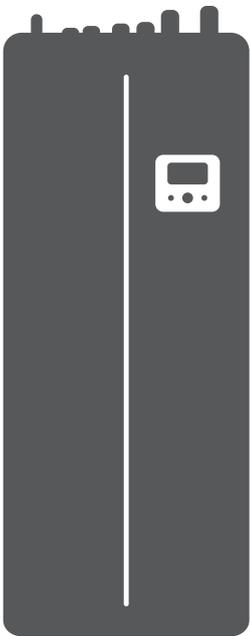


AIR CONDITIONING SYSTEMS

AIR-TO-WATER HEAT PUMP - SPLIT TYPE

• PRODUCT FICHE



MODELS:

ATS04S/HU100WT190S3
ATS04S/HU100WT240S3
ATS06S/HU100WT190S3
ATS06S/HU100WT240S3
ATS08S/HU100WT190S3
ATS08S/HU100WT240S3
ATS10S/HU100WT190S3
ATS10S/HU100WT240S3
ATS12S/HU160WT240S3
ATS14S/HU160WT240S3
ATS16S/HU160WT240S3
ATS12T/HU160WT240T9
ATS14T/HU160WT240T9
ATS16T/HU160WT240T9

Product fiche

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

Heat pump combination heater Matrix									
	Outdoor	ATS04S	ATS04S	ATS04S	ATS06S	ATS06S	ATS08S	ATS08S	ATS10S
	Indoor	HU100WT190S3	HU100WT240S3	HU100WT190S3	HU100WT240S3	HU100WT190S3	HU100WT240S3	HU100WT190S3	HU100WT240S3
Indoor unit sound power(*)		38	38	38	38	38	40	40	40
Outdoor unit sound power(*)		56	56	58	58	58	59	59	60
Water heating		L	XL	L	XL	XL	L	XL	L
Energy efficiency class		A+							
Space heating		A++							
Average climate									
Water heating		127	136	127	136	127	125	137	125
Annual electricity consumption (AEC)		801	1229	801	1229	801	820	1218	820
P_{elec} (declared heating capacity)@-10 °C		4.4	4.4	5.7	5.7	5.7	6.6	6.6	7.7
Seasonal space heating efficiency(η_s)		129.5	129.5	137.9	137.9	137.9	131.5	131.5	136.6
Annual energy consumption		2744	2744	3345	3345	3345	4056	4056	4539
Off-peak operation function integrated in heat pump		Y	Y	Y	Y	Y	Y	Y	Y
Colder climate									
Water heating		102	107	102	107	102	107	111	107
Annual energy consumption		998	1561	998	1561	998	960	1508	950
P_{elec} (declared heating capacity)@-22 °C		3.36	3.36	4.26	4.26	4.26	5.77	5.77	6.71
Seasonal space heating efficiency(η_s)		102.1	102.1	111.1	111.1	111.1	112.0	112.0	116.4
Annual energy consumption		3159	3159	3681	3681	3681	4950	4950	5540
Warmer climate									
Water heating		157	174	157	174	157	151	171	151
Annual energy consumption		649	963	649	963	649	675	977	675
P_{elec} (declared heating capacity)@2 °C		5.01	5.01	5.14	5.14	5.14	8.37	8.37	8.63
Seasonal space heating efficiency(η_s)		162.4	162.4	164.7	164.7	164.7	176.9	176.9	180.3
Annual energy consumption		1621	1621	1640	1640	1640	2485	2485	2516
Ecodesign technical data									
Air-to-water heat pump	Y/N	Y	Y	Y	Y	Y	Y	Y	Y
Water-to-water heat pump	Y/N	N	N	N	N	N	N	N	N
Brine-to-water heat pump	Y/N	N	N	N	N	N	N	N	N
Low-temperature heat pump	Y/N	N	N	N	N	N	N	N	N
Equipped with a supplementary heater	Y/N	Y	Y	Y	Y	Y	Y	Y	Y
Heat pump combination heater	Y/N	Y	Y	Y	Y	Y	Y	Y	Y
Rated airflow (outdoor)	[m³/h]	2770	2770	2770	2770	2770	4030	4030	4030
Rated brine/water flow (outdoor H/E)	[m³/h]	-	-	-	-	-	-	-	-

Heat pump combination heater Matrix										
		Outdoor	ATS10S	ATS12S	ATS12T	ATS14S	ATS14T	ATS16S	ATS16T	
		Indoor	HU100WT240S3	HU160WT240S3	HU160WT240T9	HU160WT240S3	HU160WT240T9	HU160WT240S3	HU160WT240T9	HU160WT240T9
Indoor unit sound power(*)		dB	40	42	42	44	44	44	44	44
Outdoor unit sound power(*)		dB	60	64	64	65	65	68	68	68
Water heating		-	XL							
Space heating		-	A+							
Energy efficiency class		-	A++							
Energy efficiency class at 55°C (High temp. app.)		-	A++							
Average climate										
Water heating		[%]	137	123	123	123	123	123	123	123
Annual electricity consumption (AEC)		[kWh]	1218	1360	1360	1360	1360	1360	1360	1360
P _{rated} (declared heating capacity)@-10°C		[kW]	7.7	11.6	11.6	12.1	12.1	13.0	13.0	13.0
Seasonal space heating efficiency(η _s)		[%]	136.6	135.1	135.1	135.6	135.6	133.3	133.2	133.2
Annual energy consumption		[kWh]	4539	6927	6928	7202	7203	7895	7896	7896
Off-peak operation function integrated in heat pump		Y/N	Y	Y	Y	Y	Y	Y	Y	Y
Colder climate										
Water heating		[%]	111	92	92	92	92	92	92	92
Annual energy consumption		[kWh]	1508	1822	1822	1822	1822	1822	1822	1822
P _{rated} (declared heating capacity)@22°C		[kW]	6.71	10.31	10.3	10.96	11	11.8	11.8	11.8
Seasonal space heating efficiency(η _s)		[%]	116.4	117.8	117.7	118.9	118.9	121.8	121.8	121.8
Annual energy consumption		[kWh]	5540	8419	8420	8866	8867	9309	9310	9310
Warmer climate										
Water heating		[%]	171	153	153	153	153	153	153	153
Annual energy consumption		[kWh]	977	1088	1088	1088	1088	1088	1088	1088
P _{rated} (declared heating capacity)@2°C		[kW]	8.63	12.5	12.5	14.17	14.17	14.17	14.17	14.17
Seasonal space heating efficiency(η _s)		[%]	180.3	174.0	173.8	174.9	174.7	176.0	175.8	175.8
Annual energy consumption		[kWh]	2516	3776	3780	4258	4262	4231	4236	4236
Ecodesign technical data										
Air-to-water heat pump		Y/N	Y	Y	Y	Y	Y	Y	Y	Y
Water-to-water heat pump		Y/N	N	N	N	N	N	N	N	N
Brine-to-water heat pump		Y/N	N	N	N	N	N	N	N	N
Low-temperature heat pump		Y/N	N	N	N	N	N	N	N	N
Equipped with a supplementary heater		Y/N	Y	Y	Y	Y	Y	Y	Y	Y
Heat pump combination heater		Y/N	Y	Y	Y	Y	Y	Y	Y	Y
Rated airflow (outdoor)		[m³/h]	4030	4060	4060	4060	4060	4650	4650	4650
Rated brine/water flow (outdoor H/E)		[m³/h]	-	-	-	-	-	-	-	-

Heat pump combination heater Matrix																					
	Capacity control	Outdoor		ATS04S		ATS04S		ATS04S		ATS04S		ATS06S		ATS06S		ATS08S		ATS08S		ATS10S	
		Incbor		Yes	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014
	P_{off} (Power consumption Off mode)	[kW]		0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014
Other	P_b (Power consumption Thermostat off mode)	[kW]		0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024
	P_{sb} (Power consumption standby mode)	[kW]		0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014
	P_{ck} (Power crankcase heater model)	[kW]		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	O_{elec} (Daily electricity consumption)	[kWh]		3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66	3.66
	O_{fuel} (Daily fuel consumption)	[kWh]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Part load conditions space heating average climate																					
(A) condition (-7°C)	P_{ah} (declared heating capacity)	[kW]		3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
	COP_d (declared COP)	-		2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17
	Cdh (degradation coefficient)	-		0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	P_{ah} (declared heating capacity)	[kW]		2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38	2.38
	COP_d (declared COP)	-		3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30
	Cdh (degradation coefficient)	-		0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	P_{ah} (declared heating capacity)	[kW]		2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94	2.94
	COP_d (declared COP)	-		4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41
	Cdh (degradation coefficient)	-		0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	P_{ah} (declared heating capacity)	[kW]		1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32
	COP_d (declared COP)	-		5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66
	Cdh (degradation coefficient)	-		0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(E) Tol (Temperature Operating Limit)	Tol (Temperature Operating Limit)	[°C]		-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10	-10
	P_{ah} (declared heating capacity)	[kW]		3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42	3.42
	COP_d (declared COP)	-		1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91	1.91
(F) Trivalent Temperature	WTOL (Heating water Operation Limit)	[°C]		65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
	T_{bw}	[°C]		-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7	-7
	P_{ah} (declared heating capacity)	[kW]		3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
	COP_d (declared COP)	-		2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17
Capacity of the back-up heater integrated in the unit	P_{sup} back-up heater (@ Tdesignh: -10°C)	[kW]		3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
Supplementary capacity at P_design	P_{sup} (@ Tdesignh: -10°C)	[kW]		0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98

Heat pump combination heater Matrix									
	Outdoor	ATS10S	ATS12S	ATS12T	ATS14S	ATS14T	ATS16S	ATS16T	
	Indoor	HU100WT240S3	HU160WT240S3	HU160WT240T9	HU160WT240S3	HU160WT240T9	HU160WT240S3	HU160WT240T9	
Capacity control	-	Yes							
P _{off} (Power consumption Off mode)	[kW]	0.014	0.014	0.020	0.014	0.020	0.014	0.020	Yes
P _b (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.030	0.024	0.030	0.024	0.030	0.020
P _{sb} (Power consumption standby mode)	[kW]	0.014	0.014	0.020	0.014	0.020	0.014	0.020	0.030
P _{ck} (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Q _{elec} (Daily electricity consumption)	[kWh]	5.67	6.35	6.35	6.35	6.35	6.35	6.35	6.35
Q _{fuel} (Daily fuel consumption)	[kWh]	-	-	-	-	-	-	-	-
Part load conditions space heating average climate									
(A) condition (7°C)	[kW]	6.78	10.24	10.24	10.68	10.68	11.52	11.52	11.52
COP _d (declared COP)	-	2.24	2.01	2.01	2.01	2.01	1.99	1.99	1.99
C _{dh} (deklaration coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P _{dh} (declared heating capacity)	[kW]	4.28	6.52	6.52	6.86	6.86	7.18	7.18	7.18
COP _d (declared COP)	-	3.42	3.44	3.44	3.43	3.43	3.34	3.34	3.34
C _{dh} (deklaration coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P _{dh} (declared heating capacity)	[kW]	2.77	4.36	4.36	4.63	4.63	4.67	4.67	4.67
COP _d (declared COP)	-	4.52	4.59	4.59	4.66	4.66	4.61	4.61	4.61
C _{dh} (deklaration coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P _{dh} (declared heating capacity)	[kW]	1.58	3.29	3.29	3.31	3.31	3.32	3.32	3.32
COP _d (declared COP)	-	5.68	6.05	6.05	6.13	6.13	6.07	6.07	6.07
C _{dh} (deklaration coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
T _{ol} (Temperature Operating Limit)	[°C]	-10	-10	-10	-10	-10	-10	-10	-10
P _{dh} (declared heating capacity)	[kW]	5.38	9.1	9.1	9.19	9.19	10.33	10.33	10.33
COP _d (declared COP)	-	1.83	1.79	1.79	1.76	1.76	1.80	1.80	1.80
WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65	65	65
T _{bw}	[°C]	-7	-7	-7	-7	-7	-7	-7	-7
P _{dh} (declared heating capacity)	[kW]	6.78	10.27	10.27	10.68	10.68	11.52	11.52	11.52
COP _d (declared COP)	-	2.24	2.01	2.01	2.01	2.01	1.99	1.99	1.99
P _{sup} back-up heater (@ T _{designh} : -10°C)	[kW]	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
Supplementary capacity at P _{design}	[kW]	2.28	2.5	2.5	2.91	2.91	2.67	2.67	2.67

Note:

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

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

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

Heat pump space heating		For medium - temperature application											
Outdoor unit	Indoor unit	Energy efficiency class	Indoor unit sound power	Outdoor unit sound power	average climate			colder climate			warmer climate		
					Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating, annual energy consumption
		-	dB	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh
ATS04S	HU100WT190S3	A++	38	56	4.4	129.5	2744	3.4	102.1	3158	5.0	163.1	1614
	HU100WT240S3	A++	38	56	4.4	129.5	2744	3.4	102.1	3158	5.0	163.1	1614
ATS06S	HU100WT190S3	A++	38	58	5.7	137.9	3345	4.3	111.1	3680	5.1	165.4	1634
	HU100WT240S3	A++	38	58	5.7	137.9	3345	4.3	111.1	3680	5.1	165.4	1634
ATS08S	HU100WT190S3	A++	40	59	6.6	131.5	4056	5.8	112.1	4948	8.37	176.9	2485
	HU100WT240S3	A++	40	59	6.6	131.5	4056	5.8	112.1	4948	8.37	176.9	2485
ATS10S	HU100WT190S3	A++	40	60	7.7	136.6	4539	6.7	116.5	5539	8.6	180.3	2496
	HU100WT240S3	A++	40	60	7.7	136.6	4539	6.7	116.5	5539	8.6	180.3	2496
ATS12S	HU160WT240S3	A++	42	64	11.6	135.1	6927	10.3	117.8	8419	12.5	174.0	3776
ATS12T	HU160WT240T9	A++	42	64	11.6	135.1	6928	10.3	117.7	8420	12.5	173.8	3780
ATS14S	HU160WT240S3	A++	44	65	12.1	135.6	7202	11.0	118.9	8866	14.17	174.9	4258
ATS14T	HU160WT240T9	A++	44	65	12.1	135.6	7203	11.0	118.9	8867	14.17	174.7	4262
ATS16S	HU160WT240S3	A++	44	68	13.0	133.3	7895	11.8	121.8	9309	14.17	176.0	4231
ATS16T	HU160WT240T9	A++	44	68	13.0	133.2	7896	11.8	121.8	9310	14.17	175.8	4236

Heat pump space heating		For low - temperature application											
Outdoor unit	Indoor unit	Energy efficiency class	Indoor unit sound power	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
ATS04S	HU100WT190S3	A+++	38	56	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146
	HU100WT240S3	A+++	38	56	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146
ATS06S	HU100WT190S3	A+++	38	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244
	HU100WT240S3	A+++	38	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244
ATS08S	HU100WT190S3	A+++	40	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551
	HU100WT240S3	A+++	40	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551
ATS10S	HU100WT190S3	A+++	40	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617
	HU100WT240S3	A+++	40	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617
ATS12S	HU160WT240S3	A+++	42	64	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	2292
ATS12T	HU160WT240T9	A+++	42	64	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	2296
ATS14S	HU160WT240S3	A+++	44	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	2457
ATS14T	HU160WT240T9	A+++	44	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	2462
ATS16S	HU160WT240S3	A+++	44	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	2781
ATS16T	HU160WT240T9	A+++	44	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	2786

Product fiche 1

Heat pump space heating Matrix		Outdoor		ATS04S		ATS06S		ATS08S		ATS10S		ATS12S	
		Outdoor	Indoor	HU100WT190S3 HU100WT240S3	ATS10S	ATS12S							
Indoor unit sound power (*)		dB	38 ^{a)} / 38 ^{b)}	38 ^{a)} / 38 ^{b)}	38 ^{a)} / 38 ^{b)}	42 ^{a)} / 40 ^{b)}	43 ^{a)} / 42 ^{b)}						
Outdoor unit sound power (*)	Average climate low temperature application	dB	56	56	58	59	59	59	59	60	64		
	Average climate medium temperature application	dB	56	56	58	59	59	59	59	60	64		
Capacity of the back-up heater integrated in the unit	Psup back-up heater (optional)	[kW]	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9		
Space heating	Energy efficiency class 35°C (Low temp. app.)	-	A+++										
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++										
Average climate (Design temperature = -10°C)													
Space heating 35°C	Prated (declared heating capacity) @ -10°C	[kW]	5.5	5.5	6.8	8.1	8.1	8.1	8.1	9.2	12.0		
	Seasonal space heating efficiency (ηs)	[%]	191.0	191.0	195.0	205.6	205.6	205.6	205.6	204.8	189.4		
	Annual energy consumption	[kWh]	2,351	2,351	2,845	3,218	3,218	3,218	3,218	3,644	5,152		
Space heating 55°C	Prated (declared heating capacity) @ -10°C	[kW]	4.4	4.4	5.7	6.6	6.6	6.6	6.6	7.7	11.6		
	Seasonal space heating efficiency (ηs)	[%]	129.5	129.5	137.9	131.5	131.5	131.5	131.5	136.6	135.1		
	Annual energy consumption	[kWh]	2,744	2,744	3,345	4,056	4,056	4,056	4,056	4,539	6,927		
Part load conditions space heating average climate low temperature application													
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	4.88	4.88	6.03	7.18	7.18	7.18	7.18	8.10	10.61		
	COPd (declared COP)	-	3.19	3.19	3.09	3.35	3.35	3.35	3.35	3.23	2.88		
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	3.05	3.05	3.88	4.65	4.65	4.65	4.65	5.18	6.69		
	COPd (declared COP)	-	4.78	4.78	4.85	5.09	5.09	5.09	5.09	5.01	4.65		
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.93	1.93	2.39	2.90	2.90	2.90	2.90	3.32	4.44		
	COPd (declared COP)	-	6.13	6.13	6.63	6.82	6.82	6.82	6.82	7.08	6.62		
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.48	1.48	1.39	1.63	1.63	1.63	1.63	1.65	3.74		
	COPd (declared COP)	-	8.05	8.05	7.93	8.35	8.35	8.35	8.35	8.58	8.47		
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00		
	Pdh (declared heating capacity)	[kW]	4.41	4.41	5.36	6.44	6.44	6.44	6.44	7.40	10.74		
	COPd (declared COP)	-	2.86	2.86	2.76	3.04	3.04	3.04	3.04	2.96	2.77		
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65	65	65	65		

Note :

a) represents the hydraulic module series ;

b) represents the m-thermal tank series ;

Product fiche 1

Heat pump space heating Matrix		Outdoor		ATS14S	ATS16S	ATS12T	ATS14T	ATS16T
		Indoor	Indoor	HU160WT240S3	HU160WT240S3	HU160WT240T9	HU160WT240T9	HU160WT240T9
Indoor unit sound power (*)		dB	43 ^a /44 ^b		43 ^a /44 ^b	43 ^a /42 ^b	43 ^a /44 ^b	43 ^a /44 ^b
Outdoor units sound power (*)	Average climate low temperature application	dB	65	68	64	65	65	68
	Average climate medium temperature application	dB	65	68	64	65	65	68
Capacity of the back-up heater integrated in the unit	Psup back-up heater (optional)	[kW]	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
Space heating	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++	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	13.7	15.2
	Seasonal space heating efficiency (ηs)	[%]	185.7	181.7	189.3	185.6	185.6	181.6
	Annual energy consumption	[kWh]	6,012	6,804	5,153	6,013	6,013	6,805
Space heating 55°C	Prated (declared heating capacity) @ -10°C	[kW]	12.1	13.0	11.6	12.1	12.1	13.0
	Seasonal space heating efficiency (ηs)	[%]	135.6	133.3	135.1	135.6	135.6	133.2
	Annual energy consumption	[kWh]	7,202	7,895	6,928	7,203	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	12.14	13.45
	COPd (declared COP)	-	2.79	2.72	2.88	2.79	2.79	2.72
	Cdh(degradation coefficient)	-	0.90	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	7.94	8.56
	COPd (declared COP)	-	4.52	4.41	4.65	4.52	4.52	4.41
	Cdh(degradation coefficient)	-	0.90	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	5.20	5.70
	COPd (declared COP)	-	6.68	6.56	6.62	6.68	6.68	6.56
	Cdh(degradation coefficient)	-	0.90	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	3.75	3.78
	COPd (declared COP)	-	8.52	8.51	8.47	8.52	8.52	8.51
	Cdh(degradation coefficient)	-	0.90	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	-10.00
	Pdh (declared heating capacity)	[kW]	11.47	12.52	10.74	11.47	11.47	12.52
	COPd (declared COP)	-	2.59	2.48	2.77	2.59	2.59	2.48
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65

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

Product fiche 2

Heat pump space heating Matrix

		Outdoor		ATS04S	ATS06S	ATS08S	ATS10S	ATS12S
		Indoor		HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU160WT240S3
(F) Tivalent temperature	Tbiv	[°C]	-7.00	-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	
	Psup (@ Tdesign: -10°C)	[kW]	1.11	1.45	1.68	1.76	1.26	
Part load conditions space heating average climate medium temperature application								
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	3.89	5.04	5.84	6.78	10.24	
	COPd (declared COP)	-	2.17	2.17	2.16	2.24	2.01	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	
	Pdh (declared heating capacity)	[kW]	2.38	3.12	3.75	4.28	6.52	
(B) condition (2°C)	COPd (declared COP)	-	3.30	3.51	3.30	3.42	3.44	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	
	Pdh (declared heating capacity)	[kW]	2.94	2.08	2.42	2.77	4.36	
	COPd (declared COP)	-	4.41	4.54	4.34	4.52	4.59	
(C) condition (7°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	
	Pdh (declared heating capacity)	[kW]	1.32	1.28	1.39	1.58	3.29	
	COPd (declared COP)	-	5.66	5.59	5.33	5.68	6.05	
	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	4.90	5.38	9.10	
	COPd (declared COP)	-	1.91	1.91	1.84	1.83	1.79	
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	
(F) Tivalent 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	10.24	
	COPd (declared COP)	-	2.17	2.17	2.16	2.24	2.01	
	Psup (@ Tdesign: -10°C)	[kW]	0.98	1.18	1.69	2.28	2.50	
Colder climate (Design temperature = -22°C)								
Space heating 35°C	Priated (declared heating capacity) @ -22°C	[kW]	4.6	5.6	7.0	7.7	11.4	
	Seasonal space heating efficiency (ns)	[%]	159.5	165.3	170.0	169.8	160.2	
	Annual energy consumption	[kWh]	2,769	3,300	3,976	4,423	6,870	

Product fiche 2

Heat pump space heating Matrix		Outdoor		ATS14S	ATS16S	ATS12T	ATS14T	ATS16T
		Inoor		HU160WT240S3	HU160WT240S3	HU160WT240T9	HU160WT240T9	HU160WT240T9
(F) Tivalent temperature	Tbiv	[°C]	-7.00	-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	
	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	
	Pdh (declared heating capacity)	[kW]	6.86	7.18	6.52	6.86	7.18	
(B) condition (2°C)	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	
	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	
(C) condition (7°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	
	Pdh (declared heating capacity)	[kW]	3.31	3.31	3.29	3.31	3.31	
	COPd (declared COP)	-	6.13	6.07	6.05	6.13	6.07	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	
(D) condition (12°C)	Toi (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]	65	65	65	65	65	
(E) Toi (temperature operating limit)	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00	
	Pdh (declared heating capacity)	[kW]	10.68	11.52	10.24	10.68	11.52	
	COPd (declared COP)	-	2.01	1.99	2.01	2.01	1.99	
	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 heating **Matrix**

		ATS04S	ATS06S	ATS08S	ATS10S	ATS12S
	Outdoor					
	Indoor	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU160WT240S3
Space heating 55°C	[kW]	3.4	4.3	5.8	6.7	10.3
	[%]	102.1	111.1	112.0	116.4	117.8
	[kW/h]	3.159	3.681	4.950	5.540	8.419
Part load conditions space heating colder climate low temperature application						
(A) condition (-7°C)	Pdh (declared heating capacity)	2.75	3.42	4.46	4.83	7.05
	COPd (declared COP)	3.49	3.59	3.66	3.60	3.48
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	1.77	2.06	2.69	2.94	4.67
	COPd (declared COP)	4.95	5.21	5.20	5.26	4.96
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	1.17	1.46	1.65	1.92	3.14
	COPd (declared COP)	5.53	6.24	6.53	7.08	6.10
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	1.43	1.44	1.65	1.65	3.57
	COPd (declared COP)	7.67	7.66	7.96	7.96	7.87
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	2.80	3.48	4.06	4.62	7.01
	COPd (declared COP)	1.97	1.96	1.95	1.97	1.98
	WTOL (Heating water Operation Limit)	65	65	65	65	65
(F) TbiValent temperature	Tbiv	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	3.72	4.59	5.69	6.32	9.28
	COPd (declared COP)	2.57	2.53	2.83	2.64	2.59
Supplementary capacity at P_design	Psup (@Tdesign: -22°C)	1.76	2.15	2.91	3.08	4.40
Part load conditions space heating colder climate medium temperature application						
(A) condition (-7°C)	Pdh (declared heating capacity)	2.13	2.70	3.86	4.27	6.63
	COPd (declared COP)	2.32	2.46	2.48	2.54	2.63
	Cdh(degradation coefficient)	0.90	0.90	0.90	0.90	0.90

Product fiche 3

		Matrix						Outdoor	ATS14S	ATS16S	ATS12T	ATS14T	ATS16T
		Heat pump space heating						Indoor	HU160WT240S3	HU160WT240S3	HU160WT240T9	HU160WT240T9	HU160WT240T9
Space heating 55°C	Prated (declared heating capacity) @ -22°C	[kW]	11.0	11.8	10.3	11.0							
	Seasonal space heating efficiency (ηs)	[%]	118.9	121.8	117.7	118.9							
	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) ToI (temperature operating limit)	ToI (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						
(F) Tbiivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65						
	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						
Supplementary capacity at P_design	COPd (declared COP)	-	2.53	2.43	2.59	2.53	2.43						
	Psup (@Tdesign: -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 heating Matrix		Outdoor						ATS12S	
		ATS04S	ATS06S	ATS08S	ATS10S	ATS12S	ATS10S	ATS12S	
(B) condition (2°C)	Pdh (declared heating capacity)	Indoor	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU160WT240S3	
	COPd (declared COP)	[kW]	1.28	1.60	2.21	2.57	3.51	4.06	
(C) condition (7°C)	Cdh(declared heating capacity)	-	2.99	3.36	3.35	3.51	3.51	3.60	
	COPd (declared COP)	-	0.90	0.90	0.90	0.90	0.90	0.90	
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.01	1.02	1.44	1.65	1.65	2.78	
	Cdh(declared heating capacity)	-	3.86	3.94	4.11	4.37	4.37	4.54	
(E) ToI (temperature operating limit)	Pdh (declared heating capacity)	[kW]	1.36	1.37	1.46	1.47	1.47	3.33	
	COPd (declared COP)	-	6.28	6.35	5.92	5.96	5.96	6.25	
(F) Tivalent temperature	Pdh (declared heating capacity)	-	0.90	0.90	0.90	0.90	0.90	0.90	
	COPd (declared COP)	-	-22.00	-22.00	-22.00	-22.00	-22.00	-22.00	
Supplementary capacity at P_design	WTOL (Heating water Operation Limit)	[°C]	1.64	2.09	2.80	2.80	2.80	4.19	
	Tbiv	[°C]	1.02	1.13	1.22	1.22	1.22	1.13	
Warmer climate (Design temperature = 2°C)	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65	
	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00	
Space heating 35°C	Pdh (declared heating capacity) @ 2°C	[kW]	2.74	3.47	4.71	5.47	5.47	8.41	
	Seasonal space heating efficiency (ηs)	%	1.74	1.86	1.90	2.00	2.00	1.84	
Space heating 55°C	Annual energy consumption	[kWh]	1.72	2.17	2.97	3.91	3.91	6.12	
	Annual energy consumption	[kWh]	5.5	6.1	8.1	8.6	8.6	11.1	
Part load conditions space heating warmer climate low temperature application	Seasonal space heating efficiency (ηs)	%	255.4	259.8	276.6	280.5	280.5	256.1	
	Annual energy consumption	[kWh]	1,146	1,244	1,551	1,617	1,617	2,292	
(B) condition (2°C)	Pdh (declared heating capacity) @ 2°C	[kW]	5.0	5.1	8.37	8.6	8.6	12.5	
	COPd (declared COP)	-	162.4	164.7	176.9	180.3	180.3	174.0	
(C) condition (7°C)	Seasonal space heating efficiency (ηs)	%	1,621	1,640	2,485	2,516	2,516	3,776	
	Annual energy consumption	[kWh]	5.34	5.93	7.56	8.44	8.44	11.10	
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	3.94	3.91	3.98	3.84	3.84	3.59	
	COPd (declared COP)	-	0.90	0.90	0.90	0.90	0.90	0.90	
(C) condition (7°C)	Cdh(declared heating capacity)	[kW]	3.56	3.93	5.22	5.52	5.52	7.14	
	COPd (declared COP)	-	5.92	5.89	6.26	6.18	6.18	5.87	
(C) condition (7°C)	Cdh(declared heating capacity)	-	0.90	0.90	0.90	0.90	0.90	0.90	
	COPd (declared COP)	-	0.90	0.90	0.90	0.90	0.90	0.90	

Product fiche 4

Heat pump space heating Matrix		Outdoor		ATS14S	ATS16S	ATS12T	ATS14T	ATS16T
		Indoor		HU160WT240S3	HU160WT240S3	HU160WT240T9	HU160WT240T9	HU160WT240T9
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.32	4.42	4.06	4.32	4.42	4.42
	COPd (declared COP)	-	3.66	3.79	3.60	3.66	3.79	3.79
	Cdh(degradation coefficient)	-	0.90	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	2.97
	COPd (declared COP)	-	4.72	4.81	4.54	4.72	4.81	4.81
	Cdh(degradation coefficient)	-	0.90	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	3.43
	COPd (declared COP)	-	6.25	6.29	6.25	6.25	6.29	6.29
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90
(E) ToI (temperature operating limit)	ToI (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	4.20	5.21	4.19	4.20	5.21	5.21
	COPd (declared COP)	-	1.13	1.23	1.13	1.13	1.23	1.23
(F) Tbv temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	65
	Tbv	[°C]	-15.00	-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	9.61
Supplementary capacity at P_design	COPd (declared COP)	-	1.79	1.86	1.84	1.79	1.86	1.86
	Psup (@Tdesignh: -22°C)	[kW]	6.76	6.59	6.12	6.76	6.59	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	13.1
	Seasonal space heating efficiency (ηs)	[%]	260.3	248.5	255.6	259.8	248.1	248.1
	Annual energy consumption	[kWh]	2,457	2,781	2,296	2,462	2,786	2,786
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	14.17	14.17	12.5	14.17	14.17	14.17
	Seasonal space heating efficiency (ηs)	[%]	174.9	176.0	173.8	174.7	175.8	175.8
	Annual energy consumption	[kWh]	4,258	4,231	3,780	4,231	4,236	4,236
Part load conditions space heating warmer climate low temperature application								
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	12.04	13.10	11.10	12.04	13.10	13.10
	COPd (declared COP)	-	3.44	3.35	3.59	3.44	3.35	3.35
	Cdh(degradation coefficient)	-	0.90	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	8.41
	COPd (declared COP)	-	5.84	5.36	5.87	5.84	5.36	5.36
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90

Product fiche 5

Heat pump space heating Matrix

		ATS04S	ATS06S	ATS08S	ATS10S	ATS12S	
		Outdoor					
		Indoor					
(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	11.10
	COPd (declared COP)	-	3.94	3.91	3.98	3.84	3.59
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.56	3.93	5.22	5.52	7.14
Supplementary capacity at P_design	COPd (declared COP)	-	5.92	5.89	6.26	6.18	5.87
Supplementary capacity at P_design	Psup (@Tdesign: 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	5.38	5.54	8.04
	COPd (declared COP)	-	3.68	3.67	4.01	4.10	3.86
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.47	1.59	2.31	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	7.55	8.06	12.07
	COPd (declared COP)	-	2.51	2.48	2.59	2.59	2.31
(F) Tivalent temperature	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.22	3.31	5.38	5.54	8.04
Supplementary capacity at P_design	COPd (declared COP)	-	3.68	3.67	4.01	4.10	3.86
Supplementary capacity at P_design	Psup (@Tdesign: 2°C)	[kW]	0.18	0.12	0.82	0.48	0.43

Product fiche 5

		Heat pump space heating Matrix						
		Outdoor	ATS14S	ATS16S	ATS12T	ATS14T	ATS16T	
(D) condition (12°C)	Indoor		HU160WT240S3	HU160WT240S3	HU160WT240T9	HU160WT240T9	HU160WT240T9	
	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	
	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00	
(E) Tol (temperature operating limit)	Pdh (declared heating capacity)	[kW]	12.04	13.10	11.10	12.04	13.10	
	COPd (declared COP)	-	3.44	3.35	3.59	3.44	3.35	
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	
	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00	
	Pdh (declared heating capacity)	[kW]	7.78	8.41	7.14	7.78	8.41	
(F) Trivalent temperature	COPd (declared COP)	-	5.84	5.36	5.87	5.84	5.36	
	Psup (@Tdesign: 2°C)	[kW]	0.00	0.00	0.00	0.00	0.00	
	Part load conditions space heating warmer climate medium temperature application							
	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	
(C) condition (7°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	
	Pdh (declared heating capacity)	[kW]	9.11	9.11	8.04	9.11	9.11	
	COPd (declared COP)	-	3.89	3.89	3.86	3.89	3.89	
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	
	Pdh (declared heating capacity)	[kW]	4.08	4.06	3.75	4.08	4.06	
(D) condition (12°C)	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	
	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	
(E) Tol (temperature operating limit)	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65	
	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00	
	Pdh (declared heating capacity)	[kW]	9.11	9.11	8.04	9.11	9.11	
	COPd (declared COP)	-	3.89	3.89	3.86	3.89	3.89	
	Psup (@Tdesign: 2°C)	[kW]	1.13	0.79	0.43	1.13	0.79	

Product fiche 6

Heat pump space heating **Matrix**

		Outdoor	ATS04S	ATS06S	ATS08S	ATS10S	ATS12S
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No	No	No
	Low-temperature heat pump	Y/N	No	No	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes
	Heat pump combination heater	Y/N	Yes	Yes	Yes	Yes	Yes
	Air to water unit	[m³/h]	2770	2770	4030	4030	4060
	Brine/water to water unit	-	/	/	/	/	/
	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 mode)	[kW]	0.000	0.000	0.000	0.000	0.000	
Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/	
Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/	

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

*Sound power measured according to the EN12102 under conditions of the EN14825. Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

Product fiche 6

Heat pump space heating Matrix

	Outdoor	ATS14S	ATS16S	ATS12T	ATS14T	ATS16T
	Indoor	HU160WT240S3	HU160WT240S3	HU160WT240T9	HU160WT240T9	HU160WT240T9
Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes
Water-to-water heat pump	Y/N	No	No	No	No	No
Brine-to-water heat pump	Y/N	No	No	No	No	No
Low-temperature heat pump	Y/N	No	No	No	No	No
Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes
Heat pump combination heater	Y/N	Yes	Yes	Yes	Yes	Yes
Air to water unit	[m ³ /h]	4060	4650	4060	4060	4650
Brine/water to water unit	-	/	/	/	/	/
Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.020	0.020	0.020
Pto (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.030	0.030	0.030
Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.020	0.020	0.020
Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

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

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

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

Product fiche 7

Heat pump space cooling Matrix

		Outdoor	ATS04S	ATS06S	ATS08S	ATS10S	ATS12S
Indoor unit sound power (*)		Indoor	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU100WT190S3 HU100WT240S3	HU160WT240S3
Average climate low temperature application		dB	38	40	42	42	43
Outdoor unit sound power (*)		dB	56	58	60	61	65
Average climate medium temperature application		dB	55	58	60	60	64
Prated (declared cooling capacity) @ 35°C		[kW]	4.7	7.0	7.4	8.2	11.6
Space cooling 7°C		[%]	196.2	209.5	230.1	235.3	194.2
Annual energy consumption		[kWh]	566	791	762	826	1,412
Prated (declared cooling capacity) @ 35°C		[kW]	4.5	6.55	8.4	10.0	12.0
Space cooling 18°C		[%]	307.7	326.8	354.9	348.8	282.4
Annual energy consumption		[kWh]	348	477	563	682	1,009
Part load conditions space cooling : low temperature application@7°C							
(A) condition (35°C)		[kW]	4.70	7.00	7.40	8.20	11.60
Pdc (declared cooling capacity)		-	3.45	3.00	3.38	3.30	2.75
EERd (declared EER)		-	0.90	0.90	0.90	0.90	0.90
Cdc(degradation coefficient)		[kW]	3.66	5.13	5.72	6.68	8.76
(B) condition (30°C)		-	4.76	4.00	4.71	4.47	3.93
Pdc (declared cooling capacity)		-	0.90	0.90	0.90	0.90	0.90
EERd (declared EER)		[kW]	2.21	3.48	3.62	4.26	5.81
Cdc(degradation coefficient)		-	5.72	6.45	6.65	7.02	5.73
(C) condition (25°C)		-	0.90	0.90	0.90	0.90	0.90
Pdc (declared cooling capacity)		[kW]	0.94	1.53	1.64	1.94	2.63
(D) condition (20°C)		-	5.72	7.73	8.55	9.54	6.75
Pdc (declared cooling capacity)		-	0.90	0.90	0.90	0.90	0.90
EERd (declared EER)		-	0.90	0.90	0.90	0.90	0.90
Cdc(degradation coefficient)		-	0.90	0.90	0.90	0.90	0.90

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

Product fiche 7

Heat pump space cooling Matrix											
	Outdoor	ATS14S		ATS16S		ATS12T		ATS14T		ATS16T	
		Outdoor	Indoor								
Indoor unit sound power (*)											
Average climate low temperature application			44		44		43		44		44
Average climate medium temperature application			65		68		65		65		68
Prated (declared cooling capacity) @ 35°C			64		67		64		64		67
Seasonal space cooling efficiency (ns)			12.7		14.0		11.6		12.7		14.0
Annual energy consumption			192.4		184.1		193.0		191.4		183.3
Prated (declared cooling capacity) @ 35°C			1,560		1,796		1,420		1,568		1,804
Seasonal space cooling efficiency (ns)			274.4		266.8		280.1		272.5		265.0
Annual energy consumption			1,168		1,263		1,017		1,176		1,271
Part load conditions space cooling: low temperature application@7°C											
Pdc (declared cooling capacity)			12.70		14.00		11.60		12.70		14.00
EERd (declared EER)			2.55		2.45		2.75		2.55		2.45
Cdc(degradation coefficient)			0.90		0.90		0.90		0.90		0.90
Pdc (declared cooling capacity)			9.41		10.68		8.76		9.41		10.68
EERd (declared EER)			3.85		3.63		3.93		3.85		3.63
Cdc(degradation coefficient)			0.90		0.90		0.90		0.90		0.90
Pdc (declared cooling capacity)			6.16		6.76		5.81		6.16		6.76
EERd (declared EER)			5.80		5.27		5.73		5.80		5.27
Cdc(degradation coefficient)			0.90		0.90		0.90		0.90		0.90
Pdc (declared cooling capacity)			2.63		3.41		2.63		2.63		3.41
EERd (declared EER)			6.74		7.29		6.75		6.74		7.29
Cdc(degradation coefficient)			0.90		0.90		0.90		0.90		0.90

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

Product fiche 8

Heat pump space cooling Matrix		Part load conditions space cooling, medium temperature application@18°C					
		Outdoor	ATS04S	ATS06S	ATS08S	ATS10S	ATS12S
(A) condition (35°C)	Pdc (declared cooling capacity)		4.50	6.55	8.40	10.00	12.00
	EERd (declared EER)	-	5.55	4.90	5.05	4.80	4.00
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	3.44	4.84	6.47	7.71	9.21
	EERd (declared EER)	-	7.23	7.16	7.02	6.45	5.50
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	2.19	3.26	4.31	5.03	5.74
	EERd (declared EER)	-	8.94	9.64	10.67	10.36	8.66
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	1.13	1.41	1.80	2.32	3.33
	EERd (declared EER)	-	10.48	11.48	13.61	14.98	10.07
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m³/h]	2770	2770	4030	4030	4060
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pto (Power consumption Thermostat off mode)	[kW]	0.010	0.010	0.010	0.010	0.010
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Product fiche 8

Heat pump space cooling Matrix

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

		Outdoor	ATS14S	ATS16S	ATS12T	ATS14T	ATS16T
		Indoor	HU160WT240S3	HU160WT240S3	HU160WT240T9	HU160WT240T9	HU160WT240T9
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	13.50	14.20	12.00	13.50	14.20
	EERd (declared EER)	-	3.61	3.61	4.00	3.61	3.61
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	10.20	11.42	9.21	10.20	11.42
	EERd (declared EER)	-	5.26	5.14	5.50	5.26	5.14
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	6.57	7.27	5.74	6.57	7.27
	EERd (declared EER)	-	8.45	7.83	8.66	8.45	7.83
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	3.33	3.40	3.33	3.33	3.40
	EERd (declared EER)	-	10.07	10.35	10.07	10.07	10.35
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m ³ /h]	4060	4650	4060	4060	4650
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pto (Power consumption Thermostat off mode)	[kW]	0.010	0.010	0.010	0.010	0.010
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Outdoor unit	Indoor unit	Ambient Temperature : 35/24 Water temperature : 23/18			Ambient Temperature : 35/24 Water temperature : 12/7			Ambient Temperature : 7/6 Water temperature : 30/35			Ambient Temperature : 2/1 Water temperature : 30/35		
		Capacity kW	Power input kW	EER	Capacity kW	Power input kW	EER	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP
ATS04S	HU100WT190S3	4.50	0.81	5.55	4.70	1.36	3.45	4.25	0.82	5.20	4.45	1.10	4.05
	HU100WT240S3	4.50	0.81	5.55	4.70	1.36	3.45	4.25	0.82	5.20	4.45	1.10	4.05
ATS06S	HU100WT190S3	6.55	1.34	4.90	7.00	2.33	3.00	6.20	1.24	5.00	5.50	1.39	3.95
	HU100WT240S3	6.55	1.34	4.90	7.00	2.33	3.00	6.20	1.24	5.00	5.50	1.39	3.95
ATS08S	HU100WT190S3	8.40	1.66	5.05	7.40	2.19	3.38	8.30	1.60	5.20	7.10	1.73	4.10
	HU100WT240S3	8.40	1.66	5.05	7.40	2.19	3.38	8.30	1.60	5.20	7.10	1.73	4.10
ATS10S	HU100WT190S3	10.00	2.08	4.80	8.20	2.48	3.30	10.00	2.00	5.00	8.20	2.02	4.05
	HU100WT240S3	10.00	2.08	4.80	8.20	2.48	3.30	10.00	2.00	5.00	8.20	2.02	4.05
ATS12S	HU160WT240S3	12.00	3.00	4.00	11.60	4.22	2.75	12.10	2.44	4.95	9.30	2.35	3.95
	HU160WT240T9	12.00	3.00	4.00	11.60	4.22	2.75	12.10	2.44	4.95	9.30	2.35	3.95
ATS14S	HU160WT240S3	13.50	3.74	3.61	12.70	4.98	2.55	14.50	3.09	4.70	11.40	3.12	3.65
	HU160WT240T9	13.50	3.74	3.61	12.70	4.98	2.55	14.50	3.09	4.70	11.40	3.12	3.65
ATS16S	HU160WT240S3	14.20	3.94	3.61	14.00	5.71	2.45	16.00	3.56	4.50	13.00	3.71	3.50
	HU160WT240T9	14.20	3.94	3.61	14.00	5.71	2.45	16.00	3.56	4.50	13.00	3.71	3.50

Outdoor unit	Indoor unit	Ambient Temperature : -7/-8 Water temperature : 30/35			Ambient Temperature : 7/6 Water temperature : 40/45			Ambient Temperature : 2/1 Water temperature : 40/45			Ambient Temperature : -7/-8 Water temperature : 40/45		
		Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP
ATS04S	HU100WT190S3	4.80	1.52	3.15	4.35	1.14	3.80	5.10	1.70	3.00	4.30	1.83	2.35
	HU100WT240S3	4.80	1.52	3.15	4.35	1.14	3.80	5.10	1.70	3.00	4.30	1.83	2.35
ATS06S	HU100WT190S3	6.10	2.00	3.05	6.35	1.69	3.75	5.80	1.93	3.00	5.40	2.25	2.40
	HU100WT240S3	6.10	2.00	3.05	6.35	1.69	3.75	5.80	1.93	3.00	5.40	2.25	2.40
ATS08S	HU100WT190S3	7.10	2.18	3.25	8.20	2.08	3.95	7.40	2.28	3.25	6.60	2.59	2.55
	HU100WT240S3	7.10	2.18	3.25	8.20	2.08	3.95	7.40	2.28	3.25	6.60	2.59	2.55
ATS10S	HU100WT190S3	8.25	2.62	3.15	10.00	2.63	3.80	7.85	2.45	3.20	7.35	2.88	2.55
	HU100WT240S3	8.25	2.62	3.15	10.00	2.63	3.80	7.85	2.45	3.20	7.35	2.88	2.55
ATS12S	HU160WT240S3	10.00	3.33	3.00	12.30	3.24	3.80	10.70	3.57	3.00	10.20	4.25	2.40
	HU160WT240T9	10.00	3.33	3.00	12.30	3.24	3.80	10.70	3.57	3.00	10.20	4.25	2.40
ATS14S	HU160WT240S3	12.00	4.29	2.80	14.20	3.89	3.65	11.70	4.09	2.86	11.80	5.02	2.35
	HU160WT240T9	12.00	4.29	2.80	14.20	3.89	3.65	11.70	4.09	2.86	11.80	5.02	2.35
ATS16S	HU160WT240S3	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.49	2.85	12.90	5.78	2.23
	HU160WT240T9	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.49	2.85	12.90	5.78	2.23

Outdoor unit	Indoor unit	Ambient Temperature : 7/6 Water temperature : 47/55			Ambient Temperature : 2/1 Water temperature : 47/55			Ambient Temperature : -7/-8 Water temperature : 47/55		
		Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP
ATS04S	HU100WT190S3	4.40	1.49	2.95	5.10	2.08	2.45	4.00	2.05	1.95
	HU100WT240S3	4.40	1.49	2.95	5.10	2.08	2.45	4.00	2.05	1.95
ATS06S	HU100WT190S3	6.00	2.00	3.00	5.65	2.31	2.45	5.15	2.58	2.00
	HU100WT240S3	6.00	2.00	3.00	5.65	2.31	2.45	5.15	2.58	2.00
ATS08S	HU100WT190S3	7.50	2.36	3.18	7.10	2.73	2.60	6.15	3.00	2.05
	HU100WT240S3	7.50	2.36	3.18	7.10	2.73	2.60	6.15	3.00	2.05
ATS10S	HU100WT190S3	9.50	3.06	3.10	8.10	3.16	2.56	6.85	3.43	2.00
	HU100WT240S3	9.50	3.06	3.10	8.10	3.16	2.56	6.85	3.43	2.00
ATS12S	HU160WT240S3	12.00	3.87	3.10	11.40	4.47	2.55	10.00	4.88	2.05
	HU160WT240T9	12.00	3.87	3.10	11.40	4.47	2.55	10.00	4.88	2.05
ATS14S	HU160WT240S3	13.80	4.60	3.00	12.40	5.06	2.45	11.00	5.37	2.05
	HU160WT240T9	13.80	4.60	3.00	12.40	5.06	2.45	11.00	5.37	2.05
ATS16S	HU160WT240S3	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02
	HU160WT240T9	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02

ErP Information

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

Specified Information of Fan:

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

ErP Information

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

Specified Information of Fan:

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

ErP Information

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

Specified Information of Fan:

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

Technical parameters

Model(s):	Outdoor unit: ATS04S Indoor unit: HU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4,4	kW	Seasonal space heating energy efficiency	η_s	129,5	%
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 °C	Pdh	3,89	kW	Tj = -7 °C	COPd	2,17	-
Tj = 2 °C	Pdh	2,38	kW	Tj = 2 °C	COPd	3,30	-
Tj = 7 °C	Pdh	2,94	kW	Tj = 7 °C	COPd	4,41	-
Tj = 12 °C	Pdh	1,32	kW	Tj = 12 °C	COPd	5,66	-
Tj = bivalent temperature	Pdh	3,89	kW	Tj = bivalent temperature	COPd	2,17	-
Tj = operating limit	Pdh	3,42	kW	Tj = operating limit	COPd	1,91	-
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15 °C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcyh	-	kW	Cycling interval efficiency	COP _{cy}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	0,98	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

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	L		
Daily electricity consumption	Q _{elec}	-	kWh
Annual electricity consumption	AEC	801	kWh
Water heating energy efficiency	η_{wh}	127	%
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: ATS04S Indoor unit: HU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	3.4	kW	Seasonal space heating energy efficiency	η_s	102,1	%
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°C	Pdh	2,13	kW	Tj = -7°C	COPd	2,32	-
Tj = 2°C	Pdh	1,28	kW	Tj = 2°C	COPd	2,99	-
Tj = 7°C	Pdh	1,01	kW	Tj = 7°C	COPd	3,86	-
Tj = 12°C	Pdh	1,36	kW	Tj = 12°C	COPd	6,28	-
Tj = bivalent temperature	Pdh	2,74	kW	Tj = bivalent temperature	COPd	1,74	-
Tj = operating limit	Pdh	1,64	kW	Tj = operating limit	COPd	1,02	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	1,72	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

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	L			Water heating energy efficiency	η_{wh}	102	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	998	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 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: ATS04S Indoor unit: HU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.0	kW	Seasonal space heating energy efficiency	η_s	162.4	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	4.83	kW	Tj = 2°C	COPd	2.51	-
Tj = 7°C	Pdh	3.22	kW	Tj = 7°C	COPd	3.68	-
Tj = 12°C	Pdh	1.47	kW	Tj = 12°C	COPd	5.15	-
Tj = bivalent temperature	Pdh	3.22	kW	Tj = bivalent temperature	COPd	3.68	-
Tj = operating limit	Pdh	4.83	kW	Tj = operating limit	COPd	2.51	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0.014	kW	Rated heat output (**)	P _{sup}	0.18	kW
Standby mode	P _{sb}	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0.024	kW				
Crankcase heater mode	P _{ck}	0.000	kW				

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	L			Water heating energy efficiency	η_{wh}	157	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fu5.1el consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	649	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 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: ATS04S Indoor unit: HU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4,4	kW	Seasonal space heating energy efficiency	η_s	129,5	%
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 °C	Pdh	3,89	kW	Tj = -7 °C	COPd	2,17	-
Tj = 2 °C	Pdh	2,38	kW	Tj = 2 °C	COPd	3,30	-
Tj = 7 °C	Pdh	2,94	kW	Tj = 7 °C	COPd	4,41	-
Tj = 12 °C	Pdh	1,32	kW	Tj = 12 °C	COPd	5,66	-
Tj = bivalent temperature	Pdh	3,89	kW	Tj = bivalent temperature	COPd	2,17	-
Tj = operating limit	Pdh	3,42	kW	Tj = operating limit	COPd	1,91	-
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15 °C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcyh	-	kW	Cycling interval efficiency	COP _{cy}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	0,98	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

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	XL		
Daily electricity consumption	Q _{elec}	-	kWh
Annual electricity consumption	AEC	1229	kWh
Water heating energy efficiency	η_{wh}	136	%
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: ATS04S Indoor unit: HU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	P _{rated}	3.4	kW	Seasonal space heating energy efficiency	η_s	102,1	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j			
T _j = -7°C	P _{dh}	2,13	kW	T _j = -7°C	COP _d	2,32	-
T _j = 2°C	P _{dh}	1,28	kW	T _j = 2°C	COP _d	2,99	-
T _j = 7°C	P _{dh}	1,01	kW	T _j = 7°C	COP _d	3,86	-
T _j = 12°C	P _{dh}	1,36	kW	T _j = 12°C	COP _d	6,28	-
T _j = bivalent temperature	P _{dh}	2,74	kW	T _j = bivalent temperature	COP _d	1,74	-
T _j = operating limit	P _{dh}	1,64	kW	T _j = operating limit	COP _d	1,02	-
For air-to-water heat pumps: T _j = -15°C	P _{dh}	-	kW	For air-to-water heat pumps: T _j = -15°C	COP _d	-	-
Bivalent temperature	T _{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	C _{dh}	0,9	--	Heating water operating limit temperature	W _{TOL}	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	1,72	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

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	XL			Water heating energy efficiency	η_{wh}	107	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1561	kWh	Annual fuel consumption	AFC	-	GJ

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output P_{rated} is equal to the design load for heating P_{designh}, and the rated heat output supplementary heater P_{sup} is equal to the supplementary capacity for heating sup(T_j).

(**) If C_{dh} is not determined by measurement then the default degradation coefficient is C_{dh} = 0,9.

Technical parameters

Model(s):	Outdoor unit: ATS04S Indoor unit: HU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.0	kW	Seasonal space heating energy efficiency	η_s	162.4	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	4.83	kW	Tj = 2°C	COPd	2.51	-
Tj = 7°C	Pdh	3.22	kW	Tj = 7°C	COPd	3.68	-
Tj = 12°C	Pdh	1.47	kW	Tj = 12°C	COPd	5.15	-
Tj = bivalent temperature	Pdh	3.22	kW	Tj = bivalent temperature	COPd	3.68	-
Tj = operating limit	Pdh	4.83	kW	Tj = operating limit	COPd	2.51	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WtOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0.014	kW	Rated heat output (**)	P _{sup}	0.18	kW
Standby mode	P _{sb}	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0.024	kW				
Crankcase heater mode	P _{ck}	0.000	kW				

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	XL			Water heating energy efficiency	η_{wh}	174	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fu5.1el consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	963	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 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: ATS6S Indoor unit: HU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAG E

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.7	kW	Seasonal space heating energy efficiency	η_s	137.9	%
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°C	Pdh	5.04	kW	Tj = -7°C	COPd	2.17	-
Tj = 2°C	Pdh	3.12	kW	Tj = 2°C	COPd	3.51	-
Tj = 7°C	Pdh	2.08	kW	Tj = 7°C	COPd	4.54	-
Tj = 12°C	Pdh	1.28	kW	Tj = 12°C	COPd	5.59	-
Tj = bivalent temperature	Pdh	5.04	kW	Tj = bivalent temperature	COPd	2.17	-
Tj = operating limit	Pdh	4.52	kW	Tj = operating limit	COPd	1.91	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0.014	kW	Rated heat output (**)	P _{sup}	1.18	kW
Standby mode	P _{sb}	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0.024	kW				
Crankcase heater mode	P _{ck}	0.000	kW				

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	L		
Daily electricity consumption	Q _{elec}	-	kWh
Annual electricity consumption	AEC	801	kWh
Water heating energy efficiency	η_{wh}	127	%
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 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: ATS06S Indoor unit: HU100WT190S3	
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:		YES	
Heat pump combination heater:		YES	
Declared climate condition:		COLDER	
Parameters are declared for medium-temperature application.			
Item			
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°C	Pdh	2,70	kW
Tj = 2°C	Pdh	1,60	kW
Tj = 7°C	Pdh	1,02	kW
Tj = 12°C	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°C	Pdh	-	kW
Bivalent temperature	Tbiv	-15	°C
Cycling interval capacity for heating	P _{cych}	-	kW
Degradation co-efficient (**)	Cdh	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
Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L _{WA}	-	dB
Annual energy consumption	Q _{HE}	3681	kWh
For heat pump combination heater:			
Declared load profile	L		
Daily electricity consumption	Q _{elec}	-	kWh
Annual electricity consumption	AEC	998	kWh
Water heating energy efficiency			
Daily fuel consumption	Q _{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ
Supplementary heater			
Rated heat output (**)	P _{sup}	5,10	kW
Type of energy input	Electrical		
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
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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 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: ATS06S Indoor unit: HU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.1	kW	Seasonal space heating energy efficiency	η_s	164.7	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	5.02	kW	Tj = 2°C	COPd	2.48	-
Tj = 7°C	Pdh	3.31	kW	Tj = 7°C	COPd	3.67	-
Tj = 12°C	Pdh	1.60	kW	Tj = 12°C	COPd	5.29	-
Tj = bivalent temperature	Pdh	3.31	kW	Tj = bivalent temperature	COPd	3.67	-
Tj = operating limit	Pdh	5.02	kW	Tj = operating limit	COPd	2.48	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	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	kW
Standby mode	P _{sb}	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0.024	kW				
Crankcase heater mode	P _{ck}	0.000	kW				

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	L		
Daily electricity consumption	Q _{elec}	-	kWh
Annual electricity consumption	AEC	649	kWh
Water heating energy efficiency	η_{wh}	157	%
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 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: ATS6S Indoor unit: HU100WT240S3	
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:		YES	
Heat pump combination heater:		YES	
Declared climate condition:		AVERAG E	
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°C	Pdh	5.04	kW
Tj = 2°C	Pdh	3.12	kW
Tj = 7°C	Pdh	2.08	kW
Tj = 12°C	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°C	Pdh	-	kW
Bivalent temperature	Tbiv	-7	°C
Cycling interval capacity for heating	P _{cych}	-	kW
Degradation co-efficient (**)	Cdh	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
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	XL		
Daily electricity consumption	Q _{elec}	-	kWh
Annual electricity consumption	AEC	1229	kWh
Water heating energy efficiency			
	η _{wh}	136	%
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 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: ATS06S Indoor unit: HU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4,3	kW	Seasonal space heating energy efficiency	η_s	111,1	%
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°C	Pdh	2,70	kW	Tj = -7°C	COPd	2,46	-
Tj = 2°C	Pdh	1,60	kW	Tj = 2°C	COPd	3,36	-
Tj = 7°C	Pdh	1,02	kW	Tj = 7°C	COPd	3,94	-
Tj = 12°C	Pdh	1,37	kW	Tj = 12°C	COPd	6,35	-
Tj = bivalent temperature	Pdh	3,47	kW	Tj = bivalent temperature	COPd	1,86	-
Tj = operating limit	Pdh	2,09	kW	Tj = operating limit	COPd	1,13	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	5,10	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

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	XL			Water heating energy efficiency	η_{wh}	107	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1561	kWh	Annual fuel consumption	AFC	-	GJ

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 (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: ATS06S Indoor unit: HU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5,1	kW	Seasonal space heating energy efficiency	η_s	164,7	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	5,02	kW	Tj = 2°C	COPd	2,48	-
Tj = 7°C	Pdh	3,31	kW	Tj = 7°C	COPd	3,67	-
Tj = 12°C	Pdh	1,60	kW	Tj = 12°C	COPd	5,29	-
Tj = bivalent temperature	Pdh	3,31	kW	Tj = bivalent temperature	COPd	3,67	-
Tj = operating limit	Pdh	5,02	kW	Tj = operating limit	COPd	2,48	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	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 (**)	Cdh	0,9	-	Heating water operating limit temperature	WTOL	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	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2770	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}	1640	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	174	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	963	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: ATS08S - Indoor unit: HU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6,6	kW	Seasonal space heating energy efficiency	η_s	131,5	%
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°C	Pdh	5,84	kW	Tj = -7°C	COPd	2,16	-
Tj = 2°C	Pdh	3,75	kW	Tj = 2°C	COPd	3,30	-
Tj = 7°C	Pdh	2,42	kW	Tj = 7°C	COPd	4,34	-
Tj = 12°C	Pdh	1,39	kW	Tj = 12°C	COPd	5,33	-
Tj = bivalent temperature	Pdh	5,84	kW	Tj = bivalent temperature	COPd	2,16	-
Tj = operating limit	Pdh	4,90	kW	Tj = operating limit	COPd	1,84	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	1,69	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	42/59	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}	4056	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	125	%
Daily electricity consumption	Q _{dec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	820	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 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: ATS08S Indoor unit: HU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5,8	kW	Seasonal space heating energy efficiency	η_s	112,0	%
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°C	Pdh	3,86	kW	Tj = -7°C	COPd	2,48	-
Tj = 2°C	Pdh	2,21	kW	Tj = 2°C	COPd	3,35	-
Tj = 7°C	Pdh	1,44	kW	Tj = 7°C	COPd	4,11	-
Tj = 12°C	Pdh	1,46	kW	Tj = 12°C	COPd	5,92	-
Tj = bivalent temperature	Pdh	4,71	kW	Tj = bivalent temperature	COPd	1,90	-
Tj = operating limit	Pdh	2,80	kW	Tj = operating limit	COPd	1,22	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cyh}	-	kW	Cycling interval efficiency	COP _{cyh}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	2,97	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable						
Sound power level, indoors/outdoors	L _{WA}	-	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m ³ /h
Annual energy consumption	Q _{HE}	4950	kWh	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			
L				η_{wh}	107	%	
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	950	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 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: ATS08S Indoor unit: HU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8,37	kW	Seasonal space heating energy efficiency	η_s	176,9	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	7,55	kW	Tj = 2°C	COPd	2,59	-
Tj = 7°C	Pdh	5,38	kW	Tj = 7°C	COPd	4,01	-
Tj = 12°C	Pdh	2,31	kW	Tj = 12°C	COPd	5,55	-
Tj = bivalent temperature	Pdh	5,38	kW	Tj = bivalent temperature	COPd	4,01	-
Tj = operating limit	Pdh	7,55	kW	Tj = operating limit	COPd	2,59	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	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 (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	0,82	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	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}	2458	kWh				

For heat pump combination heater:							
Declared load profile				Water heating energy efficiency			
L				η_{wh}	151	%	
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	675	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 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: ATS08S - Indoor unit: HU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6,6	kW	Seasonal space heating energy efficiency	η_s	131,5	%
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°C	Pdh	5,84	kW	Tj = -7°C	COPd	2,16	-
Tj = 2°C	Pdh	3,75	kW	Tj = 2°C	COPd	3,30	-
Tj = 7°C	Pdh	2,42	kW	Tj = 7°C	COPd	4,34	-
Tj = 12°C	Pdh	1,39	kW	Tj = 12°C	COPd	5,33	-
Tj = bivalent temperature	Pdh	5,84	kW	Tj = bivalent temperature	COPd	2,16	-
Tj = operating limit	Pdh	4,90	kW	Tj = operating limit	COPd	1,84	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	1,69	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	42/59	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}	4056	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	137	%
Daily electricity consumption	Q _{dec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1218	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 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: ATS08S Indoor unit: HU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5,8	kW	Seasonal space heating energy efficiency	η_s	112,0	%
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°C	Pdh	3,86	kW	Tj = -7°C	COPd	2,48	-
Tj = 2°C	Pdh	2,21	kW	Tj = 2°C	COPd	3,35	-
Tj = 7°C	Pdh	1,44	kW	Tj = 7°C	COPd	4,11	-
Tj = 12°C	Pdh	1,46	kW	Tj = 12°C	COPd	5,92	-
Tj = bivalent temperature	Pdh	4,71	kW	Tj = bivalent temperature	COPd	1,90	-
Tj = operating limit	Pdh	2,80	kW	Tj = operating limit	COPd	1,22	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	2,97	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable						
Sound power level, indoors/outdoors	L _{WA}	-	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m ³ /h
Annual energy consumption	Q _{HE}	4950	kWh	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			
XL				η_{wh}	111	%	
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1508	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 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: ATS08S Indoor unit: HU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8,37	kW	Seasonal space heating energy efficiency	η_s	176,9	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	7,55	kW	Tj = 2°C	COPd	2,59	-
Tj = 7°C	Pdh	5,38	kW	Tj = 7°C	COPd	4,01	-
Tj = 12°C	Pdh	2,31	kW	Tj = 12°C	COPd	5,55	-
Tj = bivalent temperature	Pdh	5,38	kW	Tj = bivalent temperature	COPd	4,01	-
Tj = operating limit	Pdh	7,55	kW	Tj = operating limit	COPd	2,59	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	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 (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	0,82	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L _{WA}	-	dB
Annual energy consumption	Q _{HE}	2458	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	XL		
Daily electricity consumption	Q _{elec}	-	kWh
Annual electricity consumption	AEC	977	kWh
Water heating energy efficiency	η_{wh}	171	%
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 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 unitATS10S Indoor unitHU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7.7	kW	Seasonal space heating energy efficiency	η_s	136.6	%
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°C	Pdh	6.78	kW	Tj = -7°C	COPd	2.24	-
Tj = 2°C	Pdh	4.28	kW	Tj = 2°C	COPd	3.42	-
Tj = 7°C	Pdh	2.77	kW	Tj = 7°C	COPd	4.52	-
Tj = 12°C	Pdh	1.58	kW	Tj = 12°C	COPd	5.68	-
Tj = bivalent temperature	Pdh	6.78	kW	Tj = bivalent temperature	COPd	2.24	-
Tj = operating limit	Pdh	5.38	kW	Tj = operating limit	COPd	1.83	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcyh	-	kW	Cycling interval efficiency	COP _{cy}	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0.014	kW	Rated heat output (**)	P _{sup}	2.29	kW
Standby mode	P _{sb}	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0.024	kW				
Crankcase heater mode	P _{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	42/60	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}	4539	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	125	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	820	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 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 unitATS10S Indoor unitHU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6,7	kW	Seasonal space heating energy efficiency	η_s	116,4	%
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°C	Pdh	4,27	kW	Tj = -7°C	COPd	2,54	-
Tj = 2°C	Pdh	2,57	kW	Tj = 2°C	COPd	3,51	-
Tj = 7°C	Pdh	1,65	kW	Tj = 7°C	COPd	4,37	-
Tj = 12°C	Pdh	1,47	kW	Tj = 12°C	COPd	5,96	-
Tj = bivalent temperature	Pdh	5,47	kW	Tj = bivalent temperature	COPd	2,00	-
Tj = operating limit	Pdh	2,80	kW	Tj = operating limit	COPd	1,22	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	3,91	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	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}	5540	kWh				
For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	107	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	950	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 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 unitATS10S Indoor unitHU100WT190S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8,6	kW	Seasonal space heating energy efficiency	η_s	180,3	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	8,06	kW	Tj = 2°C	COPd	2,59	-
Tj = 7°C	Pdh	5,54	kW	Tj = 7°C	COPd	4,10	-
Tj = 12°C	Pdh	2,53	kW	Tj = 12°C	COPd	5,82	-
Tj = bivalent temperature	Pdh	5,54	kW	Tj = bivalent temperature	COPd	4,10	-
Tj = operating limit	Pdh	8,15	kW	Tj = operating limit	COPd	2,61	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	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 (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	0,48	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	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}	2516	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	η_{wh}	151	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	675	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 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 unitATS10S Indoor unitHU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7.7	kW	Seasonal space heating energy efficiency	η_s	136.6	%
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°C	Pdh	6.78	kW	Tj = -7°C	COPd	2.24	-
Tj = 2°C	Pdh	4.28	kW	Tj = 2°C	COPd	3.42	-
Tj = 7°C	Pdh	2.77	kW	Tj = 7°C	COPd	4.52	-
Tj = 12°C	Pdh	1.58	kW	Tj = 12°C	COPd	5.68	-
Tj = bivalent temperature	Pdh	6.78	kW	Tj = bivalent temperature	COPd	2.24	-
Tj = operating limit	Pdh	5.38	kW	Tj = operating limit	COPd	1.83	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcyh	-	kW	Cycling interval efficiency	COP _{cy}	-	-
Degradation co-efficient (**)	Cdh	0.9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0.014	kW	Rated heat output (**)	P _{sup}	2.29	kW
Standby mode	P _{sb}	0.014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0.024	kW				
Crankcase heater mode	P _{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	42/60	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}	4539	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	137	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1218	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 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 unitATS10S Indoor unitHU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6,7	kW	Seasonal space heating energy efficiency	η_s	116,4	%
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°C	Pdh	4,27	kW	Tj = -7°C	COPd	2,54	-
Tj = 2°C	Pdh	2,57	kW	Tj = 2°C	COPd	3,51	-
Tj = 7°C	Pdh	1,65	kW	Tj = 7°C	COPd	4,37	-
Tj = 12°C	Pdh	1,47	kW	Tj = 12°C	COPd	5,96	-
Tj = bivalent temperature	Pdh	5,47	kW	Tj = bivalent temperature	COPd	2,00	-
Tj = operating limit	Pdh	2,80	kW	Tj = operating limit	COPd	1,22	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	3,91	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	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}	5540	kWh				

For heat pump combination heater:							
Declared load profile				Water heating energy efficiency			
XL				η_{wh}	111	%	
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1508	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 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 unitATS10S Indoor unitHU100WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8,6	kW	Seasonal space heating energy efficiency	η_s	180,3	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	8,06	kW	Tj = 2°C	COPd	2,59	-
Tj = 7°C	Pdh	5,54	kW	Tj = 7°C	COPd	4,10	-
Tj = 12°C	Pdh	2,53	kW	Tj = 12°C	COPd	5,82	-
Tj = bivalent temperature	Pdh	5,54	kW	Tj = bivalent temperature	COPd	4,10	-
Tj = operating limit	Pdh	8,15	kW	Tj = operating limit	COPd	2,61	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	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 (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	0,48	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4030	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}	2516	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	171	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	977	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 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: ATS12S Indoor unit: HU160WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11,6	kW	Seasonal space heating energy efficiency	η_s	135,1	%
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°C	Pdh	10,24	kW	Tj = -7°C	COPd	2,01	-
Tj = 2°C	Pdh	6,52	kW	Tj = 2°C	COPd	3,44	-
Tj = 7°C	Pdh	4,36	kW	Tj = 7°C	COPd	4,59	-
Tj = 12°C	Pdh	3,29	kW	Tj = 12°C	COPd	6,05	-
Tj = bivalent temperature	Pdh	10,24	kW	Tj = bivalent temperature	COPd	2,01	-
Tj = operating limit	Pdh	9,10	kW	Tj = operating limit	COPd	1,79	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	1,23	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	43/64	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}	6927	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	123	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1360	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 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: ATS12S Indoor unit: HU160WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10,3	kW	Seasonal space heating energy efficiency	η_s	117,8	%
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°C	Pdh	6,63	kW	Tj = -7°C	COPd	2,63	-
Tj = 2°C	Pdh	4,06	kW	Tj = 2°C	COPd	3,60	-
Tj = 7°C	Pdh	2,78	kW	Tj = 7°C	COPd	4,54	-
Tj = 12°C	Pdh	3,33	kW	Tj = 12°C	COPd	6,25	-
Tj = bivalent temperature	Pdh	8,41	kW	Tj = bivalent temperature	COPd	1,84	-
Tj = operating limit	Pdh	4,19	kW	Tj = operating limit	COPd	1,13	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	6,11	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	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}	8419	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	92	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1822	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 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: ATS12S Indoor unit: HU160WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12,5	kW	Seasonal space heating energy efficiency	η_s	174,0	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	12,07	kW	Tj = 2°C	COPd	2,31	-
Tj = 7°C	Pdh	8,04	kW	Tj = 7°C	COPd	3,86	-
Tj = 12°C	Pdh	3,75	kW	Tj = 12°C	COPd	5,70	-
Tj = bivalent temperature	Pdh	8,04	kW	Tj = bivalent temperature	COPd	3,86	-
Tj = operating limit	Pdh	12,07	kW	Tj = operating limit	COPd	2,31	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	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 (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	0,43	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	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}	3776	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	153	%
Daily electricity consumption	Q _{dec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1068	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 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: ATS12T Indoor HU160WT240T9
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11,6	kW	Seasonal space heating energy efficiency	η_s	135,1	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _J				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _J			
T _J = -7 °C	P _{dh}	10,24	kW	T _J = -7 °C	COP _d	2,01	-
T _J = 2 °C	P _{dh}	6,52	kW	T _J = 2 °C	COP _d	3,44	-
T _J = 7 °C	P _{dh}	4,36	kW	T _J = 7 °C	COP _d	4,59	-
T _J = 12 °C	P _{dh}	3,29	kW	T _J = 12 °C	COP _d	6,05	-
T _J = bivalent temperature	P _{dh}	10,24	kW	T _J = bivalent temperature	COP _d	2,01	-
T _J = operating limit	P _{dh}	9,10	kW	T _J = operating limit	COP _d	1,79	-
For air-to-water heat pumps: T _J = -15 °C	P _{dh}	-	kW	For air-to-water heat pumps: T _J = -15 °C	COP _d	-	-
Bivalent temperature	T _{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cyh}	-	kW	Cycling interval efficiency	COP _{cyh}	-	-
Degradation co-efficient (**)	C _{dh}	0,9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,020	kW	Rated heat output (**)	P _{sup}	1,23	kW
Standby mode	P _{sb}	0,020	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,030	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	-65	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}	6928	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	123	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1360	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(T_J).

(**) If C_{dh} is not determined by measurement then the default degradation coefficient is C_{dh} = 0,9.

Technical parameters

Model(s):	Outdoor unit: ATS12T Indoor HU160WT240T9
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10,3	kW	Seasonal space heating energy efficiency	η_s	117,7	%
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 °C	Pdh	6,63	kW	Tj = -7 °C	COPd	2,63	-
Tj = 2 °C	Pdh	4,06	kW	Tj = 2 °C	COPd	3,60	-
Tj = 7 °C	Pdh	2,78	kW	Tj = 7 °C	COPd	4,54	-
Tj = 12 °C	Pdh	3,33	kW	Tj = 12 °C	COPd	6,25	-
Tj = bivalent temperature	Pdh	8,41	kW	Tj = bivalent temperature	COPd	1,84	-
Tj = operating limit	Pdh	4,19	kW	Tj = operating limit	COPd	1,13	-
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15 °C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,020	kW	Rated heat output (**)	P _{sup}	6,11	kW
Standby mode	P _{sb}	0,020	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,030	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	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}	8420	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	92	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1822	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: ATS12T Indoor HU160WT240T9
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12,5	kW	Seasonal space heating energy efficiency	η_s	173,8	%
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 °C	Pdh	-	kW	Tj = -7 °C	COPd	-	-
Tj = 2 °C	Pdh	12,07	kW	Tj = 2 °C	COPd	2,31	-
Tj = 7 °C	Pdh	8,04	kW	Tj = 7 °C	COPd	3,86	-
Tj = 12 °C	Pdh	3,75	kW	Tj = 12 °C	COPd	5,70	-
Tj = bivalent temperature	Pdh	8,04	kW	Tj = bivalent temperature	COPd	3,86	-
Tj = operating limit	Pdh	12,07	kW	Tj = operating limit	COPd	2,31	-
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15 °C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,020	kW	Rated heat output (**)	P _{sup}	0,43	kW
Standby mode	P _{sb}	0,020	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,030	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	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}	3780	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	153	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1088	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: ATS14S Indoor unit: HU160WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12,08	kW	Seasonal space heating energy efficiency	η_s	135,6	%
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 °C	Pdh	10,68	kW	Tj = -7 °C	COPd	2,01	-
Tj = 2 °C	Pdh	6,86	kW	Tj = 2 °C	COPd	3,43	-
Tj = 7 °C	Pdh	4,63	kW	Tj = 7 °C	COPd	4,66	-
Tj = 12 °C	Pdh	3,31	kW	Tj = 12 °C	COPd	6,13	-
Tj = bivalent temperature	Pdh	10,68	kW	Tj = bivalent temperature	COPd	2,01	-
Tj = operating limit	Pdh	9,19	kW	Tj = operating limit	COPd	1,76	-
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15 °C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cyh}	-	kW	Cycling interval efficiency	COP _{cyh}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	1,40	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	-65	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}	7202	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	123	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1360	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: ATS14S Indoor unit: HU160WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11,0	kW	Seasonal space heating energy efficiency	η_s	118,9	%
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 °C	Pdh	6,89	kW	Tj = -7 °C	COPd	2,66	-
Tj = 2 °C	Pdh	4,32	kW	Tj = 2 °C	COPd	3,66	-
Tj = 7 °C	Pdh	3,06	kW	Tj = 7 °C	COPd	4,72	-
Tj = 12 °C	Pdh	3,33	kW	Tj = 12 °C	COPd	6,25	-
Tj = bivalent temperature	Pdh	8,94	kW	Tj = bivalent temperature	COPd	1,79	-
Tj = operating limit	Pdh	4,20	kW	Tj = operating limit	COPd	1,13	-
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15 °C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cyh}	-	kW	Cycling interval efficiency	COP _{cyh}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	6,80	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	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}	8866	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	92	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1822	kWh	Annual fuel consumption	AFC	-	GJ

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(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: ATS14S Indoor unit: HU160WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	14,17	kW	Seasonal space heating energy efficiency	η_s	174,9	%
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 °C	Pdh	-	kW	Tj = -7 °C	COPd	-	-
Tj = 2 °C	Pdh	13,04	kW	Tj = 2 °C	COPd	2,20	-
Tj = 7 °C	Pdh	9,11	kW	Tj = 7 °C	COPd	3,89	-
Tj = 12 °C	Pdh	4,08	kW	Tj = 12 °C	COPd	5,90	-
Tj = bivalent temperature	Pdh	9,11	kW	Tj = bivalent temperature	COPd	3,89	-
Tj = operating limit	Pdh	13,04	kW	Tj = operating limit	COPd	2,20	-
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15 °C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cyh}	-	kW	Cycling interval efficiency	COP _{cyh}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	1,13	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	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}	4258	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	153	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1088	kWh	Annual fuel consumption	AFC	-	GJ

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 (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: ATS14T Indoor unit: HU160WT240T9
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12,08	kW	Seasonal space heating energy efficiency	η_s	135,6	%
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°C	Pdh	10,68	kW	Tj = -7°C	COPd	2,01	-
Tj = 2°C	Pdh	6,86	kW	Tj = 2°C	COPd	3,43	-
Tj = 7°C	Pdh	4,63	kW	Tj = 7°C	COPd	4,66	-
Tj = 12°C	Pdh	3,31	kW	Tj = 12°C	COPd	6,13	-
Tj = bivalent temperature	Pdh	10,68	kW	Tj = bivalent temperature	COPd	2,01	-
Tj = operating limit	Pdh	9,19	kW	Tj = operating limit	COPd	1,76	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,020	kW	Rated heat output (**)	P _{sup}	1,40	kW
Standby mode	P _{sb}	0,020	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,030	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	43/65	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}	7203	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	123	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1360	kWh	Annual fuel consumption	AFC	-	GJ

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 (**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	Outdoor unit: ATS14T Indoor unit: HU160WT240T9
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11,0	kW	Seasonal space heating energy efficiency	η_s	118,9	%
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°C	Pdh	6,89	kW	Tj = -7°C	COPd	2,66	-
Tj = 2°C	Pdh	4,32	kW	Tj = 2°C	COPd	3,66	-
Tj = 7°C	Pdh	3,06	kW	Tj = 7°C	COPd	4,72	-
Tj = 12°C	Pdh	3,33	kW	Tj = 12°C	COPd	6,25	-
Tj = bivalent temperature	Pdh	8,94	kW	Tj = bivalent temperature	COPd	1,79	-
Tj = operating limit	Pdh	4,20	kW	Tj = operating limit	COPd	1,13	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	5,1	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,020	kW	Rated heat output (**)	P _{sup}	6,80	kW
Standby mode	P _{sb}	0,020	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,030	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	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}	8867	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	92	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1822	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 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: ATS14T Indoor unit: HU160WT240T9
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	14,17	kW	Seasonal space heating energy efficiency	η_s	174,7	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	13,04	kW	Tj = 2°C	COPd	2,20	-
Tj = 7°C	Pdh	9,11	kW	Tj = 7°C	COPd	3,89	-
Tj = 12°C	Pdh	4,08	kW	Tj = 12°C	COPd	5,90	-
Tj = bivalent temperature	Pdh	9,11	kW	Tj = bivalent temperature	COPd	3,89	-
Tj = operating limit	Pdh	13,04	kW	Tj = operating limit	COPd	2,20	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,020	kW	Rated heat output (**)	P _{sup}	1,13	kW
Standby mode	P _{sb}	0,020	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,030	kW				
Crankcase heater mode	P _{ck}	0,000	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4060	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}	4262	kWh				
For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	153	%
Daily electricity consumption	Q _{dec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1088	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 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: ATS16S Indoor unit: HU160WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13,0	kW	Seasonal space heating energy efficiency	η_s	133,3	%
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 °C	Pdh	11,52	kW	Tj = -7 °C	COPd	1,99	-
Tj = 2 °C	Pdh	7,18	kW	Tj = 2 °C	COPd	3,34	-
Tj = 7 °C	Pdh	4,67	kW	Tj = 7 °C	COPd	4,61	-
Tj = 12 °C	Pdh	3,31	kW	Tj = 12 °C	COPd	6,07	-
Tj = bivalent temperature	Pdh	11,52	kW	Tj = bivalent temperature	COPd	1,99	-
Tj = operating limit	Pdh	10,33	kW	Tj = operating limit	COPd	1,80	-
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15 °C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	2,68	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
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}	-68	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}	7895	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	123	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1360	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: ATS16S Indoor unit: HU160WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11,8	kW	Seasonal space heating energy efficiency	η_s	121,8	%
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 °C	Pdh	7,64	kW	Tj = -7 °C	COPd	2,65	-
Tj = 2 °C	Pdh	4,42	kW	Tj = 2 °C	COPd	3,79	-
Tj = 7 °C	Pdh	2,97	kW	Tj = 7 °C	COPd	4,81	-
Tj = 12 °C	Pdh	3,43	kW	Tj = 12 °C	COPd	6,29	-
Tj = bivalent temperature	Pdh	9,61	kW	Tj = bivalent temperature	COPd	1,86	-
Tj = operating limit	Pdh	5,21	kW	Tj = operating limit	COPd	1,23	-
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15 °C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	6,59	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
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}	9309	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	92	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1822	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: ATS16S Indoor unit: HU160WT240S3
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	14,17	kW	Seasonal space heating energy efficiency	η_s	176	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	13,38	kW	Tj = 2°C	COPd	2,29	-
Tj = 7°C	Pdh	9,11	kW	Tj = 7°C	COPd	3,89	-
Tj = 12°C	Pdh	4,06	kW	Tj = 12°C	COPd	5,86	-
Tj = bivalent temperature	Pdh	9,11	kW	Tj = bivalent temperature	COPd	3,89	-
Tj = operating limit	Pdh	13,38	kW	Tj = operating limit	COPd	2,29	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	0,79	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,024	kW				
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}	4231	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	153	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1088	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: ATS16T Indoor unit: HU160WT240T9
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	AVERAGE

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13,0	kW	Seasonal space heating energy efficiency	η_s	133,2	%
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°C	Pdh	11,52	kW	Tj = -7°C	COPd	1,99	-
Tj = 2°C	Pdh	7,18	kW	Tj = 2°C	COPd	3,34	-
Tj = 7°C	Pdh	4,67	kW	Tj = 7°C	COPd	4,61	-
Tj = 12°C	Pdh	3,31	kW	Tj = 12°C	COPd	6,07	-
Tj = bivalent temperature	Pdh	11,52	kW	Tj = bivalent temperature	COPd	1,99	-
Tj = operating limit	Pdh	10,33	kW	Tj = operating limit	COPd	1,80	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P _{cyh}	-	kW	Cycling interval efficiency	COP _{cyh}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,020	kW	Rated heat output (**)	P _{sup}	2,67	kW
Standby mode	P _{sb}	0,020	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,030	kW				
Crankcase heater mode	P _{ck}	0,000	kW				

Other items							
Capacity control	variable						
Sound power level, indoors/outdoors	L _{WA}	43/68	dB	For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h
Annual energy consumption	Q _{HE}	7896	kWh	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		XL			Water heating energy efficiency		η_{wh}	123	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh		
Annual electricity consumption	AEC	1360	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 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: ATS16T Indoor unit: HU160WT240T9
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11,8	kW	Seasonal space heating energy efficiency	η_s	121,8	%
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°C	Pdh	7,64	kW	Tj = -7°C	COPd	2,65	-
Tj = 2°C	Pdh	4,42	kW	Tj = 2°C	COPd	3,79	-
Tj = 7°C	Pdh	2,97	kW	Tj = 7°C	COPd	4,81	-
Tj = 12°C	Pdh	3,43	kW	Tj = 12°C	COPd	6,29	-
Tj = bivalent temperature	Pdh	9,61	kW	Tj = bivalent temperature	COPd	1,86	-
Tj = operating limit	Pdh	5,21	kW	Tj = operating limit	COPd	1,23	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,020	kW	Rated heat output (**)	P _{sup}	6,59	kW
Standby mode	P _{sb}	0,020	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,030	kW				
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}	9310	kWh				

For heat pump combination heater:							
Declared load profile				Water heating energy efficiency			
XL				η_{wh}	92	%	
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1822	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 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: ATS16T Indoor unit: HU160WT240T9
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:	YES
Heat pump combination heater:	YES
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	14,17	kW	Seasonal space heating energy efficiency	η_s	175,8	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	13,38	kW	Tj = 2°C	COPd	2,29	-
Tj = 7°C	Pdh	9,11	kW	Tj = 7°C	COPd	3,89	-
Tj = 12°C	Pdh	4,06	kW	Tj = 12°C	COPd	5,86	-
Tj = bivalent temperature	Pdh	9,11	kW	Tj = bivalent temperature	COPd	3,89	-
Tj = operating limit	Pdh	13,38	kW	Tj = operating limit	COPd	2,29	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cyc}	-	kW	Cycling interval efficiency	COP _{cyc}	-	-
Degradation co-efficient (**)	Cdh	0,9	--	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0,014	kW	Rated heat output (**)	P _{sup}	0,79	kW
Standby mode	P _{sb}	0,014	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0,029	kW				
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}	4236	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	η_{wh}	153	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	1088	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 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

Model(s):	Outdoor unit: ATS04S Indoor unit: HU100WT190S3						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	4,66	kW	$T_j=+35^\circ\text{C}$	EER_d	3,52	-
$T_j=+30^\circ\text{C}$	P_{dc}	3,66	kW	$T_j=+30^\circ\text{C}$	EER_d	4,76	-
$T_j=+25^\circ\text{C}$	P_{dc}	2,21	kW	$T_j=+25^\circ\text{C}$	EER_d	5,72	-
$T_j=+20^\circ\text{C}$	P_{dc}	0,94	kW	$T_j=+20^\circ\text{C}$	EER_d	5,72	-
Degradation coefficient 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	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):		Outdoor unit: ATS04S Indoor unit: HU100WT190S3						
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 T_j					Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	4,51	kW		$T_j=+35^\circ\text{C}$	EER_d	5,54	-
$T_j=+30^\circ\text{C}$	P_{dc}	3,44	kW		$T_j=+30^\circ\text{C}$	EER_d	7,23	-
$T_j=+25^\circ\text{C}$	P_{dc}	2,19	kW		$T_j=+25^\circ\text{C}$	EER_d	8,94	-
$T_j=+20^\circ\text{C}$	P_{dc}	1,13	kW		$T_j=+20^\circ\text{C}$	EER_d	10,48	-
Degradation coefficient 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		For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	mg/kWh input GCV					
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)					
Standard rating conditions used	Medium temperature application							
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac							
(*) 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

Model(s):		Outdoor unit: ATS04S Indoor unit: HU100WT240S3					
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	4,66	kW	$T_j=+35^\circ\text{C}$	EER _d	3,52	-
$T_j=+30^\circ\text{C}$	P_{dc}	3,66	kW	$T_j=+30^\circ\text{C}$	EER _d	4,76	-
$T_j=+25^\circ\text{C}$	P_{dc}	2,21	kW	$T_j=+25^\circ\text{C}$	EER _d	5,72	-
$T_j=+20^\circ\text{C}$	P_{dc}	0,94	kW	$T_j=+20^\circ\text{C}$	EER _d	5,72	-
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x(**)$	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS04S Indoor unit: HU100WT240S3						
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						
Performance Data							
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	4,51	kW	$T_j=+35^\circ\text{C}$	EER _d	5,54	-
$T_j=+30^\circ\text{C}$	P_{dc}	3,44	kW	$T_j=+30^\circ\text{C}$	EER _d	7,23	-
$T_j=+25^\circ\text{C}$	P_{dc}	2,19	kW	$T_j=+25^\circ\text{C}$	EER _d	8,94	-
$T_j=+20^\circ\text{C}$	P_{dc}	1,13	kW	$T_j=+20^\circ\text{C}$	EER _d	10,48	-
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x^{(**)}$	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS06S Indoor unit: HU100WT190S3						
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						
Performance Data							
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	6,35	kW	$T_j=+35^\circ\text{C}$	EER _d	2,93	-
$T_j=+30^\circ\text{C}$	P_{dc}	4,76	kW	$T_j=+30^\circ\text{C}$	EER _d	4,53	-
$T_j=+25^\circ\text{C}$	P_{dc}	3,02	kW	$T_j=+25^\circ\text{C}$	EER _d	6,32	-
$T_j=+20^\circ\text{C}$	P_{dc}	1,39	kW	$T_j=+20^\circ\text{C}$	EER _d	7,20	-
Chiller Characteristics							
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):		Outdoor unit: ATS06S Indoor unit: HU100WT190S3					
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	6,55	kW	$T_j=+35^\circ\text{C}$	EER _d	4,69	-
$T_j=+30^\circ\text{C}$	P_{dc}	4,84	kW	$T_j=+30^\circ\text{C}$	EER _d	7,16	-
$T_j=+25^\circ\text{C}$	P_{dc}	3,26	kW	$T_j=+25^\circ\text{C}$	EER _d	9,64	-
$T_j=+20^\circ\text{C}$	P_{dc}	1,41	kW	$T_j=+20^\circ\text{C}$	EER _d	11,48	-
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS06S Indoor unit: HU100WT240S3						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	6,35	kW	$T_j=+35^\circ\text{C}$	EER_d	2,93	-
$T_j=+30^\circ\text{C}$	P_{dc}	4,76	kW	$T_j=+30^\circ\text{C}$	EER_d	4,53	-
$T_j=+25^\circ\text{C}$	P_{dc}	3,02	kW	$T_j=+25^\circ\text{C}$	EER_d	6,32	-
$T_j=+20^\circ\text{C}$	P_{dc}	1,39	kW	$T_j=+20^\circ\text{C}$	EER_d	7,20	-
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	mg/kWh input GCV			-	
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)			-	
Standard rating conditions used	Low temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS06S Indoor unit: HU100WT240S3						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	6,55	kW	$T_j=+35^\circ\text{C}$	EER _d	4,69	-
$T_j=+30^\circ\text{C}$	P_{dc}	4,84	kW	$T_j=+30^\circ\text{C}$	EER _d	7,16	-
$T_j=+25^\circ\text{C}$	P_{dc}	3,26	kW	$T_j=+25^\circ\text{C}$	EER _d	9,64	-
$T_j=+20^\circ\text{C}$	P_{dc}	1,41	kW	$T_j=+20^\circ\text{C}$	EER _d	11,48	-
Degradation coefficient 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
Thermostat-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	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS08S Indoor unit: HU100WT190S3						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	7,38	kW	$T_j=+35^\circ\text{C}$	EER_d	3,39	-
$T_j=+30^\circ\text{C}$	P_{dc}	5,72	kW	$T_j=+30^\circ\text{C}$	EER_d	4,71	-
$T_j=+25^\circ\text{C}$	P_{dc}	3,62	kW	$T_j=+25^\circ\text{C}$	EER_d	6,65	-
$T_j=+20^\circ\text{C}$	P_{dc}	1,64	kW	$T_j=+20^\circ\text{C}$	EER_d	8,55	-
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag. Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS08S Indoor unit:HU100WT190S3						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^{\circ}C$	P_{dc}	8,37	kW	$T_j=+35^{\circ}C$	EER_d	5,09	-
$T_j=+30^{\circ}C$	P_{dc}	6,47	kW	$T_j=+30^{\circ}C$	EER_d	7,02	-
$T_j=+25^{\circ}C$	P_{dc}	4,31	kW	$T_j=+25^{\circ}C$	EER_d	10,67	-
$T_j=+20^{\circ}C$	P_{dc}	1,80	kW	$T_j=+20^{\circ}C$	EER_d	13,61	-
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger		-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x(**)$	-	mg/kWh input GCV			-	
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)			-	
Standard rating conditions used	Medium temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS08S Indoor unit: HU100WT240S3						
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						
Performance Data							
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	7,38	kW	$T_j=+35^\circ\text{C}$	EER_d	3,39	-
$T_j=+30^\circ\text{C}$	P_{dc}	5,72	kW	$T_j=+30^\circ\text{C}$	EER_d	4,71	-
$T_j=+25^\circ\text{C}$	P_{dc}	3,62	kW	$T_j=+25^\circ\text{C}$	EER_d	6,65	-
$T_j=+20^\circ\text{C}$	P_{dc}	1,64	kW	$T_j=+20^\circ\text{C}$	EER_d	8,55	-
Degradation coefficient 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
Thermostat-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	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag. Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS08S Indoor unit: HU100WT240S3						
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						
Performance							
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^{\circ}C$	P_{dc}	8,37	kW	$T_j=+35^{\circ}C$	EER_d	5,09	-
$T_j=+30^{\circ}C$	P_{dc}	6,47	kW	$T_j=+30^{\circ}C$	EER_d	7,02	-
$T_j=+25^{\circ}C$	P_{dc}	4,31	kW	$T_j=+25^{\circ}C$	EER_d	10,67	-
$T_j=+20^{\circ}C$	P_{dc}	1,80	kW	$T_j=+20^{\circ}C$	EER_d	13,61	-
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag. Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS10S Indoor unit: HU100WT240S3						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	8,73	kW	$T_j=+35^\circ\text{C}$	EER_d	3,21	-
$T_j=+30^\circ\text{C}$	P_{dc}	6,68	kW	$T_j=+30^\circ\text{C}$	EER_d	4,47	-
$T_j=+25^\circ\text{C}$	P_{dc}	4,26	kW	$T_j=+25^\circ\text{C}$	EER_d	7,02	-
$T_j=+20^\circ\text{C}$	P_{dc}	1,94	kW	$T_j=+20^\circ\text{C}$	EER_d	9,54	-
Degradation coefficient 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
Thermostat-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	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag. Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS10S Indoor unit: HU100WT190S3						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^{\circ}C$	P_{dc}	10,01	kW	$T_j=+35^{\circ}C$	EER_d	4,64	-
$T_j=+30^{\circ}C$	P_{dc}	7,71	kW	$T_j=+30^{\circ}C$	EER_d	6,45	-
$T_j=+25^{\circ}C$	P_{dc}	5,03	kW	$T_j=+25^{\circ}C$	EER_d	10,36	-
$T_j=+20^{\circ}C$	P_{dc}	2,32	kW	$T_j=+20^{\circ}C$	EER_d	14,98	-
Degradation coefficient 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
Thermostat-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	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag. Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):		Outdoor unit: ATS10S Indoor unit: HU100WT240S3					
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	8,73	kW	$T_j=+35^\circ\text{C}$	EER_d	3,21	-
$T_j=+30^\circ\text{C}$	P_{dc}	6,68	kW	$T_j=+30^\circ\text{C}$	EER_d	4,47	-
$T_j=+25^\circ\text{C}$	P_{dc}	4,26	kW	$T_j=+25^\circ\text{C}$	EER_d	7,02	-
$T_j=+20^\circ\text{C}$	P_{dc}	1,94	kW	$T_j=+20^\circ\text{C}$	EER_d	9,54	-
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag. Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS10S Indoor unit: HU100WT240S3						
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						
Performance characteristics							
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	10,01	kW	$T_j=+35^\circ\text{C}$	EER_d	4,64	-
$T_j=+30^\circ\text{C}$	P_{dc}	7,71	kW	$T_j=+30^\circ\text{C}$	EER_d	6,45	-
$T_j=+25^\circ\text{C}$	P_{dc}	5,03	kW	$T_j=+25^\circ\text{C}$	EER_d	10,36	-
$T_j=+20^\circ\text{C}$	P_{dc}	2,32	kW	$T_j=+20^\circ\text{C}$	EER_d	14,98	-
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag. Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS12S Indoor unit: HU160WT240S3						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	11,31	kW	$T_j=+35^\circ\text{C}$	EER _d	2,61	-
$T_j=+30^\circ\text{C}$	P_{dc}	8,76	kW	$T_j=+30^\circ\text{C}$	EER _d	3,93	-
$T_j=+25^\circ\text{C}$	P_{dc}	5,81	kW	$T_j=+25^\circ\text{C}$	EER _d	5,73	-
$T_j=+20^\circ\text{C}$	P_{dc}	2,63	kW	$T_j=+20^\circ\text{C}$	EER _d	6,75	-
Degradation coefficient 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
Thermostat-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	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag. Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS12S Indoor unit: HU160WT240S3						
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						
Performance Data							
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	11,77	kW	$T_j=+35^\circ\text{C}$	EER_d	3,87	-
$T_j=+30^\circ\text{C}$	P_{dc}	9,21	kW	$T_j=+30^\circ\text{C}$	EER_d	5,50	-
$T_j=+25^\circ\text{C}$	P_{dc}	5,74	kW	$T_j=+25^\circ\text{C}$	EER_d	8,66	-
$T_j=+20^\circ\text{C}$	P_{dc}	3,33	kW	$T_j=+20^\circ\text{C}$	EER_d	10,07	-
Degradation coefficient 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	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):		Outdoor unit: ATS12T Indoor: HU160WT240T9					
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	11,31	kW	$T_j=+35^\circ\text{C}$	EER _d	2,61	-
$T_j=+30^\circ\text{C}$	P_{dc}	8,76	kW	$T_j=+30^\circ\text{C}$	EER _d	3,93	-
$T_j=+25^\circ\text{C}$	P_{dc}	5,81	kW	$T_j=+25^\circ\text{C}$	EER _d	5,73	-
$T_j=+20^\circ\text{C}$	P_{dc}	2,63	kW	$T_j=+20^\circ\text{C}$	EER _d	6,75	-
Degradation coefficient 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}	-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	INVENTOR A.G. S.A., 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):		Outdoor unit: ATS12T Indoor: HU160WT240T9					
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	11,77	kW	$T_j=+35^\circ\text{C}$	EER_d	3,87	-
$T_j=+30^\circ\text{C}$	P_{dc}	9,21	kW	$T_j=+30^\circ\text{C}$	EER_d	5,50	-
$T_j=+25^\circ\text{C}$	P_{dc}	5,74	kW	$T_j=+25^\circ\text{C}$	EER_d	8,66	-
$T_j=+20^\circ\text{C}$	P_{dc}	3,33	kW	$T_j=+20^\circ\text{C}$	EER_d	10,07	-
Degradation coefficient 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
Thermostat-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}	-64	dB	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	INVENTOR A.G. S.A. , 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS14S Indoor: HU160WT240S3						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	12,19	kW	$T_j=+35^\circ\text{C}$	EER _d	2,46	-
$T_j=+30^\circ\text{C}$	P_{dc}	9,41	kW	$T_j=+30^\circ\text{C}$	EER _d	3,85	-
$T_j=+25^\circ\text{C}$	P_{dc}	6,16	kW	$T_j=+25^\circ\text{C}$	EER _d	5,80	-
$T_j=+20^\circ\text{C}$	P_{dc}	2,63	kW	$T_j=+20^\circ\text{C}$	EER _d	6,74	-
Degradation coefficient 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}	-165	dB	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	INVENTOR A.G. S.A., 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS14S Indoor: HU160WT240S3						
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						
Performance Data							
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	13,30	kW	$T_j=+35^\circ\text{C}$	EER_d	3,47	-
$T_j=+30^\circ\text{C}$	P_{dc}	10,20	kW	$T_j=+30^\circ\text{C}$	EER_d	5,26	-
$T_j=+25^\circ\text{C}$	P_{dc}	6,57	kW	$T_j=+25^\circ\text{C}$	EER_d	8,45	-
$T_j=+20^\circ\text{C}$	P_{dc}	3,33	kW	$T_j=+20^\circ\text{C}$	EER_d	10,07	-
Other Parameters							
Degradation coefficient 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}	-64	dB	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	INVENTOR A.G. S.A. , 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):		Outdoor unit: ATS14T Indoor unit: HU160WT240T9					
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	12,19	kW	$T_j=+35^\circ\text{C}$	EER_d	2,46	-
$T_j=+30^\circ\text{C}$	P_{dc}	9,41	kW	$T_j=+30^\circ\text{C}$	EER_d	3,85	-
$T_j=+25^\circ\text{C}$	P_{dc}	6,16	kW	$T_j=+25^\circ\text{C}$	EER_d	5,80	-
$T_j=+20^\circ\text{C}$	P_{dc}	2,63	kW	$T_j=+20^\circ\text{C}$	EER_d	6,74	-
Degradation coefficient 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
Thermostat-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	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS14T Indoor unit: HU160WT240T9						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	13,30	kW	$T_j=+35^\circ\text{C}$	EER_d	3,47	-
$T_j=+30^\circ\text{C}$	P_{dc}	10,20	kW	$T_j=+30^\circ\text{C}$	EER_d	5,26	-
$T_j=+25^\circ\text{C}$	P_{dc}	6,57	kW	$T_j=+25^\circ\text{C}$	EER_d	8,45	-
$T_j=+20^\circ\text{C}$	P_{dc}	3,33	kW	$T_j=+20^\circ\text{C}$	EER_d	10,07	-
Degradation coefficient 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
Thermostat-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	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS16S Indoor: HU160WT240S3						
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						
Performance characteristics							
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	14,31	kW	$T_j=+35^\circ\text{C}$	EER_d	2,47	-
$T_j=+30^\circ\text{C}$	P_{dc}	10,68	kW	$T_j=+30^\circ\text{C}$	EER_d	3,63	-
$T_j=+25^\circ\text{C}$	P_{dc}	6,76	kW	$T_j=+25^\circ\text{C}$	EER_d	5,27	-
$T_j=+20^\circ\text{C}$	P_{dc}	3,41	kW	$T_j=+20^\circ\text{C}$	EER_d	7,29	-
Degradation coefficient 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
Thermostat-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}	-69	dB	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	INVENTOR A.G. S.A. , 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit: ATS16S Indoor: HU160WT240S3						
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	15,40	kW	$T_j=+35^\circ\text{C}$	EER _d	3,50	-
$T_j=+30^\circ\text{C}$	P_{dc}	11,42	kW	$T_j=+30^\circ\text{C}$	EER _d	5,14	-
$T_j=+25^\circ\text{C}$	P_{dc}	7,27	kW	$T_j=+25^\circ\text{C}$	EER _d	7,83	-
$T_j=+20^\circ\text{C}$	P_{dc}	3,40	kW	$T_j=+20^\circ\text{C}$	EER _d	10,35	-
Degradation coefficient 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
Thermostat-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}	-69	dB	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	INVENTOR A.G. S.A., 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):		Outdoor unit : ATS16T Indoor unit: HU160WT240T9					
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^\circ\text{C}$	P_{dc}	14,31	kW	$T_j=+35^\circ\text{C}$	EER_d	2,47	-
$T_j=+30^\circ\text{C}$	P_{dc}	10,68	kW	$T_j=+30^\circ\text{C}$	EER_d	3,63	-
$T_j=+25^\circ\text{C}$	P_{dc}	6,76	kW	$T_j=+25^\circ\text{C}$	EER_d	5,27	-
$T_j=+20^\circ\text{C}$	P_{dc}	3,41	kW	$T_j=+20^\circ\text{C}$	EER_d	7,29	-
Degradation coefficient 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	For water / brine- to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	NO_x (**)	-	mg/kWh input GCV				
GWP of the refrigerant	-	2088	kg CO ₂ eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 Tel.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) 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

Model(s):	Outdoor unit : ATS16T Indoor unit: HU160WT240T9						
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						
Performance Data							
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 T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^{\circ}C$	P_{dc}	15,40	kW	$T_j=+35^{\circ}C$	EER_d	3,50	-
$T_j=+30^{\circ}C$	P_{dc}	11,42	kW	$T_j=+30^{\circ}C$	EER_d	5,14	-
$T_j=+25^{\circ}C$	P_{dc}	7,27	kW	$T_j=+25^{\circ}C$	EER_d	7,83	-
$T_j=+20^{\circ}C$	P_{dc}	3,40	kW	$T_j=+20^{\circ}C$	EER_d	10,35	-
Degradation coefficient 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	For water / brine- to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	-	m ³ /h
Emissions of nitrogen oxides (if applicable)	$NO_x (**)$	-	mg/kWh input GCV				
GWP of the refrigerant	-	675	kg CO ₂ eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details	INVENTOR A.G. S.A. 24th km National Road Athens - Lamia & 2 Thoukididou Str., Ag.Stefanos, 14565 el.: +30 211 300 3300, Fax: +30 211 300 3333 - www.inventor.ac						
(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0.9. (**) From 26 September 2018.							



AIR CONDITIONING SYSTEMS

AIR-TO-WATER HEAT PUMP - SPLIT TYPE



V:1.0.112022

Please check the applicable models, F-GAS and manufacturer information from the "Owner's Manual - Product Fiche" in the packaging of the outdoor unit. (European Union products only).

Manufacturer: **INVENTOR A.G. S.A.**

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