12. TECHNICAL PARAMETERS

Technical parameters

Outdoor unit:	AHW-044HCDS1			Indoor unit:	AHS-044HCDSAA-23		
Outdoor side heat exchanger of air conditioner/heat pump: air							
Indoor side heat exchanger of air conditioner/heat pump: water							
Type: compressor driven vapour compression							
Driver of compressor:electric motor							
Indication if the heater is equipped with a supplementary heater:yes							
Parameters shall be declared for the average heating season							
Item	Symbol	Value	Unit	Item	Symbol	Value	unit
Heating							
Parameters shall be declared for:				Low temperature application			
Indoor heat exchanger:				Variable outlet			
Rated heating capacity	$P_{rated,h}$	4.44	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	197	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance/Average season, at indoor temperature 20 °C and outdoor temperature Tj			
Tj = – 7°C	Pdh	3.9	kW	Tj = – 7°C	COPd	3.29	—
Tj = 2°C	Pdh	2.4	kW	Tj = 2°C	COPd	4.80	—
Tj = 7°C	Pdh	1.7	kW	Tj = 7°C	COPd	6.44	—
Tj = 12°C	Pdh	2.2	kW	Tj = 12°C	COPd	9.92	—
Tj = bivalent temperature	Pdh	3.9	kW	Tj = bivalent temperature	COPd	3.29	—
Tj = operating limit	Pdh	4.3	kW	Tj = operating limit	COPd	2.62	—
Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	-7	°C	heating/Average	Tol	-10	°C
heating/Warmer	Tbiv	—	°C	heating/Warmer	Tol	—	°C
heating/Colder	Tbiv	—	°C	heating/Colder	Tol	—	°C
Degradation co-efficient	Cd	0.9					
Power consumption in modes other than ‘active mode’							
Off mode	P_{OFF}	0.010	kW	Standby mode	PSB	0.010	kW
Thermostat-off mode(heating)	P_{TO}	0.011	kW	Crankcase heater mode	PCK	0.001	kW
Supplementary heater							
Supplementary capacity	P_{SUP}	0.102	kW	Type of energy input	Electric		
Other items							
Capacity control		Variable		Air flow rate, outdoor		2700	m^3/h
Reference annual heating demand	Q_H	9119	kWh	Sound power level , indoor/ outdoor measured	LWA	42/61	dB(A)
Annual energy consumption	Q_{HE}	1824	kWh	Global warming potential	GWP	675	$kgCO_2$ eq.
Contact details	Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd No. 218, Qianwangang Road, Economic and Technological Development Zone, Qingdao, China						

Technical parameters

Outdoor unit:	AHW-044HCDS1			Indoor unit:	AHS-044HCDSAA-23		
Outdoor side heat exchanger of air conditioner/heat pump: air							
Indoor side heat exchanger of air conditioner/heat pump: water							
Type: compressor driven vapour compression							
Driver of compressor:electric motor							
Indication if the heater is equipped with a supplementary heater: yes							
Parameters shall be declared for the average heating season							
Item	Symbol	Value	Unit	Item	Symbol	Value	unit
Heating							
Parameters shall be declared for:				Medium temperature application			
Indoor heat exchanger:				Variable outlet			
Rated heating capacity	$P_{rated,h}$	3.87	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	126	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance/Average season, at indoor temperature 20 °C and outdoor temperature Tj			
Tj = – 7°C	Pdh	3.4	kW	Tj = – 7°C	COPd	1.97	—
Tj = 2°C	Pdh	2.1	kW	Tj = 2°C	COPd	3.22	—
Tj = 7°C	Pdh	1.4	kW	Tj = 7°C	COPd	3.97	—
Tj = 12°C	Pdh	2.0	kW	Tj = 12°C	COPd	7.24	—
Tj = bivalent temperature	Pdh	3.4	kW	Tj = bivalent temperature	COPd	1.97	—
Tj = operating limit	Pdh	3.5	kW	Tj = operating limit	COPd	1.68	—
Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	-7	°C	heating/Average	Tol	-10	°C
heating/Warmer	Tbiv	—	°C	heating/Warmer	Tol	—	°C
heating/Colder	Tbiv	—	°C	heating/Colder	Tol	—	°C
Degradation co-efficient	Cd	0.9					
Power consumption in modes other than ‘active mode’							
Off mode	P_{OFF}	0.010	kW	Standby mode	P_{SB}	0.010	kW
Thermostat-off mode(heating)	P_{TO}	0.011	kW	Crankcase heater mode	P_{CK}	0.001	kW
Supplementary heater							
Supplementary capacity	P_{SUP}	0.303	kW	Type of energy input	Electric		
Other items							
Capacity control		Variable		Air flow rate, outdoor		2700	m^3/h
Reference annual heating demand	Q_H	7944	kWh	Sound power level , indoor/ outdoor measured	LWA	42/61	dB(A)
Annual energy consumption	Q_{HE}	2457	kWh	Global warming potential	GWP	675	$kgCO_2$ eq.
Contact details	Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd No. 218, Qianwangang Road, Economic and Technological Development Zone, Qingdao, China						

Technical parameters

Outdoor unit:	AHW-060HCDS1			Indoor unit:	AHS-060HCDSAA-23		
Outdoor side heat exchanger of air conditioner/heat pump: air							
Indoor side heat exchanger of air conditioner/heat pump: water							
Type: compressor driven vapour compression							
Driver of compressor:electric motor							
Indication if the heater is equipped with a supplementary heater: yes							
Parameters shall be declared for the average heating season							
Item	Symbol	Value	Unit	Item	Symbol	Value	unit
Heating							
Parameters shall be declared for:				Low temperature application			
Indoor heat exchanger:				Variable outlet			
Rated heating capacity	$P_{rated,h}$	6.10	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	194	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance/Average season, at indoor temperature 20 °C and outdoor temperature Tj			
Tj = – 7°C	Pdh	5.4	kW	Tj = – 7°C	COPd	3.13	—
Tj = 2°C	Pdh	3.3	kW	Tj = 2°C	COPd	4.67	—
Tj = 7°C	Pdh	2.0	kW	Tj = 7°C	COPd	6.63	—
Tj = 12°C	Pdh	2.2	kW	Tj = 12°C	COPd	9.92	—
Tj = bivalent temperature	Pdh	5.4	kW	Tj = bivalent temperature	COPd	3.13	—
Tj = operating limit	Pdh	5.3	kW	Tj = operating limit	COPd	2.66	—
Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	-7	°C	heating/Average	Tol	-10	°C
heating/Warmer	Tbiv	—	°C	heating/Warmer	Tol	—	°C
heating/Colder	Tbiv	—	°C	heating/Colder	Tol	—	°C
Degradation co-efficient	Cd	0.9					
Power consumption in modes other than ‘active mode’							
Off mode	P_{OFF}	0.010	kW	Standby mode	P_{SB}	0.010	kW
Thermostat-off mode(heating)	P_{TO}	0.011	kW	Crankcase heater mode	P_{CK}	0.001	kW
Supplementary heater							
Supplementary capacity	P_{SUP}	0.729	kW	Type of energy input	Electric		
Other items							
Capacity control		Variable		Air flow rate, outdoor		2700	m^3/h
Reference annual heating demand	Q_H	12507	kWh	Sound power level , indoor/ outdoor measured	LWA	42/62	dB(A)
Annual energy consumption	Q_{HE}	2539	kWh	Global warming potential	GWP	675	$kgCO_2$ eq.
Contact details	Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd No. 218, Qianwangang Road, Economic and Technological Development Zone, Qingdao, China						

Technical parameters

Outdoor unit:	AHW-060HCDS1			Indoor unit:	AHS-060HCDSAA-23		
Outdoor side heat exchanger of air conditioner/heat pump: air							
Indoor side heat exchanger of air conditioner/heat pump: water							
Type: compressor driven vapour compression							
Driver of compressor:electric motor							
Indication if the heater is equipped with a supplementary heater: yes							
Parameters shall be declared for the average heating season							
Item	Symbol	Value	Unit	Item	Symbol	Value	unit
Heating							
Parameters shall be declared for:				Medium temperature application			
Indoor heat exchanger:				Variable outlet			
Rated heating capacity	$P_{rated,h}$	5.37	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	130	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance/Average season, at indoor temperature 20 °C and outdoor temperature Tj			
Tj = – 7°C	Pdh	4.7	kW	Tj = – 7°C	COPd	2.04	—
Tj = 2°C	Pdh	3.0	kW	Tj = 2°C	COPd	3.21	—
Tj = 7°C	Pdh	2.0	kW	Tj = 7°C	COPd	4.34	—
Tj = 12°C	Pdh	2.0	kW	Tj = 12°C	COPd	7.24	—
Tj = bivalent temperature	Pdh	4.7	kW	Tj = bivalent temperature	COPd	2.04	—
Tj = operating limit	Pdh	4.5	kW	Tj = operating limit	COPd	1.75	—
Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	-7	°C	heating/Average	Tol	-10	°C
heating/Warmer	Tbiv	—	°C	heating/Warmer	Tol	—	°C
heating/Colder	Tbiv	—	°C	heating/Colder	Tol	—	°C
Degradation co-efficient	Cd	0.9					
Power consumption in modes other than ‘active mode’							
Off mode	P_{OFF}	0.010	kW	Standby mode	P_{SB}	0.010	kW
Thermostat-off mode(heating)	P_{TO}	0.011	kW	Crankcase heater mode	P_{CK}	0.001	kW
Supplementary heater							
Supplementary capacity	P_{SUP}	0.805	kW	Type of energy input	Electric		
Other items							
Capacity control		Variable		Air flow rate, outdoor		2700	m^3/h
Reference annual heating demand	Q_H	11032	kWh	Sound power level , indoor/ outdoor measured	LWA	42/62	dB(A)
Annual energy consumption	Q_{HE}	3312	kWh	Global warming potential	GWP	675	$kgCO_2$ eq.
Contact details	Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd No. 218, Qianwangang Road, Economic and Technological Development Zone, Qingdao, China						

Technical parameters

Outdoor unit:	AHW-080HCDS1			Indoor unit:	AHS-080HCDSAA-23		
Outdoor side heat exchanger of air conditioner/heat pump: air							
Indoor side heat exchanger of air conditioner/heat pump: water							
Type: compressor driven vapour compression							
Driver of compressor:electric motor							
Indication if the heater is equipped with a supplementary heater: yes							
Parameters shall be declared for the average heating season							
Item	Symbol	Value	Unit	Item	Symbol	Value	unit
Heating							
Parameters shall be declared for:				Low temperature application			
Indoor heat exchanger:				Variable outlet			
Rated heating capacity	$P_{rated,h}$	6.50	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	194	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance/Average season, at indoor temperature 20 °C and outdoor temperature Tj			
Tj = – 7°C	Pdh	5.8	kW	Tj = – 7°C	COPd	3.14	—
Tj = 2°C	Pdh	3.5	kW	Tj = 2°C	COPd	4.84	—
Tj = 7°C	Pdh	2.3	kW	Tj = 7°C	COPd	5.98	—
Tj = 12°C	Pdh	2.0	kW	Tj = 12°C	COPd	9.67	—
Tj = bivalent temperature	Pdh	5.8	kW	Tj = bivalent temperature	COPd	3.14	—
Tj = operating limit	Pdh	6.2	kW	Tj = operating limit	COPd	2.66	—
Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	-7	°C	heating/Average	Tol	-10	°C
heating/Warmer	Tbiv	—	°C	heating/Warmer	Tol	—	°C
heating/Colder	Tbiv	—	°C	heating/Colder	Tol	—	°C
Degradation co-efficient	Cd	0.9					
Power consumption in modes other than ‘active mode’							
Off mode	P_{OFF}	0.010	kW	Standby mode	P_{SB}	0.010	kW
Thermostat-off mode(heating)	P_{TO}	0.011	kW	Crankcase heater mode	P_{CK}	0.001	kW
Supplementary heater							
Supplementary capacity	P_{SUP}	0.343	kW	Type of energy input	Electric		
Other items							
Capacity control		Variable		Air flow rate, outdoor		2700	m^3/h
Reference annual heating demand	Q_H	13441	kWh	Sound power level , indoor/ outdoor measured	LWA	42/64	dB(A)
Annual energy consumption	Q_{HE}	2732	kWh	Global warming potential	GWP	675	$kgCO_2$ eq.
Contact details	Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd No. 218, Qianwangang Road, Economic and Technological Development Zone, Qingdao, China						

Technical parameters

Outdoor unit:	AHW-080HCDS1			Indoor unit:	AHS-080HCDSAA-23		
Outdoor side heat exchanger of air conditioner/heat pump: air							
Indoor side heat exchanger of air conditioner/heat pump: water							
Type: compressor driven vapour compression							
Driver of compressor:electric motor							
Indication if the heater is equipped with a supplementary heater: yes							
Parameters shall be declared for the average heating season							
Item	Symbol	Value	Unit	Item	Symbol	Value	unit
Heating							
Parameters shall be declared for:				Medium temperature application			
Indoor heat exchanger:				Variable outlet			
Rated heating capacity	$P_{rated,h}$	5.90	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	134	%
Declared heating capacity for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance/Average season, at indoor temperature 20 °C and outdoor temperature Tj			
Tj = – 7°C	Pdh	5.2	kW	Tj = – 7°C	COPd	1.85	—
Tj = 2°C	Pdh	3.2	kW	Tj = 2°C	COPd	3.40	—
Tj = 7°C	Pdh	2.1	kW	Tj = 7°C	COPd	4.50	—
Tj = 12°C	Pdh	2.1	kW	Tj = 12°C	COPd	7.71	—
Tj = bivalent temperature	Pdh	5.2	kW	Tj = bivalent temperature	COPd	1.85	—
Tj = operating limit	Pdh	5.7	kW	Tj = operating limit	COPd	1.54	—
Bivalent temperature				Operating limit temperature			
heating/Average	Tbiv	-7	°C	heating/Average	Tol	-10	°C
heating/Warmer	Tbiv	—	°C	heating/Warmer	Tol	—	°C
heating/Colder	Tbiv	—	°C	heating/Colder	Tol	—	°C
Degradation co-efficient	Cd	0.9					
Power consumption in modes other than ‘active mode’							
Off mode	P_{OFF}	0.010	kW	Standby mode	P_{SB}	0.010	kW
Thermostat-off mode(heating)	P_{TO}	0.011	kW	Crankcase heater mode	P_{CK}	0.001	kW
Supplementary heater							
Supplementary capacity	P_{SUP}	0.179	kW	Type of energy input	Electric		
Other items							
Capacity control		Variable		Air flow rate, outdoor		2700	m^3/h
Reference annual heating demand	Q_H	12081	kWh	Sound power level , indoor/ outdoor measured	LWA	42/64	dB(A)
Annual energy consumption	Q_{HE}	3536	kWh	Global warming potential	GWP	675	$kgCO_2$ eq.
Contact details	Qingdao Hisense Hitachi Air-conditioning Systems Co., Ltd No. 218, Qianwangang Road, Economic and Technological Development Zone, Qingdao, China						