Information requirements for comfort chillers

Model(s):	MC-SU60/RN1L
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water to air
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	Prate $_{d,c}$	55.5	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	154	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
T_j = + 35°C	P_{dc}	55.5	kW	T_j = + 35°C	EER $_d$	2.44	--
T_j = + 30°C	P_{dc}	41.8	kW	T_j = + 30°C	EER $_d$		--
T_j = + 25°C	P_{dc}	25.9	kW	T_j = + 25°C	EER $_d$	4.82	--
T_j = + 20°C	P_{dc}	11.9	kW	T_j = + 20°C	EER $_d$	4.82	--
Degradation co-efficient for chillers (*)	C_{dc}	0.9	--				
Power consumption in modes other than 'active mode'							
Off mode	P_{OFF}	0.07	kW	Crankcase heater mode	P_{CK}	0.07	kW
Thermostat-off mode	P_{TO}	0.40	kW	Standby mode	P_{SB}	0.07	kW
Other items							
Capacity control		variable		For air-to-water comfort chillers: air flow rate, outdoor measured	–	24000	m³/h
Sound power level, indoors / outdoors	LWA	-/87	dB	For water / brine-to-water rate, outdoor side heat exchanger	–	--	m³/h
Emissions of nitrogen oxides (if applicable)	NO$_x$ (**)	--	mg/kWh input GCV				
GWP of the refrigerant	–	2088	kg CO₂ eq (100 years)				
Standard rating conditions used:	Low temperature application						
Contact details	GD Midea Heating & Ventilating Equipment Co., Ltd. Penglai industry Road, Beijiao, Shunde, Foshan, Guangdong, 528311 P.R. China.						

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

Information requirements for heat pump space heaters and heat pump combination heaters

Model(s):	MC-SU60/RN1L
Air-to-water heat pump:	[yes]
Water-to-water heat pump:	[yes/no]
Brine-to-water heat pump:	[yes/no]
Low-temperature heat pump:	[yes/no]
Equipped with a supplementary heater:	[yes/no]
Heat pump combination heater:	[yes/no]

For low-temperature heat pumps, parameters shall be declared for low-temperature application.

Otherwise, parameters shall be declared for medium-temperature application. Parameters shall be declared for average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output [3] at Tdesignh = -10 (-11)°C	Prated = Pdesignh	31	kW	Seasonal space heating energy efficiency	η_s	151	%
Seasonal coefficient of performance	SCOP	3.85	–	Active mode coef. of performance	SCOP$_{on}$	X.XX	–
				Net seasonal coef. of performance	SCOP$_{net}$	X.XX	–
T_j = – 7°C	Pdh	27.3	kW	T_j = – 7°C	COPd	2.70	–
T_j = + 2°C	Pdh	17.1	kW	T_j = + 2°C	COPd	3.69	–
T_j = + 7°C	Pdh	15.4	kW	T_j = + 7°C	COPd	5.04	–
T_j = + 12°C	Pdh	12.5	kW	T_j = + 12°C	COPd	6.43	–
T_j = bivalent temperature	Pdh	27.3	kW	T_j = bivalent temperature	COPd	2.70	–
T_j = operation limit temperature	Pdh	31.5	kW	T_j = operation limit temperature	COPd	2.50	–
For air-to-water heat pumps: T_j = – 15°C (if TOL < – 20°C)	Pdh	x,x	kW	For air-to-water heat pumps: T_j = – 15°C (if TOL < – 20°C)	COPd	x,xx	–
Bivalent temperature (maximum +2°C)	Tbiv	-7	°C	For air-to-water HP: Operation limit temperature (maximum -7°C)	TOL	-10	°C
Cycling interval capacity for heating at T_j = -7°C	Pcych	x,x	kW	Heating water operating limit temperature	WTOL	x	°C
Degradation coefficient [4] at T_j = -7°C	Cdh	x,xx	—	Cycling interval efficiency at Tj=+7°C	COPcyc	x,xx	–
Cycling interval capacity for heating at T_j = +2°C	Pcych	x,x	kW	Cycling interval efficiency at Tj=+12°C	COPcyc	x,xx	–
Degradation coefficient [4] at T_j = +2°C	Cdh	x,xx	—	Cycling interval efficiency at Tj=+7°C	COPcyc	x,xx	–
Cycling interval capacity for heating at T_j = +7°C	Pcych	x,x	kW	Cycling interval efficiency at Tj=+12°C	COPcyc	x,xx	–
Degradation coefficient [4] at T_j = +7°C	Cdh	x,xx	—	Cycling interval efficiency at Tj=+7°C	COPcyc	x,xx	–
Cycling interval capacity for heating at T_j = +12°C	Pcych	x,x	kW	Cycling interval efficiency at Tj=+12°C	COPcyc	x,xx	–
Degradation coefficient [4] at T_j = +12°C	Cdh	x,xx	—				
Power consumption in modes other than active mode				Supplementary heater (to be declared even if not provided in the unit)			
Off mode	P_{OFF}	0.08	kW	Rated heat output (3)	Psup = sup(Tj)	x,x	kW
Thermostat-off mode	P_{TO}	0.40	kW				
Standby mode	P_{SB}	0.08	kW	Type of energy input			
Crankcase heater mode	P_{CK}	0.08	kW				
Other items				Outdoor heat exchanger			
Capacity control	fixed/variable	variable		For air-to-water HP: Rated air flow rate	Q$_{airsource}$	24000	m³/h
Sound power level, indoors	L$_{WA}$	x	dB(A)	For water-to-water: Rated water flow rate	Q$_{watersource}$	x	m³/h
Sound power level, outdoors	L$_{WA}$	87	dB(A)	For brine-to-water: Rated brine flow rate	Q$_{brinesource}$	x	m³/h
Contact details	Name and address of the manufacturer or its authorised representative.						

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