Tj = 7℃	COPd	4.52	-
Tj = 12℃	COPd	5.68	-
Tj = bivalent temperature	COPd	2.24	-
Tj = operating limit	COPd	1.83	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	2.29	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	42/60	dB
Annual energy consumption	Q_{HE}	4539	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO10RP24MI Indoor unit: SHPAI100RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6.7	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	4.27	kW
Tj = 2℃	Pdh	2.57	kW
Tj = 7℃	Pdh	1.65	kW
Tj = 12℃	Pdh	1.47	kW
Tj = bivalent temperature	Pdh	5.47	kW
Tj = operating limit	Pdh	2.80	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	116.4	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.54	-
Tj = 2℃	COPd	3.51	-
Tj = 7℃	COPd	4.37	-
Tj = 12℃	COPd	5.96	-
Tj = bivalent temperature	COPd	2.00	-
Tj = operating limit	COPd	1.22	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	3.91	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	5540	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO10RP24MI Indoor unit: SHPAI100RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	8.06	kW
Tj = 7℃	Pdh	5.54	kW
Tj = 12℃	Pdh	2.53	kW
Tj = bivalent temperature	Pdh	5.54	kW
Tj = operating limit	Pdh	8.15	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	180.3	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.59	-
Tj = 7℃	COPd	4.10	-
Tj = 12℃	COPd	5.82	-
Tj = bivalent temperature	COPd	4.10	-
Tj = operating limit	COPd	2.61	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.48	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	2516	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO12RP24MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	10.24	kW
Tj = 2℃	Pdh	6.52	kW
Tj = 7℃	Pdh	4.36	kW
Tj = 12℃	Pdh	3.29	kW
Tj = bivalent temperature	Pdh	10.24	kW
Tj = operating limit	Pdh	9.10	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	135.1	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.01	-
Tj = 2℃	COPd	3.44	-
Tj = 7℃	COPd	4.59	-
Tj = 12℃	COPd	6.05	-
Tj = bivalent temperature	COPd	2.01	-
Tj = operating limit	COPd	1.79	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.23	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	43/64	dB
Annual energy consumption	Q_{HE}	6927	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO12RP24MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.3	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.63	kW
Tj = 2℃	Pdh	4.06	kW
Tj = 7℃	Pdh	2.78	kW
Tj = 12℃	Pdh	3.33	kW
Tj = bivalent temperature	Pdh	8.41	kW
Tj = operating limit	Pdh	4.19	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	117.8	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.63	-
Tj = 2℃	COPd	3.60	-
Tj = 7℃	COPd	4.54	-
Tj = 12℃	COPd	6.25	-
Tj = bivalent temperature	COPd	1.84	-
Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	6.11	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	8419	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO12RP24MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.5	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	12.07	kW
Tj = 7℃	Pdh	8.04	kW
Tj = 12℃	Pdh	3.75	kW
Tj = bivalent temperature	Pdh	8.04	kW
Tj = operating limit	Pdh	12.07	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	174.0	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.31	-
Tj = 7℃	COPd	3.86	-
Tj = 12℃	COPd	5.70	-
Tj = bivalent temperature	COPd	3.86	-
Tj = operating limit	COPd	2.31	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.43	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	3776	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO14RP24MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.08	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	10.68	kW
Tj = 2℃	Pdh	6.86	kW
Tj = 7℃	Pdh	4.63	kW
Tj = 12℃	Pdh	3.31	kW
Tj = bivalent temperature	Pdh	10.68	kW
Tj = operating limit	Pdh	9.19	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	135.6	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.01	-
Tj = 2℃	COPd	3.43	-
Tj = 7℃	COPd	4.66	-
Tj = 12℃	COPd	6.13	-
Tj = bivalent temperature	COPd	2.01	-
Tj = operating limit	COPd	1.76	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.40	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	43/65	dB
Annual energy consumption	Q_{HE}	7202	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO14RP24MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.89	kW
Tj = 2℃	Pdh	4.32	kW
Tj = 7℃	Pdh	3.06	kW
Tj = 12℃	Pdh	3.33	kW
Tj = bivalent temperature	Pdh	8.94	kW
Tj = operating limit	Pdh	4.20	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	118.9	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.66	-
Tj = 2℃	COPd	3.66	-
Tj = 7℃	COPd	4.72	-
Tj = 12℃	COPd	6.25	-
Tj = bivalent temperature	COPd	1.79	-
Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	6.80	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	8866	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO14RP24MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.7	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	13.04	kW
Tj = 7℃	Pdh	8.83	kW
Tj = 12℃	Pdh	4.08	kW
Tj = bivalent temperature	Pdh	8.83	kW
Tj = operating limit	Pdh	13.04	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	176.5	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.20	-
Tj = 7℃	COPd	3.91	-
Tj = 12℃	COPd	5.90	-
Tj = bivalent temperature	COPd	3.91	-
Tj = operating limit	COPd	2.20	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.66	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	4088	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO16RP24MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	11.52	kW
Tj = 2℃	Pdh	7.18	kW
Tj = 7℃	Pdh	4.67	kW
Tj = 12℃	Pdh	3.31	kW
Tj = bivalent temperature	Pdh	11.52	kW
Tj = operating limit	Pdh	10.33	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	133.3	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	1.99	-
Tj = 2℃	COPd	3.34	-
Tj = 7℃	COPd	4.61	-
Tj = 12℃	COPd	6.07	-
Tj = bivalent temperature	COPd	1.99	-
Tj = operating limit	COPd	1.80	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	2.68	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	43/68	dB
Annual energy consumption	Q_{HE}	7895	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO16RP24MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.8	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	7.64	kW
Tj = 2℃	Pdh	4.42	kW
Tj = 7℃	Pdh	2.97	kW
Tj = 12℃	Pdh	3.43	kW
Tj = bivalent temperature	Pdh	9.61	kW
Tj = operating limit	Pdh	5.21	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	121.8	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.65	-
Tj = 2℃	COPd	3.79	-
Tj = 7℃	COPd	4.81	-
Tj = 12℃	COPd	6.29	-
Tj = bivalent temperature	COPd	1.86	-
Tj = operating limit	COPd	1.23	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	6.59	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	9309	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO16RP24MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.8	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	13.38	kW
Tj = 7℃	Pdh	8.86	kW
Tj = 12℃	Pdh	4.06	kW
Tj = bivalent temperature	Pdh	8.86	kW
Tj = operating limit	Pdh	13.38	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.014	kW
Standby mode	P_{sb}	0.014	kW
Thermostat-off mode	P_{to}	0.024	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	176.1	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.29	-
Tj = 7℃	COPd	3.84	-
Tj = 12℃	COPd	5.86	-
Tj = bivalent temperature	COPd	3.84	-
Tj = operating limit	COPd	2.29	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.42	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	4112	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO12RP24P3MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	10.24	kW
Tj = 2℃	Pdh	6.52	kW
Tj = 7℃	Pdh	4.36	kW
Tj = 12℃	Pdh	3.29	kW
Tj = bivalent temperature	Pdh	10.24	kW
Tj = operating limit	Pdh	9.10	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	135.1	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.01	-
Tj = 2℃	COPd	3.44	-
Tj = 7℃	COPd	4.59	-
Tj = 12℃	COPd	6.05	-
Tj = bivalent temperature	COPd	2.01	-
Tj = operating limit	COPd	1.79	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.23	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	43/64	dB
Annual energy consumption	Q_{HE}	6928	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO12RP24P3MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.3	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.63	kW
Tj = 2℃	Pdh	4.06	kW
Tj = 7℃	Pdh	2.78	kW
Tj = 12℃	Pdh	3.33	kW
Tj = bivalent temperature	Pdh	8.41	kW
Tj = operating limit	Pdh	4.19	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	117.7	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.63	-
Tj = 2℃	COPd	3.60	-
Tj = 7℃	COPd	4.54	-
Tj = 12℃	COPd	6.25	-
Tj = bivalent temperature	COPd	1.84	-
Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	6.11	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	8420	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO12RP24P3MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.5	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	12.07	kW
Tj = 7℃	Pdh	8.04	kW
Tj = 12℃	Pdh	3.75	kW
Tj = bivalent temperature	Pdh	8.04	kW
Tj = operating limit	Pdh	12.07	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	173.8	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.31	-
Tj = 7℃	COPd	3.86	-
Tj = 12℃	COPd	5.70	-
Tj = bivalent temperature	COPd	3.86	-
Tj = operating limit	COPd	2.31	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.43	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	3780	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO14RP24P3MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.08	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	10.68	kW
Tj = 2℃	Pdh	6.86	kW
Tj = 7℃	Pdh	4.63	kW
Tj = 12℃	Pdh	3.31	kW
Tj = bivalent temperature	Pdh	10.68	kW
Tj = operating limit	Pdh	9.19	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	135.6	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.01	-
Tj = 2℃	COPd	3.43	-
Tj = 7℃	COPd	4.66	-
Tj = 12℃	COPd	6.13	-
Tj = bivalent temperature	COPd	2.01	-
Tj = operating limit	COPd	1.76	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.40	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	43/65	dB
Annual energy consumption	Q_{HE}	7203	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO14RP24P3MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.89	kW
Tj = 2℃	Pdh	4.32	kW
Tj = 7℃	Pdh	3.06	kW
Tj = 12℃	Pdh	3.33	kW
Tj = bivalent temperature	Pdh	8.94	kW
Tj = operating limit	Pdh	4.20	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	118.9	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.66	-
Tj = 2℃	COPd	3.66	-
Tj = 7℃	COPd	4.72	-
Tj = 12℃	COPd	6.25	-
Tj = bivalent temperature	COPd	1.79	-
Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	6.80	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	8867	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:							
Declared load profile	-			**Water heating energy efficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO14RP24P3MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.7	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	13.04	kW
Tj = 7℃	Pdh	8.83	kW
Tj = 12℃	Pdh	4.08	kW
Tj = bivalent temperature	Pdh	8.83	kW
Tj = operating limit	Pdh	13.04	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	176.4	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.20	-
Tj = 7℃	COPd	3.91	-
Tj = 12℃	COPd	5.90	-
Tj = bivalent temperature	COPd	3.91	-
Tj = operating limit	COPd	2.20	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	62	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.66	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	4092	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO16RP24P3MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	11.52	kW
Tj = 2℃	Pdh	7.18	kW
Tj = 7℃	Pdh	4.67	kW
Tj = 12℃	Pdh	3.31	kW
Tj = bivalent temperature	Pdh	11.52	kW
Tj = operating limit	Pdh	10.33	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	133.2	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	1.99	-
Tj = 2℃	COPd	3.34	-
Tj = 7℃	COPd	4.61	-
Tj = 12℃	COPd	6.07	-
Tj = bivalent temperature	COPd	1.99	-
Tj = operating limit	COPd	1.80	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	2.67	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	43/68	dB
Annual energy consumption	Q_{HE}	7896	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO16RP24P3MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.8	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	7.64	kW
Tj = 2℃	Pdh	4.42	kW
Tj = 7℃	Pdh	2.97	kW
Tj = 12℃	Pdh	3.43	kW
Tj = bivalent temperature	Pdh	9.61	kW
Tj = operating limit	Pdh	5.21	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	-15	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.020	kW
Standby mode	P_{sb}	0.020	kW
Thermostat-off mode	P_{to}	0.030	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	121.8	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	2.65	-
Tj = 2℃	COPd	3.79	-
Tj = 7℃	COPd	4.81	-
Tj = 12℃	COPd	6.29	-
Tj = bivalent temperature	COPd	1.86	-
Tj = operating limit	COPd	1.23	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	51	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	6.59	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-	dB
Annual energy consumption	Q_{HE}	9310	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energy efficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: SHPAO16RP24P3MI Indoor unit: SHPAI160RP24MI
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.8	kW	Seasonal space heating energy efficiency	η_s	175.9	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW	Tj = -7℃	COPd	-	-
Tj = 2℃	Pdh	13.38	kW	Tj = 2℃	COPd	2.29	-
Tj = 7℃	Pdh	8.86	kW	Tj = 7℃	COPd	3.84	-
Tj = 12℃	Pdh	4.06	kW	Tj = 12℃	COPd	5.86	-
Tj = bivalent temperature	Pdh	8.86	kW	Tj = bivalent temperature	COPd	3.84	-
Tj = operating limit	Pdh	13.38	kW	Tj = operating limit	COPd	2.29	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.9	--	Heating water operating limit temperature	W_{TOL}	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.014	kW	Rated heat output (**)	P_{sup}	0.42	kW
Standby mode	P_{sb}	0.014	kW				
Thermostat-off mode	P_{to}	0.029	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	4116	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energy efficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO4RP24MI Indoor unit: SHPAI60RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	4.7	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	196.5	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	4.66	kW	Tj=+35℃	EER_d	3.52	-
Tj=+30℃	P_{dc}	3.66	kW	Tj=+30℃	EER_d	4.76	-
Tj=+25℃	P_{dc}	2.21	kW	Tj=+25℃	EER_d	5.72	-
Tj=+20℃	P_{dc}	0.94	kW	Tj=+20℃	EER_d	5.72	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2770	m^3/h
Sound power level, indoors / outdoors	L_{WA}	38/56	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO4RP24MI Indoor unit: SHPAI60RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	4.5	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	307.7	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	4.51	kW	Tj=+35℃	EER_d	5.54	-
Tj=+30℃	P_{dc}	3.44	kW	Tj=+30℃	EER_d	7.23	-
Tj=+25℃	P_{dc}	2.19	kW	Tj=+25℃	EER_d	8.94	-
Tj=+20℃	P_{dc}	1.13	kW	Tj=+20℃	EER_d	10.48	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2770	m^3/h
Sound power level, indoors / outdoors	L_{WA}	38/55	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO6RP24MI Indoor unit: SHPAI60RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	6.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	210.7	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	6.35	kW	Tj=+35℃	EER_d	2.93	-
Tj=+30℃	P_{dc}	4.76	kW	Tj=+30℃	EER_d	4.53	-
Tj=+25℃	P_{dc}	3.02	kW	Tj=+25℃	EER_d	6.32	-
Tj=+20℃	P_{dc}	1.39	kW	Tj=+20℃	EER_d	7.20	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2770	m^3/h
Sound power level, indoors / outdoors	L_{WA}	38/58	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO6RP24MI Indoor unit: SHPAI60RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	6.5	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	325.2	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	6.55	kW	Tj=+35℃	EER_d	4.69	-
Tj=+30℃	P_{dc}	4.84	kW	Tj=+30℃	EER_d	7.16	-
Tj=+25℃	P_{dc}	3.26	kW	Tj=+25℃	EER_d	9.64	-
Tj=+20℃	P_{dc}	1.41	kW	Tj=+20℃	EER_d	11.48	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2770	m^3/h
Sound power level, indoors / outdoors	L_{WA}	38/58	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO8RP24MI Indoor unit: SHPAI100RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	7.4	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	230.1	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	7.38	kW	Tj=+35℃	EER_d	3.39	-
Tj=+30℃	P_{dc}	5.72	kW	Tj=+30℃	EER_d	4.71	-
Tj=+25℃	P_{dc}	3.62	kW	Tj=+25℃	EER_d	6.65	-
Tj=+20℃	P_{dc}	1.64	kW	Tj=+20℃	EER_d	8.55	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4030	m^3/h
Sound power level, indoors / outdoors	L_{WA}	42/60	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO8RP24MI Indoor unit: SHPAI100RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	8.4	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	355.1	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	8.37	kW	Tj=+35℃	EER_d	5.09	-
Tj=+30℃	P_{dc}	6.47	kW	Tj=+30℃	EER_d	7.02	-
Tj=+25℃	P_{dc}	4.31	kW	Tj=+25℃	EER_d	10.67	-
Tj=+20℃	P_{dc}	1.80	kW	Tj=+20℃	EER_d	13.61	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4030	m^3/h
Sound power level, indoors / outdoors	L_{WA}	42/60	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO10RP24MI Indoor unit: SHPAI100RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	8.7	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	236.2	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	8.73	kW	Tj=+35℃	EER_d	3.21	-
Tj=+30℃	P_{dc}	6.68	kW	Tj=+30℃	EER_d	4.47	-
Tj=+25℃	P_{dc}	4.26	kW	Tj=+25℃	EER_d	7.02	-
Tj=+20℃	P_{dc}	1.94	kW	Tj=+20℃	EER_d	9.54	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4030	m^3/h
Sound power level, indoors / outdoors	L_{WA}	42/61	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO10RP24MI Indoor unit: SHPAI100RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	10.0	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	348.1	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	10.01	kW	Tj=+35℃	EER_d	4.64	-
Tj=+30℃	P_{dc}	7.71	kW	Tj=+30℃	EER_d	6.45	-
Tj=+25℃	P_{dc}	5.03	kW	Tj=+25℃	EER_d	10.36	-
Tj=+20℃	P_{dc}	2.32	kW	Tj=+20℃	EER_d	14.98	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4030	m^3/h
Sound power level, indoors / outdoors	L_{WA}	42/60	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO12RP24MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	11.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	192.4	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	11.31	kW	Tj=+35℃	EER_d	2.61	-
Tj=+30℃	P_{dc}	8.76	kW	Tj=+30℃	EER_d	3.93	-
Tj=+25℃	P_{dc}	5.81	kW	Tj=+25℃	EER_d	5.73	-
Tj=+20℃	P_{dc}	2.63	kW	Tj=+20℃	EER_d	6.75	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4060	m^3/h
Sound power level, indoors / outdoors	L_{WA}	43/65	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used	Low temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO12RP24MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	11.8	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	280.9	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	11.77	kW	Tj=+35℃	EER_d	3.87	-
Tj=+30℃	P_{dc}	9.21	kW	Tj=+30℃	EER_d	5.50	-
Tj=+25℃	P_{dc}	5.74	kW	Tj=+25℃	EER_d	8.66	-
Tj=+20℃	P_{dc}	3.33	kW	Tj=+20℃	EER_d	10.07	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4060	m^3/h
Sound power level, indoors / outdoors	L_{WA}	43/64	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO14RP24MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	12.2	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	191.4	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	12.19	kW	Tj=+35℃	EER_d	2.46	-
Tj=+30℃	P_{dc}	9.41	kW	Tj=+30℃	EER_d	3.85	-
Tj=+25℃	P_{dc}	6.16	kW	Tj=+25℃	EER_d	5.80	-
Tj=+20℃	P_{dc}	2.63	kW	Tj=+20℃	EER_d	6.74	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4060	m^3/h
Sound power level, indoors / outdoors	L_{WA}	44/65	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO14RP24MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	13.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	272.8	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	13.30	kW	Tj=+35℃	EER_d	3.47	-
Tj=+30℃	P_{dc}	10.20	kW	Tj=+30℃	EER_d	5.26	-
Tj=+25℃	P_{dc}	6.57	kW	Tj=+25℃	EER_d	8.45	-
Tj=+20℃	P_{dc}	3.33	kW	Tj=+20℃	EER_d	10.07	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4060	m^3/h
Sound power level, indoors / outdoors	L_{WA}	44/64	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO16RP24MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	14.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	184.4	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	14.31	kW	Tj=+35℃	EER_d	2.47	-
Tj=+30℃	P_{dc}	10.68	kW	Tj=+30℃	EER_d	3.63	-
Tj=+25℃	P_{dc}	6.76	kW	Tj=+25℃	EER_d	5.27	-
Tj=+20℃	P_{dc}	3.41	kW	Tj=+20℃	EER_d	7.29	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4650	m^3/h
Sound power level, indoors / outdoors	L_{WA}	44/68	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				

Standard rating conditions used	Low temperature application
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO16RP24MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	15.4	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	266.9	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	15.40	kW	Tj=+35℃	EER_d	3.50	-
Tj=+30℃	P_{dc}	11.42	kW	Tj=+30℃	EER_d	5.14	-
Tj=+25℃	P_{dc}	7.27	kW	Tj=+25℃	EER_d	7.83	-
Tj=+20℃	P_{dc}	3.40	kW	Tj=+20℃	EER_d	10.35	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.014	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.014	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4650	m^3/h
Sound power level, indoors / outdoors	L_{WA}	44/67	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO12RP24P3MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	11.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	191.2	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	11.31	kW	Tj=+35℃	EER_d	2.61	-
Tj=+30℃	P_{dc}	8.76	kW	Tj=+30℃	EER_d	3.93	-
Tj=+25℃	P_{dc}	5.81	kW	Tj=+25℃	EER_d	5.73	-
Tj=+20℃	P_{dc}	2.63	kW	Tj=+20℃	EER_d	6.75	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.020	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.020	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4060	m^3/h
Sound power level, indoors / outdoors	L_{WA}	43/65	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				

Standard rating conditions used	Low temperature application
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO12RP24P3MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	11.8	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	278.6	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	11.77	kW	Tj=+35℃	EER_d	3.87	-
Tj=+30℃	P_{dc}	9.21	kW	Tj=+30℃	EER_d	5.50	-
Tj=+25℃	P_{dc}	5.74	kW	Tj=+25℃	EER_d	8.66	-
Tj=+20℃	P_{dc}	3.33	kW	Tj=+20℃	EER_d	10.07	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.020	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.020	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4060	m^3/h
Sound power level, indoors / outdoors	L_{WA}	43/64	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO14RP24P3MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	12.2	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	190.3	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	12.19	kW	Tj=+35℃	EER_d	2.46	-
Tj=+30℃	P_{dc}	9.41	kW	Tj=+30℃	EER_d	3.85	-
Tj=+25℃	P_{dc}	6.16	kW	Tj=+25℃	EER_d	5.80	-
Tj=+20℃	P_{dc}	2.63	kW	Tj=+20℃	EER_d	6.74	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.020	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.020	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4060	m^3/h
Sound power level, indoors / outdoors	L_{WA}	44/65	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO14RP24P3MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	13.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	270.9	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	13.30	kW	Tj=+35℃	EER_d	3.47	-
Tj=+30℃	P_{dc}	10.20	kW	Tj=+30℃	EER_d	5.26	-
Tj=+25℃	P_{dc}	6.57	kW	Tj=+25℃	EER_d	8.45	-
Tj=+20℃	P_{dc}	3.33	kW	Tj=+20℃	EER_d	10.07	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.020	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.020	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4060	m^3/h
Sound power level, indoors / outdoors	L_{WA}	44/64	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO16RP24P3MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	14.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	183.6	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	14.31	kW	Tj=+35℃	EER_d	2.47	-
Tj=+30℃	P_{dc}	10.68	kW	Tj=+30℃	EER_d	3.63	-
Tj=+25℃	P_{dc}	6.76	kW	Tj=+25℃	EER_d	5.27	-
Tj=+20℃	P_{dc}	3.41	kW	Tj=+20℃	EER_d	7.29	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.020	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.020	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4650	m^3/h
Sound power level, indoors / outdoors	L_{WA}	44/68	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	2088	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com						

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Information requirements for comfort chillers

Model(s):	Outdoor unit: SHPAO16RP24P3MI Indoor unit: SHPAI160RP24MI
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	15.4	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	265.3	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	15.40	kW	Tj=+35℃	EER_d	3.50	-
Tj=+30℃	P_{dc}	11.42	kW	Tj=+30℃	EER_d	5.14	-
Tj=+25℃	P_{dc}	7.27	kW	Tj=+25℃	EER_d	7.83	-
Tj=+20℃	P_{dc}	3.40	kW	Tj=+20℃	EER_d	10.35	-
Degradation co-efficient for chillers (*)	C_{dc}	0.9	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.020	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.010	kW	Standby mode	P_{SB}	0.020	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4650	m^3/h
Sound power level, indoors / outdoors	L_{WA}	44/67	dB				
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				

Standard rating conditions used	Medium temperature application
Contact details	AMG SPA Via delle Arti e dei Mestieri,1/3 San Vito di Leguzzano (VI) Italia Tel. 0445/519933 - Mail info@mitsuiairconditioner.com

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.
(**) From 26 September 2018.

Condition(°C)	outdoor unit	indoor unit	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature：35/24 Water temperature：12/7	SHPAO4RP24MI	SHPAI60RP24MI	4.70	1.36	3.45
	SHPAO6RP24MI	SHPAI60RP24MI	7.00	2.33	3.00
	SHPAO8RP24MI	SHPAI100RP24MI	7.40	2.19	3.38
	SHPAO10RP24MI	SHPAI100RP24MI	8.20	2.48	3.30
	SHPAO12RP24MI	SHPAI160RP24MI	11.60	4.22	2.75
	SHPAO14RP24MI	SHPAI160RP24MI	12.70	4.98	2.55
	SHPAO16RP24MI	SHPAI160RP24MI	14.00	5.71	2.45
	SHPAO12RP24P3MI	SHPAI160RP24MI	11.60	4.22	2.75
	SHPAO14RP24P3MI	SHPAI160RP24MI	12.70	4.98	2.55
	SHPAO16RP24P3MI	SHPAI160RP24MI	14.00	5.71	2.45
Ambient Temperature：35/24 Water temperature：23/18	SHPAO4RP24MI	SHPAI60RP24MI	4.50	0.81	5.55
	SHPAO6RP24MI	SHPAI60RP24MI	6.55	1.34	4.90
	SHPAO8RP24MI	SHPAI100RP24MI	8.40	1.66	5.05
	SHPAO10RP24MI	SHPAI100RP24MI	10.00	2.08	4.80
	SHPAO12RP24MI	SHPAI160RP24MI	12.00	3.00	4.00
	SHPAO14RP24MI	SHPAI160RP24MI	13.50	3.75	3.60
	SHPAO16RP24MI	SHPAI160RP24MI	14.90	4.38	3.40
	SHPAO12RP24P3MI	SHPAI160RP24MI	12.00	3.00	4.00
	SHPAO14RP24P3MI	SHPAI160RP24MI	13.50	3.75	3.60
	SHPAO16RP24P3MI	SHPAI160RP24MI	14.90	4.38	3.40
Ambient Temperature：7/6 Water temperature：30/35	SHPAO4RP24MI	SHPAI60RP24MI	4.25	0.82	5.20
	SHPAO6RP24MI	SHPAI60RP24MI	6.20	1.24	5.00
	SHPAO8RP24MI	SHPAI100RP24MI	8.30	1.60	5.20
	SHPAO10RP24MI	SHPAI100RP24MI	10.00	2.00	5.00
	SHPAO12RP24MI	SHPAI160RP24MI	12.10	2.44	4.95
	SHPAO14RP24MI	SHPAI160RP24MI	14.50	3.09	4.70
	SHPAO16RP24MI	SHPAI160RP24MI	16.00	3.56	4.50
	SHPAO12RP24P3MI	SHPAI160RP24MI	12.10	2.44	4.95
	SHPAO14RP24P3MI	SHPAI160RP24MI	14.50	3.09	4.70
	SHPAO16RP24P3MI	SHPAI160RP24MI	16.00	3.56	4.50
Ambient Temperature：2/1 Water temperature：30/35	SHPAO4RP24MI	SHPAI60RP24MI	4.45	1.10	4.05
	SHPAO6RP24MI	SHPAI60RP24MI	5.50	1.39	3.95
	SHPAO8RP24MI	SHPAI100RP24MI	7.10	1.73	4.10
	SHPAO10RP24MI	SHPAI100RP24MI	8.20	2.02	4.05
	SHPAO12RP24MI	SHPAI160RP24MI	9.30	2.35	3.95
	SHPAO14RP24MI	SHPAI160RP24MI	11.40	3.12	3.65
	SHPAO16RP24MI	SHPAI160RP24MI	13.00	3.71	3.50
	SHPAO12RP24P3MI	SHPAI160RP24MI	9.30	2.35	3.95
	SHPAO14RP24P3MI	SHPAI160RP24MI	11.40	3.12	3.65
	SHPAO16RP24P3MI	SHPAI160RP24MI	13.00	3.71	3.50

Condition(°C)	outdoor unit	indoor unit	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature：-7/-8 Water temperature：30/35	SHPAO4RP24MI	SHPAI60RP24MI	4.80	1.52	3.15
	SHPAO6RP24MI	SHPAI60RP24MI	6.10	2.00	3.05
	SHPAO8RP24MI	SHPAI100RP24MI	7.10	2.18	3.25
	SHPAO10RP24MI	SHPAI100RP24MI	8.25	2.62	3.15
	SHPAO12RP24MI	SHPAI160RP24MI	10.00	3.33	3.00
	SHPAO14RP24MI	SHPAI160RP24MI	12.00	4.29	2.80
	SHPAO16RP24MI	SHPAI160RP24MI	13.30	4.93	2.70
	SHPAO12RP24P3MI	SHPAI160RP24MI	10.00	3.33	3.00
	SHPAO14RP24P3MI	SHPAI160RP24MI	12.00	4.29	2.80
	SHPAO16RP24P3MI	SHPAI160RP24MI	13.30	4.93	2.70
Ambient Temperature：7/6 Water temperature：40/45	SHPAO4RP24MI	SHPAI60RP24MI	4.35	1.14	3.80
	SHPAO6RP24MI	SHPAI60RP24MI	6.35	1.69	3.75
	SHPAO8RP24MI	SHPAI100RP24MI	8.20	2.08	3.95
	SHPAO10RP24MI	SHPAI100RP24MI	10.00	2.63	3.80
	SHPAO12RP24MI	SHPAI160RP24MI	12.30	3.24	3.80
	SHPAO14RP24MI	SHPAI160RP24MI	14.20	3.89	3.65
	SHPAO16RP24MI	SHPAI160RP24MI	16.00	4.44	3.60
	SHPAO12RP24P3MI	SHPAI160RP24MI	12.30	3.24	3.80
	SHPAO14RP24P3MI	SHPAI160RP24MI	14.20	3.89	3.65
	SHPAO16RP24P3MI	SHPAI160RP24MI	16.00	4.44	3.60
Ambient Temperature：2/1 Water temperature：40/45	SHPAO4RP24MI	SHPAI60RP24MI	5.10	1.70	3.00
	SHPAO6RP24MI	SHPAI60RP24MI	5.80	1.93	3.00
	SHPAO8RP24MI	SHPAI100RP24MI	7.40	2.28	3.25
	SHPAO10RP24MI	SHPAI100RP24MI	7.85	2.45	3.20
	SHPAO12RP24MI	SHPAI160RP24MI	10.70	3.57	3.00
	SHPAO14RP24MI	SHPAI160RP24MI	11.70	4.09	2.86
	SHPAO16RP24MI	SHPAI160RP24MI	12.80	4.49	2.85
	SHPAO12RP24P3MI	SHPAI160RP24MI	10.70	3.57	3.00
	SHPAO14RP24P3MI	SHPAI160RP24MI	11.70	4.09	2.86
	SHPAO16RP24P3MI	SHPAI160RP24MI	12.80	4.49	2.85
Ambient Temperature：-7/-8 Water temperature：40/45	SHPAO4RP24MI	SHPAI60RP24MI	4.30	1.83	2.35
	SHPAO6RP24MI	SHPAI60RP24MI	5.40	2.25	2.40
	SHPAO8RP24MI	SHPAI100RP24MI	6.60	2.59	2.55
	SHPAO10RP24MI	SHPAI100RP24MI	7.35	2.88	2.55
	SHPAO12RP24MI	SHPAI160RP24MI	10.20	4.25	2.40
	SHPAO14RP24MI	SHPAI160RP24MI	11.80	5.02	2.35
	SHPAO16RP24MI	SHPAI160RP24MI	12.90	5.78	2.23
	SHPAO12RP24P3MI	SHPAI160RP24MI	10.20	4.25	2.40
	SHPAO14RP24P3MI	SHPAI160RP24MI	11.80	5.02	2.35
	SHPAO16RP24P3MI	SHPAI160RP24MI	12.90	5.78	2.23

Condition(°C)	outdoor unit	indoor unit	Capacity (kW)	Power input (kW)	EER/COP (/)
Ambient Temperature：7/6 Water temperature：47/55	SHPAO4RP24MI	SHPAI60RP24MI	4.40	1.49	2.95
	SHPAO6RP24MI	SHPAI60RP24MI	6.00	2.00	3.00
	SHPAO8RP24MI	SHPAI100RP24MI	7.50	2.36	3.18
	SHPAO10RP24MI	SHPAI100RP24MI	9.50	3.06	3.10
	SHPAO12RP24MI	SHPAI160RP24MI	12.00	3.87	3.10
	SHPAO14RP24MI	SHPAI160RP24MI	13.80	4.60	3.00
	SHPAO16RP24MI	SHPAI160RP24MI	16.00	5.52	2.90
	SHPAO12RP24P3MI	SHPAI160RP24MI	12.00	3.87	3.10
	SHPAO14RP24P3MI	SHPAI160RP24MI	13.80	4.60	3.00
	SHPAO16RP24P3MI	SHPAI160RP24MI	16.00	5.52	2.90
Ambient Temperature：2/1 Water temperature：47/55	SHPAO4RP24MI	SHPAI60RP24MI	5.10	2.08	2.45
	SHPAO6RP24MI	SHPAI60RP24MI	5.65	2.31	2.45
	SHPAO8RP24MI	SHPAI100RP24MI	7.10	2.73	2.60
	SHPAO10RP24MI	SHPAI100RP24MI	8.10	3.16	2.56
	SHPAO12RP24MI	SHPAI160RP24MI	11.40	4.47	2.55
	SHPAO14RP24MI	SHPAI160RP24MI	12.40	5.06	2.45
	SHPAO16RP24MI	SHPAI160RP24MI	13.40	5.58	2.40
	SHPAO12RP24P3MI	SHPAI160RP24MI	11.40	4.47	2.55
	SHPAO14RP24P3MI	SHPAI160RP24MI	11.80	4.82	2.45
	SHPAO16RP24P3MI	SHPAI160RP24MI	13.40	5.58	2.40
Ambient Temperature：-7/-8 Water temperature：47/55	SHPAO4RP24MI	SHPAI60RP24MI	4.00	2.05	1.95
	SHPAO6RP24MI	SHPAI60RP24MI	5.15	2.58	2.00
	SHPAO8RP24MI	SHPAI100RP24MI	6.15	3.00	2.05
	SHPAO10RP24MI	SHPAI100RP24MI	6.85	3.43	2.00
	SHPAO12RP24MI	SHPAI160RP24MI	10.00	4.88	2.05
	SHPAO14RP24MI	SHPAI160RP24MI	11.00	5.37	2.05
	SHPAO16RP24MI	SHPAI160RP24MI	12.50	6.19	2.02
	SHPAO12RP24P3MI	SHPAI160RP24MI	10.00	4.88	2.05
	SHPAO14RP24P3MI	SHPAI160RP24MI	11.00	5.37	2.05
	SHPAO16RP24P3MI	SHPAI160RP24MI	12.50	6.19	2.02

NOTE

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