

Information requirements for comfort chillers							
Model(s):	MC-SU90M-RN8L-B						
Outdoor side heat exchanger of chiller:	Air to water						
Indoor side heat exchanger chiller:	Water						
Type:	Compressor driven vapour compression						
Driver of compressor:	Electric motor						
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	82.13	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	174.55	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j = +35^\circ\text{C}$	P_{dc}	82.13	kW	$T_j = +35^\circ\text{C}$	EER_d	2.89	--
$T_j = +30^\circ\text{C}$	P_{dc}	59.15	kW	$T_j = +30^\circ\text{C}$	EER_d	4.09	--
$T_j = +25^\circ\text{C}$	P_{dc}	37.36	kW	$T_j = +25^\circ\text{C}$	EER_d	5.10	--
$T_j = +20^\circ\text{C}$	P_{dc}	26.05	kW	$T_j = +20^\circ\text{C}$	EER_d	5.91	--
Degradation co-efficient for chillers (*)	C_{dc}	0.9	--				
Power consumption in modes other than 'active mode'							
Off mode	P_{OFF}	0.090	kW	Crankcase heater mode	P_{CK}	0	kW
Thermostat-off mode	P_{TO}	0.700	kW	Standby mode	P_{SB}	0.090	kW
Other items							
Capacity control	Variable			For air-to-water comfort chillers: air flow rate, outdoor measured	--	35000	m^3/h
Sound power level, indoors/outdoors	L_{wa}	83	dB	For water / brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	--	--	m^3/h
Emissions of nitrogen oxides (if applicable)	$\text{NO}_x(**)$	--	mg/kWh input GCV		--	--	m^3/h
GWP of the refrigerant	--	675	kg CO_2 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-SU90M-RN8L-B										
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	Item	Symbol	Value	Unit
Rated heat output ⁽³⁾ at $T_{designh} = -10(-11)^\circ\text{C}$	$P_{rated} = P_{designh}$	74.3	kW	Seasonal space heating energy efficiency	η_s	147.70	%				
Seasonal coefficient of performance	SCOP	3.77	--	Active mode coef. of performance	$SCOP_{on}$	--	--				
				Net seasonal coef. of performance	$SCOP_{net}$	--	--				
$T_j = -7^\circ\text{C}$	P_{dh}	65.41	kW	$T_j = -7^\circ\text{C}$	COP_d	2.45	--				
$T_j = +2^\circ\text{C}$	P_{dh}	43.01	kW	$T_j = +2^\circ\text{C}$	COP_d	3.63	--				
$T_j = +7^\circ\text{C}$	P_{dh}	26.42	kW	$T_j = +7^\circ\text{C}$	COP_d	5.08	--				
$T_j = +12^\circ\text{C}$	P_{dh}	28.54	kW	$T_j = +12^\circ\text{C}$	COP_d	5.94	--				
$T_j =$ bivalent temperature	P_{dh}	65.41	kW	$T_j =$ bivalent temperature	COP_d	2.45	--				
$T_j =$ operation limit temperature	P_{dh}	71.03	kW	$T_j =$ operation limit temperature	COP_d	2.32	--				
For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (if $TOL < -20^\circ\text{C}$)	P_{dh}	--	kW	For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (if $TOL < -20^\circ\text{C}$)	COP_d	--	--				
Bivalent temperature (maximum $+2^\circ\text{C}$)	T_{biv}	-7	$^\circ\text{C}$	For air-to-water HP: Operation limit temperature ⁽⁶⁾ (maximum: -7°C)	TOL	-10	$^\circ\text{C}$				
Cycling interval capacity for heating at $T_j = -7^\circ\text{C}$	P_{cyc}	--	kW	Heating water operating limit temperature	WTOL	--	$^\circ\text{C}$				
Degradation coefficient ⁽⁴⁾ at $T = -7^\circ\text{C}$	C_{dh}	--	--	Cycling interval efficiency at $T_j = +7^\circ\text{C}$	COP_{cyc}	--	--				
Cycling interval capacity for heating at $T_j = +2^\circ\text{C}$	P_{cyc}	--	kW	Cycling interval capacity for heating at $T_j = +12^\circ\text{C}$	COP_{cyc}	--	--				
Degradation coefficient ⁽⁴⁾ at $T = +2^\circ\text{C}$	C_{dh}	--	--	Cycling interval efficiency at $T_j = +7^\circ\text{C}$	COP_{cyc}	--	--				
Cycling interval capacity for heating at $T_j = +7^\circ\text{C}$	P_{cyc}	--	kW	Cycling interval capacity for heating at $T_j = +12^\circ\text{C}$	COP_{cyc}	--	--				
Degradation coefficient ⁽⁴⁾ at $T_j = +7^\circ\text{C}$	C_{dh}	--	--	Cycling interval efficiency at $T_j = +7^\circ\text{C}$	COP_{cyc}	--	--				
Cycling interval capacity for heating at $T_j = +12^\circ\text{C}$	P_{cyc}	--	kW	Cycling interval capacity for heating at $T_j = +12^\circ\text{C}$	COP_{cyc}	--	--				
Degradation coefficient ⁽⁴⁾ at $T_j = +12^\circ\text{C}$	C_{dh}	--	--	Supplementary heater (to be declared even if not provided in the unit)							
Power consumption in modes other than active mode											
Off mode	P_{OFF}	0.090	kW	Rated heat output(3)	$P_{sup} = \text{sup}(T_j)$	--	kW				
Thermostat-off mode	P_{TO}	0.700	kW	Type of energy input							
Standby mode	P_{SB}	0.090	kW	Outdoor heat exchanger							
Crankcase heater mode	P_{CK}	0	kW	For air-to-water HP: Rated air flow rate	$Q_{airsource}$	35000	m^3/h				
Other items											
Capacity control	Fixed/Variable	Variable		For water-to-water: Rated water flow rate	$Q_{watersource}$	--	m^3/h				
Sound power level, indoors	L_{WA}	--	dB(A)	For brine-to-water: Rated brine flow rate	$Q_{brinesource}$	--	m^3/h				
Sound power level, outdoors	L_{WA}	83	dB(A)	Contact details							
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 P_{rated} is equal to the design load for heating $P_{designh}$, and the rated heat output of a supplementary heater P_{sup} is equal to the supplementary capacity for heating $\text{sup}(T_j)$.											
(2) If C_{dh} is not determined by measurement then the default degradation coefficient is $C_{dh} = 0.9$.											

