11. TECHNICAL PARAMETERS

Technical parameters

Model(s):	Outdoor unit:	AHW-100HC(E)DS1
	Indoor unit:	AHM-100HC(E)DSAA
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:		no
Parameters shall be declared for		Low temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8.5	kW	Seasonal space heating energy efficiency	ηs	190	%
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	7.54	kW	Tj = – 7 °C	COPd	3.02	-
Tj = +2 °C	Pdh	4.58	kW	Tj = +2 °C	COPd	4.83	-
Tj = +7 °C	Pdh	2.89	kW	Tj = +7 °C	COPd	6.54	-
Tj = +12 °C	Pdh	2.59	kW	Tj = +12 °C	COPd	6.06	-
Tj =bivalent temperature	Pdh	7.54	kW	Tj =bivalent temperature	COPd	3.02	-
Tj = operation limit temperature	Pdh	8.21	kW	Tj = operation limit temperature	COPd	2.79	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.005	kW	Rated heat output (*)	Psup	0.3	kW
Thermostat-off mode	P_{TO}	0.009	kW				
Standby mode	P_{SB}	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	P_{CK}	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		3900	m^3/h
Sound power level, indoors/outdoors	L_{WA}	44/62	dB				
Annual energy consumption	Q_{HE}	3645	kWh				

Contact details

Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd.

No. 218, Qianwangang Road, Economic and Technological Development Zone, Qingdao, China

(*) 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:	AHW-120HC(E)DS1
	Indoor unit:	AHM-120HC(E)DSAA
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:		no
Parameters shall be declared for		Low temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.5	kW	Seasonal space heating energy efficiency	ηs	187	%
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	8.40	kW	Tj = – 7 °C	COPd	3.16	-
Tj = +2 °C	Pdh	5.12	kW	Tj = +2 °C	COPd	4.52	-
Tj = +7 °C	Pdh	3.22	kW	Tj = +7 °C	COPd	6.44	-
Tj = +12 °C	Pdh	2.52	kW	Tj = +12 °C	COPd	7.13	-
Tj =bivalent temperature	Pdh	8.40	kW	Tj =bivalent temperature	COPd	3.16	-
Tj = operation limit temperature	Pdh	9.07	kW	Tj = operation limit temperature	COPd	2.78	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.4	kW
Thermostat-off mode	PTO	0.009	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		3900	m^3/h
Sound power level, indoors/outdoors	LWA	44/64	dB				
Annual energy consumption	QHE	4125	kWh				

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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:	AHW-140HC(E)DS1
	Indoor unit:	AHM-140HC(E)DSAA
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:		no
Parameters shall be declared for		Low temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.9	kW	Seasonal space heating energy efficiency	ηs	181	%
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	10.50	kW	Tj = – 7 °C	COPd	2.97	-
Tj = +2 °C	Pdh	6.39	kW	Tj = +2 °C	COPd	4.40	-
Tj = +7 °C	Pdh	4.21	kW	Tj = +7 °C	COPd	6.21	-
Tj = +12 °C	Pdh	3.90	kW	Tj = +12 °C	COPd	7.42	-
Tj =bivalent temperature	Pdh	10.50	kW	Tj =bivalent temperature	COPd	2.97	-
Tj = operation limit temperature	Pdh	11.82	kW	Tj = operation limit temperature	COPd	2.65	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	PTO	0.009	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		4200	m^3/h
Sound power level, indoors/outdoors	LWA	44/66	dB				
Annual energy consumption	QHE	5320	kWh				

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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:	AHW-160HC(E)DS1
	Indoor unit:	AHM-160HC(E)DSAA
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:		no
Parameters shall be declared for		Low temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.0	kW	Seasonal space heating energy efficiency	ηs	177	%
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	11.53	kW	Tj = – 7 °C	COPd	2.86	-
Tj = +2 °C	Pdh	6.98	kW	Tj = +2 °C	COPd	4.23	-
Tj = +7 °C	Pdh	4.67	kW	Tj = +7 °C	COPd	6.21	-
Tj = +12 °C	Pdh	3.90	kW	Tj = +12 °C	COPd	7.45	-
Tj =bivalent temperature	Pdh	11.53	kW	Tj =bivalent temperature	COPd	2.86	-
Tj = operation limit temperature	Pdh	12.75	kW	Tj = operation limit temperature	COPd	2.64	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.3	kW
Thermostat-off mode	PTO	0.009	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		4200	m^3/h
Sound power level, indoors/outdoors	LWA	44/67	dB				
Annual energy consumption	QHE	5999	kWh				

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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:	AHW-100HC(E)DS1
	Indoor unit:	AHM-100HC(E)DSAA
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:		no
Parameters shall be declared for		Medium temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8.0	kW	Seasonal space heating energy efficiency	ηs	140	%
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	7.08	kW	Tj = – 7 °C	COPd	2.18	-
Tj = +2 °C	Pdh	4.30	kW	Tj = +2 °C	COPd	3.44	-
Tj = +7 °C	Pdh	2.89	kW	Tj = +7 °C	COPd	4.83	-
Tj = +12 °C	Pdh	2.57	kW	Tj = +12 °C	COPd	6.75	-
Tj =bivalent temperature	Pdh	7.08	kW	Tj =bivalent temperature	COPd	2.18	-
Tj = operation limit temperature	Pdh	7.91	kW	Tj = operation limit temperature	COPd	1.73	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.1	kW
Thermostat-off mode	PTO	0.009	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		3900	m^3/h
Sound power level, indoors/outdoors	LWA	44/61	dB				
Annual energy consumption	QHE	4617	kWh				

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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:	AHW-120HC(E)DS1
	Indoor unit:	AHM-120HC(E)DSAA
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:		no
Parameters shall be declared for		Medium temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.1	kW	Seasonal space heating energy efficiency	ηs	135	%
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	8.07	kW	Tj = – 7 °C	COPd	2.11	-
Tj = +2 °C	Pdh	4.78	kW	Tj = +2 °C	COPd	3.27	-
Tj = +7 °C	Pdh	3.29	kW	Tj = +7 °C	COPd	4.89	-
Tj = +12 °C	Pdh	2.64	kW	Tj = +12 °C	COPd	6.14	-
Tj =bivalent temperature	Pdh	8.07	kW	Tj =bivalent temperature	COPd	2.11	-
Tj = operation limit temperature	Pdh	8.69	kW	Tj = operation limit temperature	COPd	1.69	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.4	kW
Thermostat-off mode	PTO	0.009	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		3900	m^3/h
Sound power level, indoors/outdoors	LWA	44/64	dB				
Annual energy consumption	QHE	5448	kWh				

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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:	AHW-140HC(E)DS1
	Indoor unit:	AHM-140HC(E)DSAA
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:		no
Parameters shall be declared for		Medium temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.7	kW	Seasonal space heating energy efficiency	ηs	129	%
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	10.33	kW	Tj = – 7 °C	COPd	2.22	-
Tj = +2 °C	Pdh	6.35	kW	Tj = +2 °C	COPd	3.04	-
Tj = +7 °C	Pdh	4.31	kW	Tj = +7 °C	COPd	4.36	-
Tj = +12 °C	Pdh	3.76	kW	Tj = +12 °C	COPd	6.25	-
Tj =bivalent temperature	Pdh	10.33	kW	Tj =bivalent temperature	COPd	2.22	-
Tj = operation limit temperature	Pdh	11.50	kW	Tj = operation limit temperature	COPd	1.91	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.2	kW
Thermostat-off mode	PTO	0.009	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		4200	m^3/h
Sound power level, indoors/outdoors	LWA	44/66	dB				
Annual energy consumption	QHE	7340	kWh				

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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:	AHW-160HC(E)DS1
	Indoor unit:	AHM-160HC(E)DSAA
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:		no
Parameters shall be declared for		Medium temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.5	kW	Seasonal space heating energy efficiency	ηs	128	%
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	11.10	kW	Tj = – 7 °C	COPd	2.24	-
Tj = +2 °C	Pdh	6.57	kW	Tj = +2 °C	COPd	3.06	-
Tj = +7 °C	Pdh	4.30	kW	Tj = +7 °C	COPd	4.33	-
Tj = +12 °C	Pdh	3.76	kW	Tj = +12 °C	COPd	5.75	-
Tj =bivalent temperature	Pdh	11.10	kW	Tj =bivalent temperature	COPd	2.24	-
Tj = operation limit temperature	Pdh	12.03	kW	Tj = operation limit temperature	COPd	1.89	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.5	kW
Thermostat-off mode	PTO	0.009	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		4200	m^3/h
Sound power level, indoors/outdoors	LWA	44/67	dB				
Annual energy consumption	QHE	7900	kWh				

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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:	AHW-100HC(E)DS1
	Indoor unit:	AHM-100HC(E)DSAA
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:		no
Parameters shall be declared for		Low temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.7	kW	Seasonal space heating energy efficiency	ηs	266	%
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	9.32	kW	Tj = +2 °C	COPd	3.57	-
Tj = +7 °C	Pdh	6.25	kW	Tj = +7 °C	COPd	5.82	-
Tj = +12 °C	Pdh	2.73	kW	Tj = +12 °C	COPd	8.81	-
Tj =bivalent temperature	Pdh	6.25	kW	Tj =bivalent temperature	COPd	5.82	-
Tj = operation limit temperature	Pdh	9.32	kW	Tj = operation limit temperature	COPd	3.57	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	7	°C	Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.4	kW
Thermostat-off mode	PTO	0.002	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		3900	m^3/h
Sound power level, indoors/outdoors	LWA	44/61	dB				
Annual energy consumption	QHE	1932	kWh				

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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:	AHW-120HC(E)DS1
	Indoor unit:	AHM-120HC(E)DSAA
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:		no
Parameters shall be declared for		Low temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.8	kW	Seasonal space heating energy efficiency	ηs	256	%
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	10.30	kW	Tj = +2 °C	COPd	3.56	-
Tj = +7 °C	Pdh	6.93	kW	Tj = +7 °C	COPd	5.74	-
Tj = +12 °C	Pdh	3.05	kW	Tj = +12 °C	COPd	8.23	-
Tj =bivalent temperature	Pdh	6.93	kW	Tj =bivalent temperature	COPd	5.74	-
Tj = operation limit temperature	Pdh	10.30	kW	Tj = operation limit temperature	COPd	3.56	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	7	°C	Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.5	kW
Thermostat-off mode	PTO	0.002	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		3900	m^3/h
Sound power level, indoors/outdoors	LWA	44/64	dB				
Annual energy consumption	QHE	2225	kWh				

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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:	AHW-140HC(E)DS1
	Indoor unit:	AHM-140HC(E)DSAA
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:		no
Parameters shall be declared for		Low temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.8	kW	Seasonal space heating energy efficiency	ηs	254	%
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	13.24	kW	Tj = +2 °C	COPd	3.23	-
Tj = +7 °C	Pdh	8.26	kW	Tj = +7 °C	COPd	5.44	-
Tj = +12 °C	Pdh	3.75	kW	Tj = +12 °C	COPd	8.08	-
Tj =bivalent temperature	Pdh	8.26	kW	Tj =bivalent temperature	COPd	5.44	-
Tj = operation limit temperature	Pdh	13.24	kW	Tj = operation limit temperature	COPd	3.23	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	7	°C	Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	PTO	0.002	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		4200	m^3/h
Sound power level, indoors/outdoors	LWA	44/64	dB				
Annual energy consumption	QHE	2672	kWh				

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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:	AHW-160HC(E)DS1
	Indoor unit:	AHM-160HC(E)DSAA
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:		no
Parameters shall be declared for		Low temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.9	kW	Seasonal space heating energy efficiency	ηs	248	%
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	13.90	kW	Tj = +2 °C	COPd	3.15	-
Tj = +7 °C	Pdh	8.95	kW	Tj = +7 °C	COPd	5.38	-
Tj = +12 °C	Pdh	4.03	kW	Tj = +12 °C	COPd	8.01	-
Tj =bivalent temperature	Pdh	8.95	kW	Tj =bivalent temperature	COPd	5.38	-
Tj = operation limit temperature	Pdh	13.90	kW	Tj = operation limit temperature	COPd	3.15	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	7	°C	Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	PTO	0.002	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		4200	m^3/h
Sound power level, indoors/outdoors	LWA	44/67	dB				
Annual energy consumption	QHE	2969	kWh				

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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:	AHW-100HC(E)DS1
	Indoor unit:	AHM-100HC(E)DSAA
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:		no
Parameters shall be declared for		Medium temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.5	kW	Seasonal space heating energy efficiency	ηs	165	%
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	9.23	kW	Tj = +2 °C	COPd	2.44	-
Tj = +7 °C	Pdh	6.08	kW	Tj = +7 °C	COPd	3.51	-
Tj = +12 °C	Pdh	2.57	kW	Tj = +12 °C	COPd	5.44	-
Tj =bivalent temperature	Pdh	6.08	kW	Tj =bivalent temperature	COPd	3.51	-
Tj = operation limit temperature	Pdh	9.23	kW	Tj = operation limit temperature	COPd	2.44	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	7	°C	Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.2	kW
Thermostat-off mode	PTO	0.002	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		3900	m^3/h
Sound power level, indoors/outdoors	LWA	44/61	dB				
Annual energy consumption	QHE	3005	kWh				

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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:	AHW-120HC(E)DS1
	Indoor unit:	AHM-120HC(E)DSAA
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:		no
Parameters shall be declared for		Medium temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.5	kW	Seasonal space heating energy efficiency	ηs	165	%
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	9.23	kW	Tj = +2 °C	COPd	2.44	-
Tj = +7 °C	Pdh	6.08	kW	Tj = +7 °C	COPd	3.51	-
Tj = +12 °C	Pdh	2.57	kW	Tj = +12 °C	COPd	5.44	-
Tj =bivalent temperature	Pdh	6.08	kW	Tj =bivalent temperature	COPd	3.51	-
Tj = operation limit temperature	Pdh	9.23	kW	Tj = operation limit temperature	COPd	2.44	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	7	°C	Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.2	kW
Thermostat-off mode	PTO	0.002	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		3900	m^3/h
Sound power level, indoors/outdoors	LWA	44/61	dB				
Annual energy consumption	QHE	3005	kWh				

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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:	AHW-140HC(E)DS1
	Indoor unit:	AHM-140HC(E)DSAA
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:		no
Parameters shall be declared for		Medium temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.7	kW	Seasonal space heating energy efficiency	ηs	167	%
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	13.18	kW	Tj = +2 °C	COPd	2.4	-
Tj = +7 °C	Pdh	8.18	kW	Tj = +7 °C	COPd	3.55	-
Tj = +12 °C	Pdh	3.68	kW	Tj = +12 °C	COPd	5.34	-
Tj =bivalent temperature	Pdh	8.18	kW	Tj =bivalent temperature	COPd	3.55	-
Tj = operation limit temperature	Pdh	13.18	kW	Tj = operation limit temperature	COPd	2.4	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	7	°C	Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	PTO	0.002	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		4200	m^3/h
Sound power level, indoors/outdoors	LWA	44/64	dB				
Annual energy consumption	QHE	4005	kWh				

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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:	AHW-160HC(E)DS1
	Indoor unit:	AHM-160HC(E)DSAA
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:		no
Parameters shall be declared for		Medium temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.8	kW	Seasonal space heating energy efficiency	ηs	162	%
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	13.85	kW	Tj = +2 °C	COPd	2.38	-
Tj = +7 °C	Pdh	8.84	kW	Tj = +7 °C	COPd	3.44	-
Tj = +12 °C	Pdh	3.99	kW	Tj = +12 °C	COPd	5.28	-
Tj =bivalent temperature	Pdh	8.84	kW	Tj =bivalent temperature	COPd	3.44	-
Tj = operation limit temperature	Pdh	13.85	kW	Tj = operation limit temperature	COPd	2.38	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	-	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	7	°C	Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	Pcych	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	-	°C

Power consumption in modes other than active mode				Supplementary heater			
Off mode	POFF	0.005	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	PTO	0.002	kW				
Standby mode	PSB	0.005	kW	Type of energy input		Electric	
Crankcase heater mode	PCK	0	kW				

Other items							
Capacity control		variable		Rated air flow rate, outdoors		4200	m3/h
Sound power level, indoors/outdoors	LWA	44/67	dB				
Annual energy consumption	QHE	4448	kWh				

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