PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	8.0	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	4.9	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 7 °C	Pdh	5.4	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = +12 °C	Pdh	5.3	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = bivalent temperature	Pdh	8.0	kW
Tj = operation limit temperature (***)	Pdh	7.9	kW
Bivalent temperature	Tbiv	-7	°C
Reference design conditions for space heating	Tdesignh	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	5527	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	132	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	2.13	-
Tj = + 2 °C	COPd	3.27	-
Tj = + 7 °C	COPd	4.64	-
Tj = +12 °C	COPd	5.92	-
Tj = bivalent temperature	COPd	2.13	-
Tj = operation limit temperature (***)	COPd	2.05	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.1	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier:

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.6	kW	Seasonal space heating energy efficiency	ηs	167	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	8.5	kW	Tj = - 7 °C	COPd	3.15	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 2 °C	Pdh	5.2	kW	Tj = + 2 °C	COPd	4.02	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	5.0	kW	Tj = + 7 °C	COPd	5.62	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12 °C	Pdh	5.6	kW	Tj = +12 °C	COPd	7.53	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	8.5	kW	Tj = bivalent temperature	COPd	3.15	-
Tj = operation limit temperature (***)	Pdh	8.4	kW	Tj = operation limit temperature (***)	COPd	2.91	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-28	°C
Reference design conditions for space heating	Tdesignh	-10	°C	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.022	kW	Rated heat output (*)	Psup	1.2	kW
Thermostat-off mode	P_{TO}	0.022	kW	Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW				
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2700	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA				
Annual energy consumption	Q_{HE}	4659	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW	Seasonal space heating energy efficiency	ηs	111	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	5.4	kW	Tj = - 7 °C	COPd	2.56	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 2 °C	Pdh	3.3	kW	Tj = + 2 °C	COPd	3.00	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	3.5	kW	Tj = + 7 °C	COPd	4.47	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = +12 °C	Pdh	4.2	kW	Tj = +12 °C	COPd	6.23	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	7.6	kW	Tj = bivalent temperature	COPd	2.05	-
Tj = operation limit temperature (***)	Pdh	7.6	kW	Tj = operation limit temperature (***)	COPd	1.75	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	7.4	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	2.11	-
Bivalent temperature	Tbiv	-16	°C	Operation limit temperature	TOL	-28	°C
Reference design conditions for space heating	Tdesignh	-22	°C	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.022	kW	Rated heat output (*)	Psup	1.5	kW
Thermostat-off mode	P_{TO}	0.022	kW	Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW				
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2700	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA				
Annual energy consumption	Q_{HE}	7751	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	5.8	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	3.5	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = + 7 °C	Pdh	3.7	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = +12 °C	Pdh	4.3	kW
Degradation co-efficient (**)	Cdh	0.96	-
Tj = bivalent temperature	Pdh	8.1	kW
Tj = operation limit temperature (***)	Pdh	7.8	kW
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	7.8	kW
Bivalent temperature	Tbiv	-16	°C
Reference design conditions for space heating	Tdesignh	-22	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	6340	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	146	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	3.50	-
Tj = + 2 °C	COPd	3.75	-
Tj = + 7 °C	COPd	5.20	-
Tj = +12 °C	COPd	6.96	-
Tj = bivalent temperature	COPd	3.26	-
Tj = operation limit temperature (***)	COPd	2.35	-
Tj = – 15 °C (if TOL < – 20 °C)	COPd	3.31	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.8	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW	Seasonal space heating energy efficiency	ηs	155	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient 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	-	-
Degradation co-efficient (**)	Cdh	-	-				
Tj = + 2 °C	Pdh	9.0	kW	Tj = + 2 °C	COPd	2.25	-
Degradation co-efficient (**)	Cdh	1.00	-				
Tj = + 7 °C	Pdh	5.8	kW	Tj = + 7 °C	COPd	3.50	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +12 °C	Pdh	4.0	kW	Tj = +12 °C	COPd	5.27	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	9.0	kW	Tj = bivalent temperature	COPd	2.25	-
Tj = operation limit temperature (***)	Pdh	9.0	kW	Tj = operation limit temperature (***)	COPd	2.25	-
Bivalent temperature	Tbiv	2	°C	Operation limit temperature	TOL	-28	°C
Reference design conditions for space heating	Tdesignh	2	°C	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.022	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	P_{TO}	0.022	kW	Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW				
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2700	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA				
Annual energy consumption	Q_{HE}	3044	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW	Seasonal space heating energy efficiency	ηs	213	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient 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	-	-
Degradation co-efficient (**)	Cdh	-	-				
Tj = + 2 °C	Pdh	9.0	kW	Tj = + 2 °C	COPd	3.85	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 7 °C	Pdh	5.8	kW	Tj = + 7 °C	COPd	5.25	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12 °C	Pdh	4.2	kW	Tj = +12 °C	COPd	6.61	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	9.0	kW	Tj = bivalent temperature	COPd	3.85	-
Tj = operation limit temperature (***)	Pdh	9.0	kW	Tj = operation limit temperature (***)	COPd	3.85	-
Bivalent temperature	Tbiv	2	°C	Operation limit temperature	TOL	-28	°C
Reference design conditions for space heating	Tdesignh	2	°C	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.022	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	P_{TO}	0.022	kW	Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW				
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2700	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA				
Annual energy consumption	Q_{HE}	2224	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	8.0	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	4.9	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 7 °C	Pdh	5.4	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = +12 °C	Pdh	5.3	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = bivalent temperature	Pdh	8.0	kW
Tj = operation limit temperature (***)	Pdh	7.9	kW
Bivalent temperature	Tbiv	-7	°C
Reference design conditions for space heating	Tdesignh	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	5527	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	132	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	2.13	-
Tj = + 2 °C	COPd	3.27	-
Tj = + 7 °C	COPd	4.64	-
Tj = +12 °C	COPd	5.92	-
Tj = bivalent temperature	COPd	2.13	-
Tj = operation limit temperature (***)	COPd	2.05	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.1	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier:

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	8.5	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	5.2	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = + 7 °C	Pdh	5.0	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = +12 °C	Pdh	5.6	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = bivalent temperature	Pdh	8.5	kW
Tj = operation limit temperature (***)	Pdh	8.4	kW
Bivalent temperature	Tbiv	-7	°C
Reference design conditions for space heating	Tdesignh	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	4659	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	167	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	3.15	-
Tj = + 2 °C	COPd	4.02	-
Tj = + 7 °C	COPd	5.62	-
Tj = +12 °C	COPd	7.53	-
Tj = bivalent temperature	COPd	3.15	-
Tj = operation limit temperature (***)	COPd	2.91	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.2	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW	Seasonal space heating energy efficiency	ηs	111	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	5.4	kW	Tj = - 7 °C	COPd	2.56	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 2 °C	Pdh	3.3	kW	Tj = + 2 °C	COPd	3.00	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	3.5	kW	Tj = + 7 °C	COPd	4.47	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = +12 °C	Pdh	4.2	kW	Tj = +12 °C	COPd	6.23	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	7.6	kW	Tj = bivalent temperature	COPd	2.05	-
Tj = operation limit temperature (***)	Pdh	7.6	kW	Tj = operation limit temperature (***)	COPd	1.75	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	7.4	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	2.11	-
Bivalent temperature	Tbiv	-16	°C	Operation limit temperature	TOL	-28	°C
Reference design conditions for space heating	Tdesignh	-22	°C	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.022	kW	Rated heat output (*)	Psup	1.5	kW
Thermostat-off mode	P_{TO}	0.022	kW	Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW				
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2700	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA				
Annual energy consumption	Q_{HE}	7751	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	5.8	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	3.5	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = + 7 °C	Pdh	3.7	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = +12 °C	Pdh	4.3	kW
Degradation co-efficient (**)	Cdh	0.96	-
Tj = bivalent temperature	Pdh	8.1	kW
Tj = operation limit temperature (***)	Pdh	7.8	kW
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	7.8	kW
Bivalent temperature	Tbiv	-16	°C
Reference design conditions for space heating	Tdesignh	-22	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	6340	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	146	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	3.50	-
Tj = + 2 °C	COPd	3.75	-
Tj = + 7 °C	COPd	5.20	-
Tj = +12 °C	COPd	6.96	-
Tj = bivalent temperature	COPd	3.26	-
Tj = operation limit temperature (***)	COPd	2.35	-
Tj = – 15 °C (if TOL < – 20 °C)	COPd	3.31	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.8	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW	Seasonal space heating energy efficiency	ηs	155	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient 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	-	-
Degradation co-efficient (**)	Cdh	-	-				
Tj = + 2 °C	Pdh	9.0	kW	Tj = + 2 °C	COPd	2.25	-
Degradation co-efficient (**)	Cdh	1.00	-				
Tj = + 7 °C	Pdh	5.8	kW	Tj = + 7 °C	COPd	3.50	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +12 °C	Pdh	4.0	kW	Tj = +12 °C	COPd	5.27	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	9.0	kW	Tj = bivalent temperature	COPd	2.25	-
Tj = operation limit temperature (***)	Pdh	9.0	kW	Tj = operation limit temperature (***)	COPd	2.25	-
Bivalent temperature	Tbiv	2	°C	Operation limit temperature	TOL	-28	°C
Reference design conditions for space heating	Tdesignh	2	°C	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.022	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	P_{TO}	0.022	kW	Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW				
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2700	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA				
Annual energy consumption	Q_{HE}	3044	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	EHSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW	Seasonal space heating energy efficiency	ηs	213	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient 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	-	-
Degradation co-efficient (**)	Cdh	-	-				
Tj = + 2 °C	Pdh	9.0	kW	Tj = + 2 °C	COPd	3.85	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 7 °C	Pdh	5.8	kW	Tj = + 7 °C	COPd	5.25	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12 °C	Pdh	4.2	kW	Tj = +12 °C	COPd	6.61	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	9.0	kW	Tj = bivalent temperature	COPd	3.85	-
Tj = operation limit temperature (***)	Pdh	9.0	kW	Tj = operation limit temperature (***)	COPd	3.85	-
Bivalent temperature	Tbiv	2	°C	Operation limit temperature	TOL	-28	°C
Reference design conditions for space heating	Tdesignh	2	°C	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.022	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	P_{TO}	0.022	kW	Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW				
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2700	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA				
Annual energy consumption	Q_{HE}	2224	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	8.0	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	4.9	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 7 °C	Pdh	5.4	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = +12 °C	Pdh	5.3	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = bivalent temperature	Pdh	8.0	kW
Tj = operation limit temperature (***)	Pdh	7.9	kW
Bivalent temperature	Tbiv	-7	°C
Reference design conditions for space heating	Tdesignh	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	5413	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	134	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	2.13	-
Tj = + 2 °C	COPd	3.31	-
Tj = + 7 °C	COPd	4.64	-
Tj = +12 °C	COPd	5.92	-
Tj = bivalent temperature	COPd	2.13	-
Tj = operation limit temperature (***)	COPd	2.05	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.1	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier:

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	8.5	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	5.2	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = + 7 °C	Pdh	5.0	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = +12 °C	Pdh	5.6	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = bivalent temperature	Pdh	8.5	kW
Tj = operation limit temperature (***)	Pdh	8.4	kW
Bivalent temperature	Tbiv	-7	°C
Reference design conditions for space heating	Tdesignh	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	4539	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	172	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	3.15	-
Tj = + 2 °C	COPd	4.09	-
Tj = + 7 °C	COPd	5.62	-
Tj = +12 °C	COPd	7.53	-
Tj = bivalent temperature	COPd	3.15	-
Tj = operation limit temperature (***)	COPd	2.91	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.2	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	5.4	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	3.3	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = + 7 °C	Pdh	3.5	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = +12 °C	Pdh	4.2	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = bivalent temperature	Pdh	7.6	kW
Tj = operation limit temperature (***)	Pdh	7.6	kW
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	7.4	kW
Bivalent temperature	Tbiv	-16	°C
Reference design conditions for space heating	Tdesignh	-22	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	7611	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	114	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	2.56	-
Tj = + 2 °C	COPd	3.09	-
Tj = + 7 °C	COPd	4.45	-
Tj = +12 °C	COPd	6.23	-
Tj = bivalent temperature	COPd	2.05	-
Tj = operation limit temperature (***)	COPd	1.75	-
Tj = – 15 °C (if TOL < – 20 °C)	COPd	2.11	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.5	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.6	kW	Seasonal space heating energy efficiency	ηs	150	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	5.8	kW	Tj = - 7 °C	COPd	3.60	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 2 °C	Pdh	3.5	kW	Tj = + 2 °C	COPd	3.80	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	3.7	kW	Tj = + 7 °C	COPd	5.20	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = +12 °C	Pdh	4.3	kW	Tj = +12 °C	COPd	6.96	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = bivalent temperature	Pdh	8.1	kW	Tj = bivalent temperature	COPd	3.26	-
Tj = operation limit temperature (***)	Pdh	7.8	kW	Tj = operation limit temperature (***)	COPd	2.35	-
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	7.8	kW	Tj = – 15 °C (if TOL < – 20 °C)	COPd	3.31	-
Bivalent temperature	Tbiv	-16	°C	Operation limit temperature	TOL	-28	°C
Reference design conditions for space heating	Tdesignh	-22	°C	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.022	kW	Rated heat output (*)	Psup	1.8	kW
Thermostat-off mode	P_{TO}	0.022	kW	Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW				
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2700	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA				
Annual energy consumption	Q_{HE}	6198	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW	Seasonal space heating energy efficiency	ηs	159	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient 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	-	-
Degradation co-efficient (**)	Cdh	-	-				
Tj = + 2 °C	Pdh	9.0	kW	Tj = + 2 °C	COPd	2.25	-
Degradation co-efficient (**)	Cdh	1.00	-				
Tj = + 7 °C	Pdh	5.8	kW	Tj = + 7 °C	COPd	3.45	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +12 °C	Pdh	4.0	kW	Tj = +12 °C	COPd	5.27	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	9.0	kW	Tj = bivalent temperature	COPd	2.25	-
Tj = operation limit temperature (***)	Pdh	9.0	kW	Tj = operation limit temperature (***)	COPd	2.25	-
Bivalent temperature	Tbiv	2	°C	Operation limit temperature	TOL	-28	°C
Reference design conditions for space heating	Tdesignh	2	°C	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.022	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	P_{TO}	0.022	kW	Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW				
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2700	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA				
Annual energy consumption	Q_{HE}	2966	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-****D
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		yes
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW	Seasonal space heating energy efficiency	ηs	221	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j				Declared coefficient 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	-	-
Degradation co-efficient (**)	Cdh	-	-				
Tj = + 2 °C	Pdh	9.0	kW	Tj = + 2 °C	COPd	3.85	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 7 °C	Pdh	5.8	kW	Tj = + 7 °C	COPd	5.14	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12 °C	Pdh	4.2	kW	Tj = +12 °C	COPd	6.61	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	9.0	kW	Tj = bivalent temperature	COPd	3.85	-
Tj = operation limit temperature (***)	Pdh	9.0	kW	Tj = operation limit temperature (***)	COPd	3.85	-
Bivalent temperature	Tbiv	2	°C	Operation limit temperature	TOL	-28	°C
Reference design conditions for space heating	Tdesignh	2	°C	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0.022	kW	Rated heat output (*)	Psup	0.0	kW
Thermostat-off mode	P_{TO}	0.022	kW	Type of energy input	Electrical		
Standby mode	P_{SB}	0.022	kW				
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2700	m^3/h
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA				
Annual energy consumption	Q_{HE}	2146	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	ηwh	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	8.0	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	4.9	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 7 °C	Pdh	5.4	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = +12 °C	Pdh	5.3	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = bivalent temperature	Pdh	8.0	kW
Tj = operation limit temperature (***)	Pdh	7.9	kW
Bivalent temperature	Tbiv	-7	°C
Reference design conditions for space heating	Tdesignh	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	5413	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	134	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	2.13	-
Tj = + 2 °C	COPd	3.31	-
Tj = + 7 °C	COPd	4.64	-
Tj = +12 °C	COPd	5.92	-
Tj = bivalent temperature	COPd	2.13	-
Tj = operation limit temperature (***)	COPd	2.05	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.1	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier:

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	8.5	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	5.2	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = + 7 °C	Pdh	5.0	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = +12 °C	Pdh	5.6	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = bivalent temperature	Pdh	8.5	kW
Tj = operation limit temperature (***)	Pdh	8.4	kW
Bivalent temperature	Tbiv	-7	°C
Reference design conditions for space heating	Tdesignh	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	4539	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	172	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	3.15	-
Tj = + 2 °C	COPd	4.09	-
Tj = + 7 °C	COPd	5.62	-
Tj = +12 °C	COPd	7.53	-
Tj = bivalent temperature	COPd	3.15	-
Tj = operation limit temperature (***)	COPd	2.91	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.2	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	5.4	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	3.3	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = + 7 °C	Pdh	3.5	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = +12 °C	Pdh	4.2	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = bivalent temperature	Pdh	7.6	kW
Tj = operation limit temperature (***)	Pdh	7.6	kW
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	7.4	kW
Bivalent temperature	Tbiv	-16	°C
Reference design conditions for space heating	Tdesignh	-22	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	7611	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	114	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	2.56	-
Tj = + 2 °C	COPd	3.09	-
Tj = + 7 °C	COPd	4.45	-
Tj = +12 °C	COPd	6.23	-
Tj = bivalent temperature	COPd	2.05	-
Tj = operation limit temperature (***)	COPd	1.75	-
Tj = – 15 °C (if TOL < – 20 °C)	COPd	2.11	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.5	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.6	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	5.8	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 2 °C	Pdh	3.5	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = + 7 °C	Pdh	3.7	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = +12 °C	Pdh	4.3	kW
Degradation co-efficient (**)	Cdh	0.96	-
Tj = bivalent temperature	Pdh	8.1	kW
Tj = operation limit temperature (***)	Pdh	7.8	kW
Tj = – 15 °C (if TOL < – 20 °C)	Pdh	7.8	kW
Bivalent temperature	Tbiv	-16	°C
Reference design conditions for space heating	Tdesignh	-22	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	6198	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	150	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	3.60	-
Tj = + 2 °C	COPd	3.80	-
Tj = + 7 °C	COPd	5.20	-
Tj = +12 °C	COPd	6.96	-
Tj = bivalent temperature	COPd	3.26	-
Tj = operation limit temperature (***)	COPd	2.35	-
Tj = – 15 °C (if TOL < – 20 °C)	COPd	3.31	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	1.8	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		medium-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	-	kW
Degradation co-efficient (**)	Cdh	-	-
Tj = + 2 °C	Pdh	9.0	kW
Degradation co-efficient (**)	Cdh	1.00	-
Tj = + 7 °C	Pdh	5.8	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = +12 °C	Pdh	4.0	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = bivalent temperature	Pdh	9.0	kW
Tj = operation limit temperature (***)	Pdh	9.0	kW
Bivalent temperature	Tbiv	2	°C
Reference design conditions for space heating	Tdesignh	2	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	2966	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	159	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	-	-
Tj = + 2 °C	COPd	2.25	-
Tj = + 7 °C	COPd	3.45	-
Tj = +12 °C	COPd	5.27	-
Tj = bivalent temperature	COPd	2.25	-
Tj = operation limit temperature (***)	COPd	2.25	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	0.0	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUHZ-SHW80YAA(-BS)
	Indoor unit:	ERSC-MED
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		no
Equipped with a supplementary heater:		no
Heat pump combination heater:		no
Parameters for		low-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T j			
Tj = - 7 °C	Pdh	-	kW
Degradation co-efficient (**)	Cdh	-	-
Tj = + 2 °C	Pdh	9.0	kW
Degradation co-efficient (**)	Cdh	0.99	-
Tj = + 7 °C	Pdh	5.8	kW
Degradation co-efficient (**)	Cdh	0.98	-
Tj = +12 °C	Pdh	4.2	kW
Degradation co-efficient (**)	Cdh	0.97	-
Tj = bivalent temperature	Pdh	9.0	kW
Tj = operation limit temperature (***)	Pdh	9.0	kW
Bivalent temperature	Tbiv	2	°C
Reference design conditions for space heating	Tdesignh	2	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	40 / 59	dBA
Annual energy consumption	Q_{HE}	2146	kWh
For heat pump combination heater:			
Declared load profile		-	
Daily electricity consumption	Qelec	-	kWh
Annual electricity consumption	AEC	-	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	ηs	221	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	COPd	-	-
Tj = + 2 °C	COPd	3.85	-
Tj = + 7 °C	COPd	5.14	-
Tj = +12 °C	COPd	6.61	-
Tj = bivalent temperature	COPd	3.85	-
Tj = operation limit temperature (***)	COPd	3.85	-
Operation limit temperature	TOL	-28	°C
Heating water operating limit temperature	WTOL	60	°C
Supplementary heater			
Rated heat output (*)	Psup	0.0	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors	-	2700	m^3/h
Water heating energy efficiency	ηwh	-	%

Contact details

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD. Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

The identification and signature of the person empowered to bind the supplier;

The signature is signed in the average climate / medium-temperature section.

Atsushi EDAYOSHI
Manager, Quality Assuarance Department
UNITED KINGDOM

· Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

· Details and precautions on recycling and/or disposal at end-of-life can be found in the installation and or operation manuals.

(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

(***) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature Tj is equal to T designh.

This information is based on EU regulation No 811/2013 and No 813/2013.