

## Information requirements for air-to-air air conditioners

Model(s):	Outdoor Unit Indoor Unit	U-200PZH2E8 S-1014PU3EX2
Outdoor side heat exchanger of air conditioner:	air	
Indoor side heat exchanger of air conditioner:	air	
Type: compressor driven vapour compression or sorption process	vapour compression	
If applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]	electric motor	

## Information requirements for heat pumps

Model(s):	Outdoor Unit Indoor Unit	U-200PZH2E8 S-1014PU3Ex2
Outdoor side heat exchanger of heat pump:		air
Indoor side heat exchanger of heat pump:		air
Indication if the heater is equipped with a supplementary heater:		no
If applicable: driver of compressor: [electric motor or fuel driven, gaseous or liquid fuel, internal or external combustion engine]		electric motor

Parameters shall be declared for the average heating season, parameters for the warmer and colder heating seasons are optional.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	20.0	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	326.2	%
Refrigeration load	$P_{design,c}$	20.0	kW				
Declared cooling capacity for part load at given outdoor temperatures $T_j$ and indoor $27/19^\circ\text{C}$ (dry/wet bulb)							
$T_j = +35^\circ\text{C}$		20.0	kW	$T_j = +35^\circ\text{C}$		3.5	%
$T_j = +30^\circ\text{C}$		14.7	kW	$T_j = +30^\circ\text{C}$		5.6	%
$T_j = +25^\circ\text{C}$	$P_{dc}$	9.5	kW	$T_j = +25^\circ\text{C}$		10.3	%
$T_j = +20^\circ\text{C}$		6.9	kW	$T_j = +20^\circ\text{C}$		19.1	%
Degradation co- efficient for air conditioners**	$C_{dc}$	0.25	-				
Power consumption in modes other than 'active mode'							
Off mode	$P_{off}$	0.020	kW	Crankcase heater mode	$P_{ck}$	0.010	kW
Thermostat-off mode	$P_{to}$	0.020	kW	Standby mode	$P_{sa}$	0.020	kW
Other items							
Capacity control		variable		For air-to-air conditioner: air flow rate, outdoor		9840	m <sup>3</sup> /h
Sound power level, outdoor	$L_{WA}$	77.0	dB				
Sound power level, indoor	$L_{WA}$	60.0	dB	If engine driven: Emissions of nitrogen oxides	$\text{NO}_x^{***}$	-	mg/kWh fuel input GCV
				GWP of the refrigerant		675	kg CO <sub>2</sub> eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergg 15, 22525 Hamburg, Germany						

\*\* If  $C_{dc}$  is not determined by measurement then the default degradation coefficient of air conditioners shall be 0.25.

\*\*\* from 26 September 2018.

Where information relates to multi-split air conditioners, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.

\*\*\*\* Refer to information requirements for UnitList

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heating capacity	$P_{rated,h}$	22.4	kW	Seasonal space heating energy efficiency	$\eta_{s,h}$	182.2	%
Refrigeration load	$P_{design,h}$	18.0	kW				
Declared heating capacity for part load at indoor temperature $20^\circ\text{C}$ and outdoor temperature $T_j$							
$T_j = -7^\circ\text{C}$		15.9	kW	$T_j = -7^\circ\text{C}$		2.8	%
$T_j = +2^\circ\text{C}$		9.7	kW	$T_j = +2^\circ\text{C}$		4.1	%
$T_j = +7^\circ\text{C}$		6.3	kW	$T_j = +7^\circ\text{C}$		7.4	%
$T_j = +12^\circ\text{C}$		6.0	kW	$T_j = +12^\circ\text{C}$		9.6	%
$T_{bh} = \text{bivalent temperature}$	$P_{bh}$	18.0	kW	$T_{bh} = \text{bivalent temperature}$	$\text{COP}_h \text{ or } \text{GUE}_{h,bh} / \text{AEF}_{h,bh}$	2.6	%
$T_{ol} = \text{operation limit}$		12.3	kW	$T_{ol} = \text{operation limit}$		2.1	%
For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (if $T_{ol} < -20^\circ\text{C}$ )		-	kW	For water-to-air heat pumps: $T_j = -15^\circ\text{C}$ (if $T_{ol} < -20^\circ\text{C}$ )		-	%
Bivalent temperature	$T_{bw}$	-10	$^\circ\text{C}$	For water-to-air heat pumps: Operation limit temperature	$T_{ol}$	-20	$^\circ\text{C}$
Degradation co- efficient heat pumps**	$C_{bh}$	0.25	-				
Power consumption in modes other than 'active mode'							
Off mode	$P_{off}$	0.020	kW	Supplementary heater back-up heating capacity *	$\text{elbu}$	0.0	kW
Thermostat-off mode	$P_{to}$	0.020	kW	Type of energy input			
Crankcase heater mode	$P_{ck}$	0.010	kW	Standby mode	$P_{sa}$	0.020	kW
Other items							
Capacity control		variable		For air-to-air heat pumps: air flow rate, outdoor		9840	m <sup>3</sup> /h
Sound power level, outdoor	$L_{WA}$	79.0	dB	For water-/brine-to-air heat pumps: Rated brine or water flow rate, outdoor side heat exchanger		-	m <sup>3</sup> /h
Sound power level, indoor	$L_{WA}$	60.0	dB	Emissions of nitrogen oxides (if applicable)	$\text{NO}_x^{**}$	-	mg/kWh fuel input GCV
				GWP of the refrigerant		675	kg CO <sub>2</sub> eq (100 years)
Contact details	Panasonic Testing Centre, Panasonic Marketing Europe GmbH Winsbergg 15, 22525 Hamburg, Germany						

\*\* If  $C_{bh}$  is not determined by measurement then the default degradation coefficient of heat pumps shall be 0.25.

\*\*\* from 26 September 2018.

Where information relates to multi-split heat pumps, the test result and performance data may be obtained on the basis of the performance of the outdoor unit, with a combination of indoor unit(s) recommended by the manufacturer or importer.

\*\*\*\* Refer to information requirements for UnitList