

Technical Data Manual For R290 A-theramal Mono ATW Heat Pump Unit

- For your convenience, please read this statement carefully, in accordance with the specification steps.
- Please safely keeping this manual to inspection.

		, i			Warmer climate	ate		Average climate	ate		Colder climate	ıte
Model	Temperature type	Energy efficiency class	sound	Rated heat output	Seasonal space heating energy efficiency	Annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	Annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	Annual energy consumption
		ı	дB	Ϋ́	%	kWh	Ϋ́	%	kWh	kW	%	kWh
ACHP-H04/4R2HA-M	Low	+++¥	56	5.5	252	1151	5.5	195	2295	4.6	157	2833
ACHP-H04/4R2HA-M(NE)	Medium	¥+++	99	5.0	161	1627	5.5	151	2950	3.4	101	3233
ACHP-H06/4R2HA-M	Low	+++¥	56	6.1	256	1258	6.8	194	2818	5.6	164	3314
ACHP-H06/4R2HA-M(NE)	Medium	A+++	56	5.1	162	1652	6.3	151	3381	4.3	111	3760
ACHP-H08/4R2HA-M ACHP-H08/5R2HA-M	Low	+++	25	8.1	272	1573	8.1	198	3246	7.0	168	4036
ACHP-H08/4R2HA-M(NE) ACHP-H08/5R2HA-M(NE)	Medium	A+++	25	7.6	173	2304	9.9	152	3510	5.8	111	5014
ACHP-H10/4R2HA-M ACHP-H10/5R2HA-M	Low	+++	25	8.6	267	1701	9.2	203	3690	7.7	168	4439
ACHP-H10/4R2HA-M(NE) ACHP-H10/5R2HA-M(NE)	Medium	+++	22	8.6	177	2545	7.7	154	4055	6.7	116	5574
ACHP-H12/4R2HA-M ACHP-H12/5R2HA-M	Low	+++	58	11.1	254	2308	12.2	186	5314	11.4	159	6926
ACHP-H12/4R2HA-M(NE) ACHP-H12/5R2HA-M(NE)	Medium	A+++	58	12.5	174	3775	12.0	150	6477	10.3	117	8453
ACHP-H14/4R2HA-M ACHP-H14/5R2HA-M	Low	A+++	59	12.1	259	2463	14.5	186	6317	12.6	159	7685
ACHP-H14/4R2HA-M(NE) ACHP-H14/5R2HA-M(NE)	Medium	+++	59	13.7	178	4037	14.0	150	7563	11.0	118	8937
ACHP-H16/4R2HA-M ACHP-H16/5R2HA-M	Low	A+++	09	13.1	246	2812	15.5	188	6604	13.7	157	8438
ACHP-H16/4R2HA-M(NE) ACHP-H16/5R2HA-M(NE)	Medium	A+++	09	13.8	176	4118	14.0	150	7563	11.8	121	9362

		Te	chnica	I parameters			
Model(s):		АСНР	-H04	/4R2HA-M ACHP-H04/4R2	HA-M(N	E)	
Air-to-water heat ump:		yes			•		
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Warme	r				
Declared temperature application	1	Low	-				
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	5.5	kW	Seasonal space heating energy efficiency	η _s	252	%
Declared capacity for heating for temperature 20°C and outdoor te			r	Declared coeffient of performanc for part load at indoor temperatur temperature Tj	•		
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = +2°C	Pdh	5.37	kW	Tj = +2°C	COPd	3.94	-
Tj = +7°C	Pdh	3.54	kW	Tj = +7°C	COPd	5.82	-
Tj = +12°C	Pdh	1.57	kW	Tj = +12°C	COPd	7.91	-
T _j = bivalent temperature	Pdh	3.54	kW	T _j = bivalent temperature	COPd	5.82	-
T _j = operation limit temperature	Pdh	5.37	kW	T _j = operation limit temperature	COPd	3.94	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	СОРсус	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mo	de	Supplemantary heater		-	
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.13	kW
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>		
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	ı
Crankcase heater mode	P _{CK}	0.000	kW	j		,	
Other items		<u> </u>					
Capacity control	V	ariable	<u>I</u>	For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}		dB	For water-/brine-to-water heat pumps:Rated brine or water flow		-	m ³ /h
Annual energy consumption	Q _{HE}	1151	kWh	rate, outdoor heat exchanger			
For heat pump combination heat	er						
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A					15191 Zh	nejiang,
(*) For heat pump space heaters	and heat	pump co	mbina	tion heaters, the rated heat output	Prated is	equal to t	he

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	l parameters			
Model(s):		АСНР	-H04/	4R2HA-M ACHP-H04/4R2	HA-M(N	E)	
Air-to-water heat ump:		yes				,	
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Warme	<u> </u>				
Declared temperature application		Medium					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	5	kW	Seasonal space heating energy efficiency	η _s	161	%
Declared capacity for heating for temperature 20°C and outdoor te	•			Declared coeffient of performance for part load at indoor temperature temperature Tj			
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = +2°C	Pdh	4.87	kW	Tj = +2°C	COPd	2.51	
Tj = +7°C	Pdh	3.21	kW	Tj = +7°C	COPd	3.62	-
Tj = +12°C	Pdh	1.94	kW	Tj = +12°C	COPd	5.35	-
T _j = bivalent temperature	Pdh	3.21	kW	T _j = bivalent temperature	COPd	3.62	-
T _i = operation limit temperature	Pdh	4.87	kW	T _i = operation limit temperature	COPd	2.51	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	СОРсус	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater	,		
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.13	kW
Thermostat-off mode	P _{TO}	0.030	kW	, ,,	 		
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	Рск	0.000	kW	1 ,,		,	
Other items	OIX						
Capacity control	V	riable	<u> </u>	For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	1627	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heat	er	•					
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A		ctric Co		-	15191 Zh	

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters			
Model(s):				4R2HA-M ACHP-H04/4R2		E)	
. ,		-	-nu4/	4RZHA-W ACHP-HU4/4RZ	n A-IVI(IV	<u></u>	
Air-to-water heat ump:		yes					
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Average	=				
Declared temperature application	1	Low					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	5.5	kW	Seasonal space heating energy efficiency	$\eta_{\rm s}$	195	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	4.87	kW	Tj = -7°C	COPd	2.96	-
Tj = +2°C	Pdh	2.90	kW	Tj = +2°C	COPd	4.84	-
Tj = +7°C	Pdh	1.90	kW	Tj = +7°C	COPd	6.46	-
Tj = +12°C	Pdh	2.02	kW	Tj = +12°C	COPd	11.71	_
T _i = bivalent temperature	Pdh	4.87	kW	T _i = bivalent temperature	COPd	2.96	-
T _i = operation limit temperature	Pdh	4.34	kW	T_i = operation limit temperature	COPd	2.86	_
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	COPcyc	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater	,		
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	1.16	kW
Thermostat-off mode	P _{TO}	0.030	kW	,	<u> </u>		
Standby mode	P _{SB}	0.002	kW	Type of energy input	l ,	Electricity	,
Crankcase heater mode	P _{CK}	0.000	kW	1 ,,		,	
Other items	OK.				<u> </u>		
Capacity control	\	/ariable	<u> </u>	For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	2295	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heat	er						
Declaed load profile		-		Water heating energy efficiency	η _{wh}	-	%
Daily electricity consumption	Q _{elec}	<u> </u>	kWh	Daily fuel consumption	Q _{fuel}	_	kWh
Contact details	Ningbo A	AUX Elec	ctric Co				
				ion heaters, the rated heat output l			ne

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	l parameters			
Model(s):		АСНР	-H04/	4R2HA-M ACHP-H04/4R2	HA-M(N	E)	
Air-to-water heat ump:		yes				,	
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Average	-				
Declared temperature application	<u> </u>	Medium					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	5.5	kW	Seasonal space heating energy efficiency	η _s	151	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	4.87	kW	Tj = -7°C	COPd	2.40	-
Tj = +2°C	Pdh	2.96	kW	Tj = +2°C	COPd	3.75	-
Tj = +7°C	Pdh	1.90	kW	Tj = +7°C	COPd	5.26	-
Tj = +12°C	Pdh	2.16	kW	Tj = +12°C	COPd	7.91	-
T _i = bivalent temperature	Pdh	4.87	kW	T _i = bivalent temperature	COPd	2.40	-
T _i = operation limit temperature	Pdh	5.50	kW	T _i = operation limit temperature	COPd	2.06	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	- 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	COPcyc	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater			
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.00	kW
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>		
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	P _{CK}	0.000	kW	1			
Other items							
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	56	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	2950	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heat	er	•		•			
Declaed load profile		-		Water heating energy efficiency	η _{wh}	-	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo /				-	15191 Zh	iejiang,

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters			
Model(s):				4R2HA-M ACHP-H04/4R2		E)	
. ,		-	-1104/	4K2HA-W ACHF-H04/4K2	11A-W(N	<u> </u>	
Air-to-water heat ump:		yes					
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Colder					
Declared temperature application	l -	Low					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	4.6	kW	Seasonal space heating energy efficiency	$\eta_{\rm s}$	157	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	2.75	kW	Tj = -7°C	COPd	3.50	-
Tj = +2°C	Pdh	1.77	kW	Tj = +2°C	COPd	4.95	_
Tj = +7°C	Pdh	1.17	kW	Tj = +7°C	COPd	5.53	_
Tj = +12°C	Pdh	1.43	kW	Tj = +12°C	COPd	7.67	_
T _i = bivalent temperature	Pdh	3.72	kW	T _i = bivalent temperature	COPd	2.57	-
T _i = operation limit temperature	Pdh	2.80	kW	T_i = operation limit temperature	COPd	1.97	_
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	СОРсус	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater	,		
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	1.80	kW
Thermostat-off mode	P _{TO}	0.030	kW	1 , , ,	 		
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	Рск	0.000	kW	1			
Other items	- OIK						
Capacity control	\	/ariable	<u> </u>	For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	2833	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heat	er	•		•			
Declaed load profile		-		Water heating energy efficiency	η _{wh}	-	%
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A	AUX Eled	ctric Co			15191 Zh	
				ion heaters, the rated heat output I			 ne

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	l parameters			
Model(s):		АСНР	-H04/	4R2HA-M ACHP-H04/4R2	HA-M(N	E)	
Air-to-water heat ump:		yes				,	
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Colder					
Declared temperature application	1	Medium	1				
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	3.4	kW	Seasonal space heating energy efficiency	η _s	101	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	2.14	kW	Tj = -7°C	COPd	2.32	_
Tj = +2°C	Pdh	1.28	kW	Tj = +2°C	COPd	2.99	-
Tj = +7°C	Pdh	1.02	kW	Tj = +7°C	COPd	3.86	-
Tj = +12°C	Pdh	1.37	kW	Tj = +12°C	COPd	6.28	-
T _j = bivalent temperature	Pdh	2.74	kW	T _j = bivalent temperature	COPd	1.74	-
T _j = operation limit temperature	Pdh	1.64	kW	T _j = operation limit temperature	COPd	1.02	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	COPcyc	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater			
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	1.76	kW
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>		
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	P _{CK}	0.000	kW	1			
Other items							
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	3233	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heate	er						
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A			o., Ltd. Road, Jiangshan Yinzhou District,	-	15191 Zh	ejiang,

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters			
Model(s):		1			2HA-M(N	NE)	
Air-to-water heat ump:		yes			· · ·		
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Warmei	<u> </u>				
Declared temperature application	<u> </u>	Low					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	6.1	kW	Seasonal space heating energy efficiency	η _s	256	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	_	kW	Tj = -7°C	COPd	-	-
Tj = +2°C	Pdh	5.85	kW	Tj = +2°C	COPd	3.91	-
Tj = +7°C	Pdh	3.92	kW	Tj = +7°C	COPd	5.89	-
Tj = +12°C	Pdh	1.93	kW	Tj = +12°C	COPd	8.31	-
T _j = bivalent temperature	Pdh	3.92	kW	T _j = bivalent temperature	COPd	5.89	_
T _j = operation limit temperature	Pdh	5.85	kW	T _j = operation limit temperature	COPd	3.91	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater			
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.25	kW
Thermostat-off mode	P _{TO}	0.030	kW				
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	P _{CK}	0.000	kW	1			
Other items							
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	1258	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heat	er			· ·			
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption	Q _{elec}	<u> </u>	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A	AUX Elec				15191 Zh	ejiang,
				ion heaters, the rated heat output I			ne

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Те	chnica	l parameters			
Model(s):		ACHP	-H06/	4R2HA-M ACHP-H06/4R2	HA-M(N	NE)	
Air-to-water heat ump:		yes			•		
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Warme	r				
Declared temperature application	 	Medium					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	5.1	kW	Seasonal space heating energy efficiency	η _s	162	%
Declared capacity for heating for temperature 20°C and outdoor te	•			Declared coeffient of performance for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = +2°C	Pdh	4.85	kW	Tj = +2°C	COPd	2.48	-
Tj = +7°C	Pdh	3.28	kW	Tj = +7°C	COPd	3.61	-
Tj = +12°C	Pdh	1.69	kW	Tj = +12°C	COPd	5.42	-
T _i = bivalent temperature	Pdh	3.28	kW	T _i = bivalent temperature	COPd	3.61	-
T _i = operation limit temperature	Pdh	4.85	kW	T _i = operation limit temperature	COPd	2.48	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	СОРсус	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de de	Supplemantary heater			
Off mode		0.002		Rated heat output (*)	Psup	0.25	kW
Thermostat-off mode	P _{TO}	0.030	kW	1 ()	1		
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	Рск	0.000	kW	1		•	
Other items							
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	1652	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heat	er			<u> </u>			<u> </u>
Declaed load profile		-		Water heating energy efficiency	η _{wh}	-	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A		ctric Co		-	15191 Zh	

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	l parameters			
Model(s):		ACHP	-H06/	4R2HA-M ACHP-H06/4R2	HA-M(N	1E)	
Air-to-water heat ump:		yes					
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Average	-				
Declared temperature application	<u> </u>	Low					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	6.8	kW	Seasonal space heating energy efficiency	η _s	194	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	6.02	kW	Tj = -7°C	COPd	2.85	-
Tj = +2°C	Pdh	3.66	kW	Tj = +2°C	COPd	4.98	-
Tj = +7°C	Pdh	2.35	kW	Tj = +7°C	COPd	6.38	-
Tj = +12°C	Pdh	2.17	kW	Tj = +12°C	COPd	9.67	-
T _i = bivalent temperature	Pdh	6.02	kW	T _i = bivalent temperature	COPd	2.85	-
T _i = operation limit temperature	Pdh	5.42	kW	T _i = operation limit temperature	COPd	2.90	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	- 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	COPcyc	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater			
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	1.38	kW
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>		
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	Рск	0.000	kW	1			
Other items							
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	2818	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heat	er	•		•			
Declaed load profile		-		Water heating energy efficiency	η _{wh}	-	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A				-	15191 Zh	ejiang,

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Те	chnica	I parameters			
Model(s):		ACHP	-H06/	4R2HA-M ACHP-H06/4R2	2HA-M(N	NE)	
Air-to-water heat ump:		yes			· · · · ·	· ·	
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Average					
Declared temperature application	<u> </u>	Medium					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	6.3	kW	Seasonal space heating energy efficiency	η _s	151	%
Declared capacity for heating for temperature 20°C and outdoor te	•			Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	5.57	kW	Tj = -7°C	COPd	2.40	-
Tj = +2°C	Pdh	3.39	kW	Tj = +2°C	COPd	3.72	-
Tj = +7°C	Pdh	2.18	kW	Tj = +7°C	COPd	5.26	-
Tj = +12°C	Pdh	2.07	kW	Tj = +12°C	COPd	7.91	-
T _i = bivalent temperature	Pdh	5.57	kW	T _i = bivalent temperature	COPd	2.40	-
T _i = operation limit temperature	Pdh	6.00	kW	T_i = operation limit temperature	COPd	2.06	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	СОРсус	-	_
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater			
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.30	kW
Thermostat-off mode	P _{TO}	0.030	kW		1		
Standby mode	P _{SB}	0.002	kW	H Type of energy input		Electricity	,
Crankcase heater mode	Рск	0.000	kW	1			
Other items		1		 			
Capacity control	\	I /ariable	<u> </u>	For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	56	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h
Annual energy consumption	Q _{HE}	3381	kWh	rate, outdoor heat exchanger			
For heat pump combination heat	er						
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A					15191 Zh	ejiang,
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is e	equal to the	ne

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Те	chnica	l parameters			
Model(s):		ACHP	-H06/	4R2HA-M ACHP-H06/4R2	2HA-M(N	1E)	
Air-to-water heat ump:		yes					
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Colder					
Declared temperature application	<u> </u>	Low					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	5.6	kW	Seasonal space heating energy efficiency	η _s	164	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	3.42	kW	Tj = -7°C	COPd	3.59	-
Tj = +2°C	Pdh	2.06	kW	Tj = +2°C	COPd	5.21	-
Tj = +7°C	Pdh	1.46	kW	Tj = +7°C	COPd	6.24	-
Tj = +12°C	Pdh	1.44	kW	Tj = +12°C	COPd	7.66	-
T _j = bivalent temperature	Pdh	4.59	kW	T _j = bivalent temperature	COPd	2.53	-
T _j = operation limit temperature	Pdh	3.48	kW	T _j = operation limit temperature	COPd	1.96	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	СОРсус	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater	,		
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	2.12	kW
Thermostat-off mode	P _{TO}	0.030	kW				
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	Рск	0.000	kW	1			
Other items							
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	3314	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heat	er	•		•			
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A				-	15191 Zh	ejiang,

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	l parameters			
Model(s):		ACHP	-H06/	4R2HA-M ACHP-H06/4R2	2HA-M(N	1E)	
Air-to-water heat ump:		yes					
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Colder					
Declared temperature application	1	Medium	1				
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	4.3	kW	Seasonal space heating energy efficiency	η _s	111	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	2.69	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	-
T _j = bivalent temperature	Pdh	3.47	kW	T _j = bivalent temperature	COPd	1.86	-
T _j = operation limit temperature	Pdh	2.09	kW	T_j = operation limit temperature	COPd	1.13	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	COPcyc	-	_
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater			
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	2.2	kW
Thermostat-off mode	P _{TO}	0.030	kW				-
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	P _{CK}	0.000	kW	1			
Other items							
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	2800	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h
Annual energy consumption	Q _{HE}	3760	kWh	rate, outdoor heat exchanger			
For heat pump combination heat	er						
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo /			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ıejiang,
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is e	equal to the	ne

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Те	chnica	l parameters						
Model(s):		ACHP- ACHP-								
Air-to-water heat ump:		yes			,,					
Water-to-water heat pump:		no								
Brine-to-water heat pump:		no								
Low-temperature heat pump:		no								
Equipped with a supplementary h	eater:	no								
Heat pump combination heater:		no								
Declared climate condition		Warme	r							
Declared temperature application	1	Low								
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit			
Rated heat output(*)	Prated	8.1	kW	Seasonal space heating energy efficiency	η _s	272	%			
Declared capacity for heating for temperature 20°C and outdoor te			•	Declared coeffient of performanc for part load at indoor temperatur temperature Tj						
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	_			
Tj = +2°C	Pdh	7.80	kW	Tj = +2°C	COPd	3.98	-			
Tj = +7°C	Pdh	5.21	kW	Tj = +7°C	COPd	5.88	-			
Tj = +12°C	Pdh	2.63	kW	Tj = +12°C	COPd	9.36	-			
T _j = bivalent temperature	Pdh	5.21	kW	T _j = bivalent temperature	COPd	5.88	-			
T _j = operation limit temperature	Pdh	7.80	kW	T _j = operation limit temperature	COPd	3.98	-			
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-			
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C			
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	СОРсус	-	-			
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C			
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater	,					
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.3	kW			
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>					
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	•			
Crankcase heater mode	Рск	0.000	kW	1						
Other items										
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h			
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h			
Annual energy consumption	Q _{HE}	1573	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger						
For heat pump combination heat	er	•		•						
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%			
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh			
Contact details	Ningbo A		ctric Co		-	15191 Zh	ejiang,			

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

				I parameters							
Model(s):		ACHP-									
Air-to-water heat ump:		yes									
Water-to-water heat pump:		no									
Brine-to-water heat pump:		no									
Low-temperature heat pump:		no									
Equipped with a supplementary h	eater:	no									
Heat pump combination heater:		no									
Declared climate condition		Warmei	r								
Declared temperature application	1	Medium									
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit				
Rated heat output(*)	Prated	7.6	kW	Seasonal space heating energy efficiency	$\eta_{\rm s}$	173	%				
Declared capacity for heating for temperature 20°C and outdoor te			•	Declared coeffient of performanc for part load at indoor temperatur temperature Tj							
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-				
Tj = +2°C	Pdh	7.30	kW	Tj = +2°C	COPd	2.59	-				
Tj = +7°C	Pdh	4.89	kW	Tj = +7°C	COPd	3.90	-				
Tj = +12°C	Pdh	2.17	kW	Tj = +12°C	COPd	5.55	-				
T _i = bivalent temperature	Pdh	4.89	kW	T _i = bivalent temperature	COPd	3.90	_				
T _i = operation limit temperature	Pdh	7.30	kW	T_i = operation limit temperature	COPd	2.59	-				
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-				
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C				
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COPcyc	-	-				
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C				
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater							
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.3	kW				
Thermostat-off mode	P _{TO}	0.030	kW								
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,				
Crankcase heater mode	P _{CK}	0.000	kW	1							
Other items											
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h				
Sound power level	L _{WA}	_	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	_	-	m³/h				
Annual energy consumption	Q _{HE}	2304	kWh	rate, outdoor heat exchanger							
For heat pump combination heat	ər										
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%				
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption	Q _{fuel}	-	kWh				
Contact details	Ningbo A		ctric Co			15191 Zh					
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output I	Prated is e	equal to the	ne				

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

				I parameters			
Model(s):		ACHP-					
Air-to-water heat ump:		yes					
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Average					
Declared temperature application	1	Low					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	8.1	kW	Seasonal space heating energy efficiency	η_{s}	198	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	7.17	kW	Tj = -7°C	COPd	3.23	-
Tj = +2°C	Pdh	4.36	kW	Tj = +2°C	COPd	4.93	-
Tj = +7°C	Pdh	2.80	kW	Tj = +7°C	COPd	6.81	_
Tj = +12°C	Pdh	3.15	kW	Tj = +12°C	COPd	10.10	_
T _i = bivalent temperature	Pdh	7.17	kW	T _i = bivalent temperature	COPd	3.23	_
T _i = operation limit temperature	Pdh	6.44	kW	T _i = operation limit temperature	COPd	3.23	_
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	СОРсус	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de de	Supplemantary heater			
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	1.66	kW
Thermostat-off mode	P _{TO}	0.030	kW				
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	P _{CK}	0.000	kW	1			
Other items	"						
Capacity control	\	/ariable	ļ.	For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	3246	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heat	ər						
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A		ctric Co			15191 Zh	
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output l	Prated is e	equal to the	ne

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters					
Model(s):				R2HA-M ACHP-H08/4R2HA-M(R2HA-M ACHP-H08/5R2HA-M(
Air-to-water heat ump:		yes	1100/51	ACHI -1100/31/21/A-IVI(INL)				
Water-to-water heat pump:		no							
Brine-to-water heat pump:		no							
Low-temperature heat pump:		no							
Equipped with a supplementary h	eater:	no							
Heat pump combination heater:	- Cator.	no							
Declared climate condition		Average							
Declared temperature application	1	Medium							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit		
Rated heat output(*)	Prated	6.6	kW	Seasonal space heating energy efficiency	η _s	152	%		
Declared capacity for heating for temperature 20°C and outdoor te				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	2.43	-		
Tj = +2°C	Pdh	3.55	kW	Tj = +2°C	COPd	3.83			
Tj = +7°C	Pdh	2.28	kW	Tj = +7°C	COPd	4.98	-		
Tj = +12°C	Pdh	2.99	kW	Tj = +12°C	COPd	7.66	-		
T _i = bivalent temperature	Pdh	5.84	kW	T _i = bivalent temperature	COPd	2.43	-		
T_i = operation limit temperature	Pdh	4.90	kW	T_i = operation limit temperature	COPd	2.43	-		
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-		
Bivalent temperature	T _{biv}	-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	COPcyc	-	-		
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C		
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater					
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	1.7	kW		
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>				
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,		
Crankcase heater mode	P _{CK}	0.000	kW	1					
Other items									
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h		
Sound power level	L _{WA}	57	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h		
Annual energy consumption	Q _{HE}	3510	kWh	rate, outdoor heat exchanger					
For heat pump combination heat	er								
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%		
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption	Q _{fuel}	-	kWh		
Contact details	Ningbo /			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	iejiang,		
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is e	equal to the	ne		

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters								
Model(s):		ACHP-		,								
Air-to-water heat ump:		ACHP- yes	H08/5F	<u> ACHP-H08/5R2HA-M(</u>	NE)							
Water-to-water heat pump:		no										
Brine-to-water heat pump:		no										
Low-temperature heat pump:		no										
Equipped with a supplementary h	eater:	no										
Heat pump combination heater:	ioator.	no										
Declared climate condition		Colder										
Declared temperature application	1	Low										
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit					
Rated heat output(*)	Prated	7.0	kW	Seasonal space heating energy efficiency	η _s	168	%					
Declared capacity for heating for temperature 20°C and outdoor te	•			Declared coeffient of performanc for part load at indoor temperatur temperature Tj								
Tj = -7°C	Pdh	4.46	kW	Tj = -7°C	COPd	3.66	•					
Tj = +2°C	Pdh	2.69	kW	Tj = +2°C	COPd	5.20						
Tj = +7°C	Pdh	1.65	kW	Tj = +7°C	COPd	6.53	-					
Tj = +12°C	Pdh	1.65	kW	Tj = +12°C	COPd	7.96	-					
T _i = bivalent temperature	Pdh	5.69	kW	T _i = bivalent temperature	COPd	2.83	-					
T _i = operation limit temperature	Pdh	4.06	kW	T_i = operation limit temperature	COPd	1.95	-					
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-					
Bivalent temperature	T _{biv}	-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	СОРсус	-	-					
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C					
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater								
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	2.94	kW					
Thermostat-off mode	P _{TO}	0.030	kW									
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,					
Crankcase heater mode	P _{CK}	0.000	kW	1		,						
Other items				1								
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h					
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h					
Annual energy consumption	Q _{HE}	4036	kWh	rate, outdoor heat exchanger								
For heat pump combination heat	er			•	-							
Declaed load profile		-		Water heating energy efficiency	η_{wh}	_	%					
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption	Q _{fuel}	-	kWh					
Contact details	Ningbo A		ctric Co			15191 Zh						
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is	equal to the	ne					

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters			
Model(s):		ACHP-					
Air-to-water heat ump:		yes	<u> </u>	ACHT-1100/3R2HA-IVI(INC)		
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:	- Cator.	no					
Declared climate condition		Colder					
Declared temperature application	1	Medium					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	5.8	kW	Seasonal space heating energy efficiency	η _s	111	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur 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	1.47	kW	Tj = +12°C	COPd	5.92	-
T _i = bivalent temperature	Pdh	4.71	kW	T _i = bivalent temperature	COPd	1.90	_
T _i = operation limit temperature	Pdh	2.80	kW	T _i = operation limit temperature	COPd	1.22	_
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	СОРсус	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater			
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	3.0	kW
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>		
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	/
Crankcase heater mode	P _{CK}	0.000	kW	1			
Other items							
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	_	4000	m ³ /h
Sound power level	L _{WA}	_	dB	For water-/brine-to-water heat pumps:Rated brine or water flow		-	m ³ /h
Annual energy consumption	Q _{HE}	5014	kWh	rate, outdoor heat exchanger			
For heat pump combination heat	er						
Declaed load profile		-		Water heating energy efficiency	η_{wh}		%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo /			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	nejiang,
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is e	equal to the	he

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters							
Model(s):		ACHP-I	H10/4R	2HA-M ACHP-H10/4R2HA-M(I							
Air-to-water heat ump:		yes	H10/5R	2HA-M ACHP-H10/5R2HA-M(I	NE)						
Water-to-water heat pump:		no									
Brine-to-water heat pump:		no									
Low-temperature heat pump:		no									
Equipped with a supplementary h	eater:	no									
Heat pump combination heater:		no									
Declared climate condition		Warme	r								
Declared temperature application		Low									
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit				
Rated heat output(*)	Prated	8.6	kW	Seasonal space heating energy efficiency	η _s	267	%				
Declared capacity for heating for temperature 20°C and outdoor te	•			Declared coeffient of performanc for part load at indoor temperatur temperature Tj							
Tj = -7°C	Pdh	_	kW	Tj = -7°C	COPd	-	-				
Tj = +2°C	Pdh	8.20	kW	Tj = +2°C	COPd	3.84					
Tj = +7°C	Pdh	5.53	kW	Tj = +7°C	COPd	5.85	-				
Tj = +12°C	Pdh	2.76	kW	Tj = +12°C	COPd	9.14	-				
T _j = bivalent temperature	Pdh	5.53	kW	T _j = bivalent temperature	COPd	5.85	-				
T _j = operation limit temperature	Pdh	8.20	kW	T _j = operation limit temperature	COPd	3.84	-				
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-				
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C				
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	СОРсус	-	-				
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C				
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater	,						
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.40	kW				
Thermostat-off mode	Рто	0.030	kW								
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,				
Crankcase heater mode	Рск	0.000	kW	1							
Other items											
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h				
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h				
Annual energy consumption	Q _{HE}	1701	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger							
For heat pump combination heat	er	•		•							
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%				
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh				
Contact details	Ningbo A 1166 Mir China			o., Ltd. Road, Jiangshan Yinzhou District,	-	15191 Zh	ejiang,				

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

				I parameters								
Model(s):		ACHP-I ACHP-I										
Air-to-water heat ump:		yes										
Water-to-water heat pump:		no										
Brine-to-water heat pump:		no										
Low-temperature heat pump:		no)									
Equipped with a supplementary h	neater:	no										
Heat pump combination heater:		no										
Declared climate condition		Warmei	ſ									
Declared temperature application	1	Medium										
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit					
Rated heat output(*)	Prated	8.6	kW	Seasonal space heating energy efficiency	$\eta_{\rm s}$	177	%					
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj								
Tj = -7°C	Pdh	_	kW	Tj = -7°C	COPd	-	-					
Tj = +2°C	Pdh	8.20	kW	Tj = +2°C	COPd	2.59	-					
Tj = +7°C	Pdh	5.53	kW	Tj = +7°C	COPd	3.93	-					
Tj = +12°C	Pdh	2.46	kW	Tj = +12°C	COPd	5.82	-					
T _i = bivalent temperature	Pdh	5.53	kW	T _i = bivalent temperature	COPd	3.93	-					
T_i = operation limit temperature	Pdh	8.20	kW	T_i = operation limit temperature	COPd	2.59	_					
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-					
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C					
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COPcyc	-	-					
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C					
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater	-	-						
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.40	kW					
Thermostat-off mode	P _{TO}	0.030	kW									
Standby mode	P _{SB}	0.002	kW	Type of energy input	1	Electricity	,					
Crankcase heater mode	P _{CK}	0.000	kW	1								
Other items												
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h					
Sound power level	L _{WA}	_	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	_	-	m ³ /h					
Annual energy consumption	Q _{HE}	2545	kWh	rate, outdoor heat exchanger								
For heat pump combination heat	er											
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%					
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh					
Contact details	Ningbo A			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ıejiang,					
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output I	Prated is e	equal to the	ne					

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters			
Model(s):		ACHP-I	H10/4R	2HA-M ACHP-H10/4R2HA-M(
Air-to-water heat ump:		yes	1110/01	ZIIV W YOTH TITO/ORZIIV W(12)		
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Average					
Declared temperature application	<u> </u>	Low					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	9.2	kW	Seasonal space heating energy efficiency	η _s	203	%
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	8.14	kW	Tj = -7°C	COPd	3.10	_
Tj = +2°C	Pdh	4.95	kW	Tj = +2°C	COPd	5.10	-
Tj = +7°C	Pdh	3.18	kW	Tj = +7°C	COPd	6.50	-
Tj = +12°C	Pdh	2.76	kW	Tj = +12°C	COPd	10.55	-
T _i = bivalent temperature	Pdh	8.14	kW	T _i = bivalent temperature	COPd	3.10	-
T _i = operation limit temperature	Pdh	7.40	kW	T_i = operation limit temperature	COPd	3.10	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	СОРсус	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater			
Off mode		0.002		Rated heat output (*)	Psup	1.8	kW
Thermostat-off mode	P _{TO}	0.030	kW			*	
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	1
Crankcase heater mode	P _{CK}	0.000	kW	1			
Other items	- CK			 			
Capacity control	V	I ⁄ariable	<u> </u>	For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h
Annual energy consumption	Q _{HE}	3690	kWh	rate, outdoor heat exchanger			
For heat pump combination heat	er						
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$		%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ejiang,
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is e	equal to the	ne

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	l parameters			
Model(s):		ACHP-I					
Air-to-water heat ump:		yes	1110/01	ZIII WIII THOIST WI	12)		
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	eater:	no					
Heat pump combination heater:		no					
Declared climate condition		Average					
Declared temperature application		Medium					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	7.7	kW	Seasonal space heating energy efficiency	η _s	154	%
Declared capacity for heating for temperature 20°C and outdoor te	•			Declared coeffient of performance for part load at indoor temperatur temperature Tj			
Tj = -7°C	Pdh	6.81	kW	Tj = -7°C	COPd	2.43	-
Tj = +2°C	Pdh	4.15	kW	Tj = +2°C	COPd	3.82	-
Tj = +7°C	Pdh	2.67	kW	Tj = +7°C	COPd	5.00	-
Tj = +12°C	Pdh	3.39	kW	Tj = +12°C	COPd	7.60	-
T _i = bivalent temperature	Pdh	6.81	kW	T _i = bivalent temperature	COPd	2.43	-
T_i = operation limit temperature	Pdh	5.23	kW	T_i = operation limit temperature	COPd	2.43	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	COPcyc	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater			
Off mode		0.002		Rated heat output (*)	Psup	2.47	kW
Thermostat-off mode	P _{TO}	0.030	kW	()			
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	P _{CK}	0.000	kW	1		,	
Other items	- CK	0.000		1			
Capacity control	V	/ariable	l	For air-to-water heat pumps: Rated air flow rate, outdoors	_	4000	m ³ /h
Sound power level	L _{WA}	57	dB	For water-/brine-to-water heat	-	-	m ³ /h
Annual energy consumption	Q _{HE}	4055	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger			
For heat pump combination heat	er						
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A		ctric Co		-	15191 Zh	

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te		I parameters	VIE.\						
Model(s):		ACHP-I									
Air-to-water heat ump:		yes									
Water-to-water heat pump:		no									
Brine-to-water heat pump:		no									
Low-temperature heat pump:		no									
Equipped with a supplementary h	eater:	no									
Heat pump combination heater:	no	10									
Declared climate condition		Colder									
Declared temperature application	1	Low									
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit				
Rated heat output(*)	Prated	7.7	kW	Seasonal space heating energy efficiency	η _s	168	%				
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coeffient of performanc for part load at indoor temperatur temperature Tj							
Tj = -7°C	Pdh	4.83	kW	Tj = -7°C	COPd	3.60	-				
Tj = +2°C	Pdh	2.94	kW	Tj = +2°C	COPd	5.26	-				
Tj = +7°C	Pdh	1.92	kW	Tj = +7°C	COPd	7.08	-				
Tj = +12°C	Pdh	1.65	kW	Tj = +12°C	COPd	7.96	-				
T _j = bivalent temperature	Pdh	6.32	kW	T _j = bivalent temperature	COPd	2.64	-				
T_j = operation limit temperature	Pdh	4.62	kW	T _j = operation limit temperature	COPd	1.97	-				
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-				
Bivalent temperature	T _{biv}	-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	COPcyc	-	-				
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C				
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater							
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	3.08	kW				
Thermostat-off mode	P _{TO}	0.030	kW								
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,				
Crankcase heater mode	P _{CK}	0.000	kW	1							
Other items											
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h				
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m³/h				
Annual energy consumption	Q _{HE}	4439	kWh	rate, outdoor heat exchanger							
For heat pump combination heat	er										
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%				
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh				
Contact details	Ningbo A			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ejiang,				
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output I	Prated is	equal to the	ne				

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters				
Model(s):		ACHP-I	H10/4R	2HA-M ACHP-H10/4R2HA-M(
Air-to-water heat ump:		yes	110/510	ZHA-W	<u> </u>			
Water-to-water heat pump:		no						
Brine-to-water heat pump:		no						
Low-temperature heat pump:		no						
Equipped with a supplementary h	eater:	no						
Heat pump combination heater:	- Cator.	no						
Declared climate condition		Colder						
Declared temperature application		Medium						
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit	
Rated heat output(*)	Prated	6.7	kW	Seasonal space heating energy efficiency	η _s	116	%	
Declared capacity for heating for temperature 20°C and outdoor te			Declared coeffient of performanc for part load at indoor temperatur 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	1.48	kW	Tj = +12°C	COPd	5.96	-	
T _i = bivalent temperature	Pdh	5.47	kW	T _i = bivalent temperature	COPd	2.00	-	
T _i = operation limit temperature	Pdh	2.80	kW	T _i = operation limit temperature	COPd	1.22	_	
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-	
Bivalent temperature	T _{biv}	-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	COPcyc	-	-	
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C	
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater				
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	3.9	kW	
Thermostat-off mode	P _{TO}	0.030	kW					
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	/	
Crankcase heater mode	P _{CK}	0.000	kW	Ī				
Other items								
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h	
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h	
Annual energy consumption	Q _{HE}	5574	kWh	rate, outdoor heat exchanger				
For heat pump combination heat	er							
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%	
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption	Q _{fuel}	-	kWh	
Contact details	Ningbo /			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ıejiang,	
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is e	equal to the	ne	

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters				
Model(s):		ACHP-I	112/4R	2HA-M ACHP-H12/4R2HA-M(I				
Air-to-water heat ump:		yes	112/010	ZIIV W YOTH THE ZIVE W(I	<u> </u>			
Water-to-water heat pump:		no						
Brine-to-water heat pump:		no						
Low-temperature heat pump:		no						
Equipped with a supplementary h	eater:	no						
Heat pump combination heater:		no						
Declared climate condition		Warme	r					
Declared temperature application		Low						
Item		Value	Unit	Item	Symbol	Value	Unit	
	Symbol		kW	Seasonal space heating	1	254	%	
Rated heat output(*)	Prated	11.1	KVV	energy efficiency	η_{s}			
Declared capacity for heating for temperature 20°C and outdoor te			•	Declared coeffient of performanc for part load at indoor temperatur temperature Tj				
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-	
Tj = +2°C	Pdh	10.90	kW	Tj = +2°C	COPd	3.59	-	
Tj = +7°C	Pdh	7.14	kW	Tj = +7°C	COPd	5.82	-	
Tj = +12°C	Pdh	4.61	kW	Tj = +12°C	COPd	8.30	-	
T _i = bivalent temperature	Pdh	7.14	kW	T _i = bivalent temperature	COPd	5.82	_	
T _i = operation limit temperature	Pdh	10.90	kW	T _i = operation limit temperature	COPd	3.59	-	
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-	
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C	
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	СОРсус	-	-	
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C	
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater				
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.20	kW	
Thermostat-off mode	Рто	0.030	kW		<u> </u>			
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,	
Crankcase heater mode	Рск	0.000	kW	1		,		
Other items								
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h	
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow		-	m³/h	
Annual energy consumption	Q _{HE}	2308	kWh	rate, outdoor heat exchanger				
For heat pump combination heat	er							
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%	
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh	
Contact details	Ningbo A			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ejiang,	
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output I	Prated is e	equal to the	ne	

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters								
Model(s):		ACHP-I	112/4R	2HA-M ACHP-H12/4R2HA-M(I								
Air-to-water heat ump:		yes	112/010	ZIII III ZIONZIII MO	,,							
Water-to-water heat pump:		no										
Brine-to-water heat pump:		no										
Low-temperature heat pump:		no	10									
Equipped with a supplementary h	eater:	no										
Heat pump combination heater:		no										
Declared climate condition		Warme	r									
Declared temperature application	<u> </u>	Medium										
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit					
Rated heat output(*)	Prated	12.5	kW	Seasonal space heating energy efficiency	η _s	174	%					
Declared capacity for heating for temperature 20°C and outdoor te		Declared coeffient of performanc for part load at indoor temperatur temperature Tj										
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-					
Tj = +2°C	Pdh	12.30	kW	Tj = +2°C	COPd	2.31	_					
Tj = +7°C	Pdh	8.04	kW	Tj = +7°C	COPd	3.82	-					
Tj = +12°C	Pdh	3.57	kW	Tj = +12°C	COPd	5.70	-					
T _i = bivalent temperature	Pdh	8.04	kW	T _i = bivalent temperature	COPd	3.82	-					
T _i = operation limit temperature	Pdh	12.30	kW	T _i = operation limit temperature	COPd	2.31	_					
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-					
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C					
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COPcyc	-	-					
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C					
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater								
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.20	kW					
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>							
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,					
Crankcase heater mode	P _{CK}	0.000	kW	1		,						
Other items												
Capacity control	\	/ariable	<u> </u>	For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h					
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow		_	m ³ /h					
Annual energy consumption	Q _{HE}	3775	kWh	rate, outdoor heat exchanger								
For heat pump combination heat	er											
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$		%					
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh					
Contact details	Ningbo /			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ejiang,					
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output I	Prated is e	equal to the	ne					

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	l parameters								
Model(s):		ACHP-I	H12/4R	2HA-M ACHP-H12/4R2HA-M(I								
Air-to-water heat ump:		yes	112/010	ZIIV W YOTH THE ZIVE W(I	<u> </u>							
Water-to-water heat pump:		no										
Brine-to-water heat pump:		no										
Low-temperature heat pump:		no										
Equipped with a supplementary h	eater:	no										
Heat pump combination heater: no												
Declared climate condition		Average										
Declared temperature application		Low										
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit					
Rated heat output(*)	Prated	12.2	kW	Seasonal space heating energy efficiency	η _s	186	%					
Declared capacity for heating for temperature 20°C and outdoor te		Declared coeffient of performanc for part load at indoor temperatur temperature Tj										
Tj = -7°C	Pdh	10.79	kW	Tj = -7°C	COPd	3.02	-					
Tj = +2°C	Pdh	6.57	kW	Tj = +2°C	COPd	4.50	-					
Tj = +7°C	Pdh	4.22	kW	Tj = +7°C	COPd	6.60	-					
Tj = +12°C	Pdh	4.69	kW	Tj = +12°C	COPd	9.38	-					
T _i = bivalent temperature	Pdh	10.79	kW	T _i = bivalent temperature	COPd	3.02	-					
T_i = operation limit temperature	Pdh	10.10	kW	T_i = operation limit temperature	COPd	2.61	-					
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-					
Bivalent temperature	T _{biv}	-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	COPcyc	-	-					
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C					
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater								
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	2.10	kW					
Thermostat-off mode	Рто	0.030	kW									
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	•					
Crankcase heater mode	Рск	0.000	kW	1		_						
Other items												
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h					
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h					
Annual energy consumption	Q _{HE}	5314	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger								
For heat pump combination heate	er											
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%					
Daily electricity consumption	Q _{elec}	<u> </u>	kWh	Daily fuel consumption	Q _{fuel}	-	kWh					
Contact details	Ningbo A		ctric Co		-	15191 Zh						

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	l parameters								
Model(s):		ACHP-I	112/4R	2HA-M ACHP-H12/4R2HA-M(N								
Air-to-water heat ump:		yes	112/010	ZIIV W YOUR THE ZIVE W(I	<u> </u>							
Water-to-water heat pump:		no										
Brine-to-water heat pump:		no										
Low-temperature heat pump:		no										
Equipped with a supplementary h	eater:	no										
Heat pump combination heater: no												
Declared climate condition		Average										
Declared temperature application		Medium										
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit					
Rated heat output(*)	Prated	12	kW	Seasonal space heating energy efficiency	$\eta_{\rm s}$	150	%					
Declared capacity for heating for temperature 20°C and outdoor te		Declared coeffient of performance for part load at indoor temperatur temperature Tj										
Tj = -7°C	Pdh	10.62	kW	Tj = -7°C	COPd	2.40						
Tj = +2°C	Pdh	6.46	kW	Tj = +2°C	COPd	3.67	-					
Tj = +7°C	Pdh	4.15	kW	Tj = +7°C	COPd	5.18	-					
Tj = +12°C	Pdh	4.12	kW	Tj = +12°C	COPd	7.60	-					
T _i = bivalent temperature	Pdh	10.62	kW	T _i = bivalent temperature	COPd	2.40	-					
T_i = operation limit temperature	Pdh	9.16	kW	T _i = operation limit temperature	COPd	2.15	-					
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-					
Bivalent temperature	T _{biv}	-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	СОРсус	-	-					
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C					
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater								
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	2.84	kW					
Thermostat-off mode	Рто	0.030	kW		<u> </u>							
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,					
Crankcase heater mode	Рск	0.000	kW	1		_						
Other items												
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h					
Sound power level	L _{WA}	58	dB	For water-/brine-to-water heat	-	-	m ³ /h					
Annual energy consumption	Q _{HE}	6477	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger								
For heat pump combination heat	er	•		•								
Declaed load profile		-		Water heating energy efficiency	η _{wh}	-	%					
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh					
Contact details	Ningbo A		ctric Co		-	15191 Zh	iejiang,					

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Те	chnica	l parameters							
Model(s):		ACHP-I									
Air-to-water heat ump:		yes			/						
Water-to-water heat pump:		no									
Brine-to-water heat pump:		no	no								
Low-temperature heat pump:		no									
Equipped with a supplementary h	eater:	no									
Heat pump combination heater:	no	no									
Declared climate condition		Colder									
Declared temperature application	1	Low									
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit				
Rated heat output(*)	Prated	11.4	kW	Seasonal space heating energy efficiency	$\eta_{\rm s}$	159	%				
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performance for part load at indoor temperatur temperature Tj							
Tj = -7°C	Pdh	7.05	kW	Tj = -7°C	COPd	3.48	-				
Tj = +2°C	Pdh	4.67	kW	Tj = +2°C	COPd	4.96	-				
Tj = +7°C	Pdh	3.14	kW	Tj = +7°C	COPd	6.10	-				
Tj = +12°C	Pdh	3.57	kW	Tj = +12°C	COPd	7.87	-				
T _j = bivalent temperature	Pdh	9.28	kW	T _j = bivalent temperature	COPd	2.59	-				
T _j = operation limit temperature	Pdh	7.01	kW	T _j = operation limit temperature	COPd	1.98	-				
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-				
Bivalent temperature	T _{biv}	-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	COPcyc	-	-				
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C				
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater							
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	4.39	kW				
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>						
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,				
Crankcase heater mode	Рск	0.000	kW	1							
Other items											
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h				
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h				
Annual energy consumption	Q _{HE}	6926	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger							
For heat pump combination heat	er	•		•							
Declaed load profile		-		Water heating energy efficiency	η _{wh}	-	%				
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh				
Contact details	Ningbo A		ctric Co		-	15191 Zh	ejiang,				

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters					
Model(s):		ACHP-I	112/4R	2HA-M ACHP-H12/4R2HA-M(I					
Air-to-water heat ump:		yes	112/010	ZIII W NOTH HIZIONZIIN W(I	<u> </u>				
Water-to-water heat pump:		no							
Brine-to-water heat pump:		no							
Low-temperature heat pump:		no							
Equipped with a supplementary h	eater:	no							
Heat pump combination heater:		no							
Declared climate condition		Colder							
Declared temperature application	<u> </u>	Medium	1						
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit		
Rated heat output(*)	Prated	10.3	kW	Seasonal space heating energy efficiency	η _s	117	%		
Declared capacity for heating for temperature 20°C and outdoor te			Declared coeffient of performanc for part load at indoor temperatur 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	-		
T _i = bivalent temperature	Pdh	8.41	kW	T _i = bivalent temperature	COPd	1.84	-		
T _i = operation limit temperature	Pdh	4.19	kW	T _i = operation limit temperature	COPd	1.13	-		
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-		
Bivalent temperature	T _{biv}	-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	COPcyc	-	-		
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C		
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater					
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	6.11	kW		
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>				
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,		
Crankcase heater mode	Рск	0.000	kW	<u> </u>		,			
Other items									
Capacity control	V	riable	<u>!</u>	For air-to-water heat pumps: Rated air flow rate, outdoors	-	4000	m ³ /h		
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h		
Annual energy consumption	Q _{HE}	8453	kWh	rate, outdoor heat exchanger					
For heat pump combination heat	er								
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$		%		
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh		
Contact details	Ningbo A			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ejiang,		
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is e	equal to the	ne		

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

				I parameters	VIE.\								
Model(s):		ACHP-I ACHP-I											
Air-to-water heat ump:		yes											
Water-to-water heat pump:		no											
Brine-to-water heat pump:		no											
Low-temperature heat pump:		no											
Equipped with a supplementary h	eater:	no	no										
Heat pump combination heater:	nbination heater: no			1									
Declared climate condition		Warme	ſ										
Declared temperature application	1	Low											
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit						
Rated heat output(*)	Prated	12.1	kW	Seasonal space heating energy efficiency	η _s	259	%						
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coeffient of performance or primary energy rati 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	12.00	kW	Tj = +2°C	COPd	3.44	-						
Tj = +7°C	Pdh	7.78	kW	Tj = +7°C	COPd	5.84	-						
Tj = +12°C	Pdh	4.23	kW	Tj = +12°C	COPd	8.43	-						
T _j = bivalent temperature	Pdh	7.78	kW	T _j = bivalent temperature	COPd	5.84	-						
T _j = operation limit temperature	Pdh	12.00	kW	T _j = operation limit temperature	COPd	3.44	-						
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-						
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C						
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COPcyc	-	-						
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C						
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater	- ' '								
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.10	kW						
Thermostat-off mode	P _{TO}	0.030	kW		Ι								
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,						
Crankcase heater mode	Рск	0.000	kW	1									
Other items													
Capacity control	\	/ariable	•	For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h						
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	_	-	m ³ /h						
Annual energy consumption	Q _{HE}	2463	kWh	rate, outdoor heat exchanger									
For heat pump combination heat	er												
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%						
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh						
Contact details	Ningbo A			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ejiang,						
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output I	Prated is e	equal to the	ne						

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters								
Model(s):		ACHP-I		· · · · · · · · · · · · · · · · · · ·								
Air-to-water heat ump:		yes	1114/51	211A-W AOTH -1114/31(211A-W()	<u> </u>							
Water-to-water heat pump:		no										
Brine-to-water heat pump:		no										
Low-temperature heat pump:		no										
Equipped with a supplementary h	eater:	no										
Heat pump combination heater: no												
Declared climate condition		Warme	r									
Declared temperature application		Medium										
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit					
Rated heat output(*)	Prated	13.7	kW	Seasonal space heating energy efficiency	$\eta_{\rm s}$	178	%					
Declared capacity for heating for temperature 20°C and outdoor te	•	Declared coeffient of performanc for part load at indoor temperatur temperature Tj										
Tj = -7°C	Pdh		kW	Tj = -7°C	COPd	-	_					
Tj = +2°C	Pdh	13.60	kW	Tj = +2°C	COPd	2.18	-					
Tj = +7°C	Pdh	8.83	kW	Tj = +7°C	COPd	3.91	-					
Tj = +12°C	Pdh	4.08	kW	Tj = +12°C	COPd	5.90	-					
T _i = bivalent temperature	Pdh	8.83	kW	T _i = bivalent temperature	COPd	3.91	_					
T _i = operation limit temperature	Pdh	13.60	kW	T _i = operation limit temperature	COPd	2.18	_					
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-					
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C					
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	СОРсус	-	_					
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C					
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater								
Off mode		0.002		Rated heat output (*)	Psup	0.10	kW					
Thermostat-off mode	P _{TO}	0.030	kW	1 , , ,	 							
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,					
Crankcase heater mode	Рск	0.000	kW	1 ,,		,						
Other items	OIX											
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h					
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h					
Annual energy consumption	Q_{HE}	4037	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger								
For heat pump combination heat	er	•	•	•								
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%					
Daily electricity consumption	Q _{elec}	<u> </u>	kWh	Daily fuel consumption	Q _{fuel}	-	kWh					
Contact details	Ningbo A		ctric Co		-	15191 Zh						

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	l parameters							
Model(s):		ACHP-I		,							
Air-to-water heat ump:		yes	1114/510	211A-W AOTH -1114/01(211A-W()	<u> </u>						
Water-to-water heat pump:		no									
Brine-to-water heat pump:		no									
Low-temperature heat pump:		no									
Equipped with a supplementary h	eater:	no									
Heat pump combination heater:	no										
Declared climate condition		Average									
Declared temperature application	<u> </u>	Low									
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit				
Rated heat output(*)	Prated	14.5	kW	Seasonal space heating energy efficiency	$\eta_{\rm s}$	186	%				
Declared capacity for heating for temperature 20°C and outdoor te			Declared coeffient of performance for part load at indoor temperatur temperature Tj								
Tj = -7°C	Pdh	12.83	kW	Tj = -7°C	COPd	3.00					
Tj = +2°C	Pdh	7.81	kW	Tj = +2°C	COPd	4.52	-				
Tj = +7°C	Pdh	5.02	kW	Tj = +7°C	COPd	6.40	-				
Tj = +12°C	Pdh	4.68	kW	Tj = +12°C	COPd	10.00	-				
T _j = bivalent temperature	Pdh	12.83	kW	T _j = bivalent temperature	COPd	3.00	-				
T _j = operation limit temperature	Pdh	11.46	kW	T _j = operation limit temperature	COPd	2.73	-				
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-				
Bivalent temperature	T _{biv}	- 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	COPcyc	-	-				
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C				
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater							
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	3.04	kW				
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>						
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,				
Crankcase heater mode	Рск	0.000	kW	1							
Other items											
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h				
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h				
Annual energy consumption	Q _{HE}	6317	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger							
For heat pump combination heat	er										
Declaed load profile		-		Water heating energy efficiency	η _{wh}	-	%				
Daily electricity consumption	Q _{elec}	<u> </u>	kWh	Daily fuel consumption	Q _{fuel}	-	kWh				
Contact details	Ningbo A		ctric Co		-	15191 Zh					

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters				
Model(s):		ACHP-I		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				
Air-to-water heat ump:		yes	114/31	211A-W ACTIF -1114/31\211A-W()	NL)			
Water-to-water heat pump:		no						
Brine-to-water heat pump:		no						
Low-temperature heat pump:		no						
Equipped with a supplementary h	eater:	no						
Heat pump combination heater:		no						
Declared climate condition								
Declared temperature application	<u> </u>	Medium						
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit	
Rated heat output(*)	Prated	14	kW	Seasonal space heating energy efficiency	η _s	150	%	
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	12.38	kW	Tj = -7°C	COPd	2.40	-	
Tj = +2°C	Pdh	7.54	kW	Tj = +2°C	COPd	3.66	-	
Tj = +7°C	Pdh	4.85	kW	Tj = +7°C	COPd	5.18	-	
Tj = +12°C	Pdh	2.15	kW	Tj = +12°C	COPd	7.60	-	
T _i = bivalent temperature	Pdh	12.38	kW	T _i = bivalent temperature	COPd	2.39	-	
T _i = operation limit temperature	Pdh	10.50	kW	T _i = operation limit temperature	COPd	2.13	-	
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-	
Bivalent temperature	T _{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C	
Cycling interval capacity for heating	P _{cych}	-	kW			-	-	
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C	
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater				
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	3.5	kW	
Thermostat-off mode	P _{TO}	0.030	kW					
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,	
Crankcase heater mode	P _{CK}	0.000	kW	1		,		
Other items								
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h	
Sound power level	L _{WA}	59	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h	
Annual energy consumption	Q _{HE}	7563	kWh	rate, outdoor heat exchanger				
For heat pump combination heat	er							
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%	
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption	Q _{fuel}	-	kWh	
Contact details	Ningbo /			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	iejiang,	
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is e	equal to the	ne	

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters						
Model(s):		ACHP-I		· · · · · · · · · · · · · · · · · · ·						
Air-to-water heat ump:		yes	1114/51	211A-W AOTH -1114/31(211A-W()	<u> </u>					
Water-to-water heat pump:		no								
Brine-to-water heat pump:		no								
Low-temperature heat pump:		no								
Equipped with a supplementary h	eater:	no								
Heat pump combination heater:		no								
Declared climate condition		Colder								
Declared temperature application	1	Low								
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit			
Rated heat output(*)	Prated	12.6	kW	Seasonal space heating energy efficiency	η _s	159	%			
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performanc for part load at indoor temperatur temperature Tj						
Tj = -7°C	Pdh	7.96	kW	Tj = -7°C	COPd	3.44	-			
Tj = +2°C	Pdh	5.05	kW	Tj = +2°C	COPd	4.92	_			
Tj = +7°C	Pdh	3.15	kW	Tj = +7°C	COPd	6.11	-			
Tj = +12°C	Pdh	3.57	kW	Tj = +12°C	COPd	7.82	-			
T _i = bivalent temperature	Pdh	10.31	kW	T _i = bivalent temperature	COPd	2.53	-			
T _i = operation limit temperature	Pdh	7.57	- 		COPd	1.92	-			
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-			
Bivalent temperature	T _{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C			
Cycling interval capacity for heating	P _{cych}			Cycling interval efficiency	СОРсус	-	_			
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C			
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater						
Off mode		0.002		Rated heat output (*)	Psup	5.03	kW			
Thermostat-off mode	P _{TO}	0.030	kW	1 , , ,	 					
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,			
Crankcase heater mode	Рск	0.000	kW	1 ,,		,				
Other items	OIX									
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h			
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h			
Annual energy consumption	Q _{HE}	7685	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger						
For heat pump combination heat	er	•	•							
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%			
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption		-	kWh			
Contact details	Ningbo A		Ningbo AUX Electric Co., Ltd. 1166 Mingguang North Road, Jiangshan Yinzhou District, Ningbo, 315191 Zhejiang,							

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters					
Model(s):		ACHP-I		R2HA-M ACHP-H14/4R2HA-M(NE)					
Air-to-water heat ump:		yes	114/31	211A-W ACTIF-1114/3N211A-W()	NL)				
Water-to-water heat pump:		no							
Brine-to-water heat pump:		no							
Low-temperature heat pump:		no							
Equipped with a supplementary h	eater:	no							
Heat pump combination heater:		no							
Declared climate condition	·								
Declared temperature application		Medium		Пи	0	Value	1114		
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit		
Rated heat output(*)	Prated	11.0	kW	Seasonal space heating energy efficiency	η_{s}	118	%		
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coeffient 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	-		
T _i = bivalent temperature	Pdh	8.94	kW	T _i = bivalent temperature	COPd	1.79	_		
T _i = operation limit temperature	Pdh	4.20	kW	T _i = operation limit temperature	COPd	1.13	_		
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-		
Bivalent temperature	T _{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature		-22	°C		
Cycling interval capacity for heating	P _{cych}	-			СОРсус	-	-		
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C		
Power consumption in modes oth	er than a	ctive mod	de et	Supplemantary heater					
Off mode		0.002		Rated heat output (*)	Psup	6.80	kW		
L	P _{TO}	0.030	kW	1 ()	 				
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	1		
Crankcase heater mode	P _{CK}	0.000	kW	H		,			
Other items				 	 				
Capacity control	\	I ⁄ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h		
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h		
Annual energy consumption	Q _{HE}	8937	kWh	rate, outdoor heat exchanger					
For heat pump combination heat	er								
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%		
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh		
Contact details	Ningbo /			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ejiang,		
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is e	equal to the	ne		

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters					
Model(s):		ACHP-I ACHP-I		R2HA-M ACHP-H16/4R2HA-M(NE) R2HA-M ACHP-H16/5R2HA-M(NE)					
Air-to-water heat ump:		yes	1107011	7.011. 1110,01.21.11 m(1	12)				
Water-to-water heat pump:		no							
Brine-to-water heat pump:		no							
Low-temperature heat pump:		no							
Equipped with a supplementary h	eater:	no							
Heat pump combination heater:		no							
Declared climate condition		Warme	r						
Declared temperature application		Low	1						
		Value	Unit	Item	Symbol	Value	Unit		
Item	Symbol			Seasonal space heating	Symbol	value			
Rated heat output(*)	Prated	13.1	kW	energy efficiency	η_{s}	246	%		
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature Tj				Declared coeffient 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	12.97	kW	Tj = +2°C	COPd	3.35	-		
Tj = +7°C	Pdh	8.42	kW	Tj = +7°C	COPd	5.31	-		
Tj = +12°C	Pdh	4.29	kW	Tj = +12°C	COPd	8.23	-		
T _i = bivalent temperature	Pdh	8.42	kW	T _i = bivalent temperature	COPd	5.31	-		
T _i = operation limit temperature	Pdh	12.97	kW	T _i = operation limit temperature	COPd	3.35	-		
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-		
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C		
Cycling interval capacity for heating	P _{cych}	-	kW	1		-	-		
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C		
Power consumption in modes oth	er than a	ctive mod	de et	Supplemantary heater					
Off mode		0.002		Rated heat output (*)	Psup	0.13	kW		
Thermostat-off mode	P _{TO}	0.030	kW	, ,	 				
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,		
Crankcase heater mode	Рск	0.000	kW	1 ,,		,			
Other items	- CK	0.000		1					
Capacity control	V	I ⁄ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m³/h		
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h		
Annual energy consumption	Q _{HE}	2812	kWh	rate, outdoor heat exchanger					
For heat pump combination heat	er								
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$		%		
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh		
Contact details	Ningbo A			., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	iejiang,		
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output I	Prated is e	equal to the	ne		

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters									
Model(s):		ACHP-I ACHP-I											
Air-to-water heat ump:		yes											
Water-to-water heat pump:		no											
Brine-to-water heat pump:		no											
Low-temperature heat pump:		no											
Equipped with a supplementary h	eater:	no											
Heat pump combination heater:		no											
Declared climate condition		Warme	r										
Declared temperature application	ı	Medium											
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit						
Rated heat output(*)	Prated	13.8	kW	Seasonal space heating energy efficiency	$\eta_{\rm s}$	176	%						
Declared capacity for heating for temperature 20°C and outdoor te	•		•	Declared coeffient of performanc for part load at indoor temperatur temperature Tj									
Tj = -7°C	Pdh	-	kW	Tj = -7°C	COPd	-	-						
Tj = +2°C	Pdh	13.67	kW	Tj = +2°C	COPd	2.25	-						
Tj = +7°C	Pdh	8.87	kW	Tj = +7°C	COPd	3.80	-						
Tj = +12°C	Pdh	3.94	kW	Tj = +12°C	COPd	5.88	-						
T _i = bivalent temperature	Pdh	8.87	kW	T _i = bivalent temperature	COPd	3.80	-						
T _i = operation limit temperature	Pdh	13.67	13.67 kW T _i = operation limit temperature		COPd	2.25	-						
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-						
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature		2	°C						
Cycling interval capacity for heating	P _{cych}	-	1,14, 10, 11, 11, 11, 11, 11, 11, 11, 11, 11		COPcyc	-	-						
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C						
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater									
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	0.13	kW						
Thermostat-off mode	Рто	0.030	kW										
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	•						
Crankcase heater mode	Рск	0.000	kW	1		_							
Other items													
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	_	4650	m ³ /h						
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h						
Annual energy consumption	Q _{HE}	4118	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger									
For heat pump combination heat	er												
Declaed load profile		- Water heating energy efficiency η_{wh} - 9											
Daily electricity consumption	Q _{elec}	_	kWh	Daily fuel consumption		-	kWh						
Contact details	Ningbo A		ctric Co	o., Ltd.	-	Ningbo AUX Electric Co., Ltd. 1166 Mingguang North Road, Jiangshan Yinzhou District, Ningbo, 315191 Zhejiang,							

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	l parameters								
Model(s):		ACHP-I ACHP-I										
Air-to-water heat ump:		yes			,							
Water-to-water heat pump:		no										
Brine-to-water heat pump:		no										
Low-temperature heat pump:		no										
Equipped with a supplementary h	eater:	no										
Heat pump combination heater:		no										
Declared climate condition		Average										
Declared temperature application	1	Low										
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit					
Rated heat output(*)	Prated	15.5	kW	Seasonal space heating energy efficiency	η _s	188	%					
Declared capacity for heating for temperature 20°C and outdoor te				Declared coeffient of performance for part load at indoor temperatur temperature Tj								
Tj = -7°C	Pdh	13.71	kW	Tj = -7°C	COPd	3.01	-					
Tj = +2°C	Pdh	8.35	kW	Tj = +2°C	COPd	4.48	-					
Tj = +7°C	Pdh	5.37	kW	Tj = +7°C	COPd	6.73	-					
Tj = +12°C	Pdh	2.38	kW	Tj = +12°C	COPd	10.05	-					
T _i = bivalent temperature	Pdh	13.71	kW	T _i = bivalent temperature	COPd	3.01	-					
T _i = operation limit temperature	Pdh	13.42	- ' 		COPd	2.78	-					
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-					
Bivalent temperature	T _{biv}	-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	COPcyc	-	_					
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C					
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater								
Off mode		0.002		Rated heat output (*)	Psup	2.08	kW					
Thermostat-off mode	P _{TO}	0.030	kW	, ,,								
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,					
Crankcase heater mode	Рск	0.000	kW	1 ,,		,						
Other items	OIX											
Capacity control	V	riable	!	For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h					
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat	-	-	m ³ /h					
Annual energy consumption	Q _{HE}	6604	kWh	pumps:Rated brine or water flow rate, outdoor heat exchanger								
For heat pump combination heat	er	•	•	•								
Declaed load profile		-		Water heating energy efficiency	η_{wh}	-	%					
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption		-	kWh					
Contact details	Ningbo A		ctric Co	o., Ltd.	Ningbo AUX Electric Co., Ltd. 1166 Mingguang North Road, Jiangshan Yinzhou District, Ningbo, 315191 Zhejiang,							

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Те	chnica	I parameters				
Model(s):		ACHP-I ACHP-I						
Air-to-water heat ump:		yes	110/010	ZIIV W YOTH THO/ORZIIV W(<u> </u>			
Water-to-water heat pump:		no						
Brine-to-water heat pump:		no						
Low-temperature heat pump:		no						
Equipped with a supplementary h	eater:	no						
Heat pump combination heater:	- Cator.	no						
Declared climate condition		Average						
Declared temperature application								
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit	
Rated heat output(*)	Prated	14	kW	Seasonal space heating energy efficiency	η _s	150	%	
Declared capacity for heating for temperature 20°C and outdoor te				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj				
Tj = -7°C	Pdh	12.38	kW	Tj = -7°C	COPd	2.27	-	
Tj = +2°C	Pdh	7.54	kW	Tj = +2°C	COPd	3.66	_	
Tj = +7°C	Pdh	4.85	kW	Tj = +7°C	COPd	5.18	-	
Tj = +12°C	Pdh	4.43	kW	Tj = +12°C	COPd	8.75	-	
T _i = bivalent temperature	Pdh	12.38	kW	T _i = bivalent temperature	COPd	2.27	-	
T _i = operation limit temperature	Pdh	10.50	kW	T _i = operation limit temperature	COPd	2.13	_	
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-	
Bivalent temperature	T _{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C	
Cycling interval capacity for heating	P _{cych}	-			COPcyc	-	-	
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C	
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater				
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	3.5	kW	
Thermostat-off mode	P _{TO}	0.030	kW		<u> </u>			
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,	
Crankcase heater mode	Рск	0.000	kW	1				
Other items								
Capacity control	\	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h	
Sound power level	L _{WA}	60	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m ³ /h	
Annual energy consumption	Q _{HE}	7563	kWh	rate, outdoor heat exchanger				
For heat pump combination heate	er							
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$		%	
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh	
Contact details	Ningbo /			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ejiang,	
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output	Prated is e	equal to the	ne	

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		Te	chnica	I parameters				
Model(s):		ACHP-I	H16/4R	2HA-M ACHP-H16/4R2HA-M(I				
Air-to-water heat ump:		yes			,			
Water-to-water heat pump:		no						
Brine-to-water heat pump:		no						
Low-temperature heat pump:		no						
Equipped with a supplementary h	eater:	no						
Heat pump combination heater:		no						
Declared climate condition	·							
Declared temperature application	1	Low						
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit	
Rated heat output(*)	Prated	13.7	kW	Seasonal space heating energy efficiency	η _s	157	%	
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	8.31	kW	Tj = -7°C	COPd	3.37	-	
Tj = +2°C	Pdh	5.26	kW	Tj = +2°C	COPd	4.86	-	
Tj = +7°C	Pdh	3.62	kW	Tj = +7°C	COPd	6.49	-	
Tj = +12°C	Pdh	3.34	kW	Tj = +12°C	COPd	7.40	-	
T _i = bivalent temperature	Pdh	11.22	kW	T _i = bivalent temperature	COPd	2.43	-	
T _i = operation limit temperature	Pdh	8.88	kW	T_i = operation limit temperature	COPd	1.97	-	
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-	
Bivalent temperature	T _{biv}	-15	°C	°C For air-to-water heat pumps: Operation limit temperature		-22	°C	
Cycling interval capacity for heating	P _{cych}	-	kW Cycling interval efficiency		COPcyc	-	_	
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C	
Power consumption in modes oth	er than a	ctive mod	de	Supplemantary heater				
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	4.82	kW	
Thermostat-off mode	P _{TO}	0.030	kW					
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	1	
Crankcase heater mode	Рск	0.000	kW	1				
Other items								
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m ³ /h	
Sound power level	L _{WA}	-	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	-	-	m³/h	
Annual energy consumption	Q _{HE}	8438	kWh	rate, outdoor heat exchanger				
For heat pump combination heate	er							
Declaed load profile		-		Water heating energy efficiency	$\eta_{ m wh}$	-	%	
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh	
Contact details	Ningbo A			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ejiang,	
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output I	Prated is e	equal to the	ne	

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9

		To	- la sa la a	Lucucusatous			
		ACHP-I		I parameters 2HA-M ACHP-H16/4R2HA-M(I	ME)		
Model(s):		ACHP-I					
Air-to-water heat ump:		yes					
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary h	neater:	no					
Heat pump combination heater:		no					
Declared climate condition		Colder					
Declared temperature application	1	Medium					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output(*)	Prated	11.8	kW	Seasonal space heating energy efficiency	η _s	121	%
Declared capacity for heating for temperature 20°C and outdoor te			e or prima e 20°C an				
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	-
T _j = bivalent temperature	Pdh	9.61	kW	T _j = bivalent temperature	COPd	1.86	-
T _j = operation limit temperature	Pdh	5.21	5.21 kW T _i = operation limit temperature		COPd	1.23	-
For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL < -20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-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	COPcyc	-	-
Degradation co-efficient(**)	Cdh	0.9	-	Heating water operating limit temperature	WTOL	75	°C
Power consumption in modes oth	ner than a	ctive mod	de	Supplemantary heater		-	
Off mode	P _{OFF}	0.002	kW	Rated heat output (*)	Psup	6.59	kW
Thermostat-off mode	P _{TO}	0.030	kW				
Standby mode	P _{SB}	0.002	kW	Type of energy input		Electricity	,
Crankcase heater mode	P _{CK}	0.000	kW	<u>]</u>			
Other items							
Capacity control	V	/ariable		For air-to-water heat pumps: Rated air flow rate, outdoors		4000	m ³ /h
Sound power level	L _{WA}	_	dB	For water-/brine-to-water heat pumps:Rated brine or water flow	_	-	m ³ /h
Annual energy consumption	Q _{HE}	9362	kWh	rate, outdoor heat exchanger			
For heat pump combination heat	er	•	•	•			
Declaed load profile		- Water heating energy efficiency η _{wh} - %					%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Contact details	Ningbo A			o., Ltd. Road, Jiangshan Yinzhou District,		15191 Zh	ejiang,
(*) For heat pump space heaters	and heat	pump co	mbinat	ion heaters, the rated heat output I	Prated is e	equal to the	ne

^(*) 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 Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9





