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Indoor unit E\*ST30D-\*\*\*\*D  
Outdoor unit PUD-SHWM100VAA(-BS)



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41 dB  
59 dB



- 10 kW
- 10 kW
- 10 kW

2019

811/2013

BH79V003K20







**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-****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:		yes
Parameters for		medium-temperature application.
Parameters for		average climate conditions.

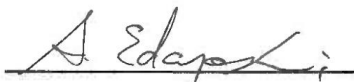
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	136	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	8.9	kW	Tj = - 7 °C	COPd	2.18	-
Degradation co-efficient (**)	Cdh	1.00	-	Tj = + 2 °C	COPd	3.27	-
Tj = + 2 °C	Pdh	5.4	kW	Tj = + 7 °C	COPd	4.81	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = +12 °C	COPd	7.06	-
Tj = + 7 °C	Pdh	5.2	kW	Tj = bivalent temperature	COPd	1.91	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = operation limit temperature (***)	COPd	1.91	-
Tj = +12 °C	Pdh	3.6	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	Cdh	0.97	-	Heating water operating limit temperature	WTOL	60	°C
Tj = bivalent temperature	Pdh	10.0	kW	Supplementary heater			
Tj = operation limit temperature (***)	Pdh	10.0	kW	Rated heat output (*)	Psup	0.0	kW
Bivalent temperature	Tbiv	-10	°C	Type of energy input	Electrical		
Reference design conditions for space heating	Tdesignh	-10	°C	Power consumption in modes other than active mode			
Power consumption in modes other than active mode				Off mode			
Off mode	P <sub>OFF</sub>	0.015	kW	Thermostat-off mode	P <sub>TO</sub>	0.015	kW
Thermostat-off mode	P <sub>TO</sub>	0.015	kW	Standby mode	P <sub>SB</sub>	0.015	kW
Standby mode	P <sub>SB</sub>	0.015	kW	Crankcase heater mode	P <sub>CK</sub>	0.000	kW
Crankcase heater mode	P <sub>CK</sub>	0.000	kW	Other items			

Capacity control	variable	Rated air flow rate, outdoors	-	2640	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dB(A)		
Annual energy consumption	Q <sub>HE</sub>	5938	kWh		

For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	121	%	
Daily electricity consumption	Q <sub>elec</sub>	6.500	kWh				
Annual electricity consumption	AEC	1431	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:



Atsushi EDAYOSHI  
 Manager, Quality Assurance 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.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-****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:		yes
Parameters for		low-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	180	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	8.9	kW	Tj = - 7 °C	COPd	3.16	-
Degradation co-efficient (**)	Cdh	1.00	-	Tj = + 2 °C	COPd	4.46	-
Tj = + 2 °C	Pdh	5.7	kW	Tj = + 7 °C	COPd	5.63	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = +12 °C	COPd	7.89	-
Tj = + 7 °C	Pdh	5.4	kW	Tj = bivalent temperature	COPd	2.92	-
Degradation co-efficient (**)	Cdh	0.98	-	Tj = operation limit temperature (***)	COPd	2.92	-
Tj = +12 °C	Pdh	4.5	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	Cdh	0.97	-	Heating water operating limit temperature	WTOL	60	°C
Tj = bivalent temperature	Pdh	10.0	kW	Supplementary heater			
Tj = operation limit temperature (***)	Pdh	10.0	kW	Rated heat output (*)	Psup	0.0	kW
Bivalent temperature	Tbiv	-10	°C	Type of energy input	Electrical		
Reference design conditions for space heating	Tdesignh	-10	°C	Power consumption in modes other than active mode			
Off mode				P <sub>OFF</sub>			
Thermostat-off mode				P <sub>TO</sub>			
Standby mode				P <sub>SB</sub>			
Crankcase heater mode				P <sub>CK</sub>			

Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	4527	kWh				

For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	121	%	
Daily electricity consumption	Q <sub>elec</sub>	6.500	kWh				
Annual electricity consumption	AEC	1431	kWh				

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(\*\*) 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.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-****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:		yes
Parameters for		medium-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	115	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	P <sub>d,h</sub>	6.1	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	2.70	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.99	-	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	3.32	-
T <sub>j</sub> = + 2 °C	P <sub>d,h</sub>	3.7	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	4.65	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.99	-	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	6.88	-
T <sub>j</sub> = + 7 °C	P <sub>d,h</sub>	3.8	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	1.56	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.98	-	T <sub>j</sub> = operation limit temperature (***)	COP <sub>d</sub>	1.57	-
T <sub>j</sub> = +12 °C	P <sub>d,h</sub>	4.4	kW	T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	COP <sub>d</sub>	1.56	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.98	-	Operation limit temperature	TOL	-28	°C
T <sub>j</sub> = bivalent temperature	P <sub>d,h</sub>	8.4	kW	Heating water operating limit temperature	WTOL	60	°C
T <sub>j</sub> = operation limit temperature (***)	P <sub>d,h</sub>	8.1	kW	Supplementary heater			
T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	P <sub>d,h</sub>	8.5	kW	Rated heat output (*)	P <sub>sup</sub>	2.0	kW
Bivalent temperature	T <sub>biv</sub>	-16	°C	Type of energy input	Electrical		
Reference design conditions for space heating	T <sub>designh</sub>	-22	°C	Power consumption in modes other than active mode			
Off mode				P <sub>OFF</sub>	0.015	kW	
Thermostat-off mode				P <sub>TO</sub>	0.015	kW	
Standby mode				P <sub>SB</sub>	0.015	kW	
Crankcase heater mode				P <sub>CK</sub>	0.000	kW	

Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	8364	kWh				

For heat pump combination heater:												
Declared load profile				XL				Water heating energy efficiency				
Daily electricity consumption				Q <sub>elec</sub>	7.730	kWh	$\eta_{wh}$	102	%			
Annual electricity consumption				AEC	1700	kWh						

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(\*\*) If C<sub>d,h</sub> is not determined by measurement then the default degradation coefficient is C<sub>d,h</sub> = 0,9.

(\*\*\*) If the declared TOL is lower than the T<sub>designh</sub> of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T<sub>designh</sub>.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-****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:	yes	
Parameters for	low-temperature application.	
Parameters for	colder climate conditions.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	149	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	P <sub>d,h</sub>	6.2	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	3.78	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.99	-	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	4.10	-
T <sub>j</sub> = + 2 °C	P <sub>d,h</sub>	3.9	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	5.45	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.98	-	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	7.50	-
T <sub>j</sub> = + 7 °C	P <sub>d,h</sub>	3.9	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	2.15	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.98	-	T <sub>j</sub> = operation limit temperature (***)	COP <sub>d</sub>	1.86	-
T <sub>j</sub> = +12 °C	P <sub>d,h</sub>	4.5	kW	T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	COP <sub>d</sub>	2.20	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.98	-	Operation limit temperature	TOL	-28	°C
T <sub>j</sub> = bivalent temperature	P <sub>d,h</sub>	8.4	kW	Heating water operating limit temperature	WTOL	60	°C
T <sub>j</sub> = operation limit temperature (***)	P <sub>d,h</sub>	8.1	kW	Supplementary heater			
T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	P <sub>d,h</sub>	8.5	kW	Rated heat output (*)	P <sub>sup</sub>	2.0	kW
Bivalent temperature	T <sub>biv</sub>	-16	°C	Type of energy input	Electrical		
Reference design conditions for space heating	T <sub>designh</sub>	-22	°C				
Power consumption in modes other than active mode							
Off mode	P <sub>OFF</sub>	0.015	kW				
Thermostat-off mode	P <sub>TO</sub>	0.015	kW				
Standby mode	P <sub>SB</sub>	0.015	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	6472	kWh				

For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	102	%	
Daily electricity consumption	Q <sub>elec</sub>	7.730	kWh				
Annual electricity consumption	AEC	1700	kWh				

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(\*\*) If C<sub>d,h</sub> is not determined by measurement then the default degradation coefficient is C<sub>d,h</sub> = 0,9.

(\*\*\*) If the declared TOL is lower than the T<sub>designh</sub> of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T<sub>designh</sub>.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-****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:		yes
Parameters for		medium-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	163	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				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	COPd	2.05	-
Tj = + 2 °C	Pdh	10.0	kW	Tj = + 7 °C	COPd	3.52	-
Degradation co-efficient (**)	Cdh	1.00	-	Tj = +12 °C	COPd	5.70	-
Tj = + 7 °C	Pdh	6.4	kW	Tj = bivalent temperature	COPd	2.05	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = operation limit temperature (***)	COPd	2.05	-
Tj = +12 °C	Pdh	4.2	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	Cdh	0.98	-	Heating water operating limit temperature	WTOL	60	°C
Tj = bivalent temperature	Pdh	10.0	kW	Supplementary heater			
Tj = operation limit temperature (***)	Pdh	10.0	kW	Rated heat output (*)	Psup	0.0	kW
Bivalent temperature	Tbiv	2	°C	Type of energy input	Electrical		
Reference design conditions for space heating	Tdesignh	2	°C				
Power consumption in modes other than active mode							
Off mode	P <sub>OFF</sub>	0.015	kW				
Thermostat-off mode	P <sub>TO</sub>	0.015	kW				
Standby mode	P <sub>SB</sub>	0.015	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	3226	kWh				

For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	145	%	
Daily electricity consumption	Q <sub>elec</sub>	5.470	kWh				
Annual electricity consumption	AEC	1203	kWh				

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 (\*\*) 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.



**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-****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:		yes
Parameters for		low-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	235	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	P <sub>d,h</sub>	-	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	-	-
Degradation co-efficient (**)	C <sub>d,h</sub>	-	-	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	3.45	-
T <sub>j</sub> = + 2 °C	P <sub>d,h</sub>	10.0	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	5.52	-
Degradation co-efficient (**)	C <sub>d,h</sub>	1.00	-	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	7.50	-
T <sub>j</sub> = + 7 °C	P <sub>d,h</sub>	6.4	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	3.45	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.99	-	T <sub>j</sub> = operation limit temperature (***)	COP <sub>d</sub>	3.45	-
T <sub>j</sub> = +12 °C	P <sub>d,h</sub>	4.4	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	C <sub>d,h</sub>	0.97	-	Heating water operating limit temperature	WTOL	60	°C
T <sub>j</sub> = bivalent temperature	P <sub>d,h</sub>	10.0	kW	Supplementary heater			
T <sub>j</sub> = operation limit temperature (***)	P <sub>d,h</sub>	10.0	kW	Rated heat output (*)	P <sub>sup</sub>	0.0	kW
Bivalent temperature	T <sub>biv</sub>	2	°C	Type of energy input	Electrical		
Reference design conditions for space heating	T <sub>designh</sub>	2	°C	Power consumption in modes other than active mode			
Off mode				P <sub>OFF</sub>			
Thermostat-off mode				P <sub>TO</sub>			
Standby mode				P <sub>SB</sub>			
Crankcase heater mode				P <sub>CK</sub>			

Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	2246	kWh				

For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	145	%	
Daily electricity consumption	Q <sub>elec</sub>	5.470	kWh				
Annual electricity consumption	AEC	1203	kWh				

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(\*\*) If C<sub>d,h</sub> is not determined by measurement then the default degradation coefficient is C<sub>d,h</sub> = 0,9.

(\*\*\*) If the declared TOL is lower than the T<sub>designh</sub> of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T<sub>designh</sub>.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-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:		yes
Parameters for		medium-temperature application.
Parameters for		average climate conditions.


Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	136	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	8.9	kW	Tj = - 7 °C	COPd	2.18	-
Degradation co-efficient (**)	Cdh	1.00	-	Tj = + 2 °C	COPd	3.27	-
Tj = + 2 °C	Pdh	5.4	kW	Tj = + 7 °C	COPd	4.81	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = +12 °C	COPd	7.06	-
Tj = + 7 °C	Pdh	5.2	kW	Tj = bivalent temperature	COPd	1.91	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = operation limit temperature (***)	COPd	1.91	-
Tj = +12 °C	Pdh	3.6	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	Cdh	0.97	-	Heating water operating limit temperature	WTOL	60	°C
Tj = bivalent temperature	Pdh	10.0	kW	Supplementary heater			
Tj = operation limit temperature (***)	Pdh	10.0	kW	Rated heat output (*)	Psup	0.0	kW
Bivalent temperature	Tbiv	-10	°C	Type of energy input	Electrical		
Reference design conditions for space heating	Tdesignh	-10	°C	Power consumption in modes other than active mode			
Off mode				P <sub>OFF</sub>			
Thermostat-off mode				P <sub>TO</sub>			
Standby mode				P <sub>SB</sub>			
Crankcase heater mode				P <sub>CK</sub>			

Other items				Rated air flow rate, outdoors	-	2640	m <sup>3</sup> /h
Capacity control	variable						
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	5938	kWh				

For heat pump combination heater:				Water heating energy efficiency	$\eta_{wh}$	121	%
Declared load profile	XL						
Daily electricity consumption	Q <sub>elec</sub>	6.500	kWh				
Annual electricity consumption	AEC	1431	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:



Atsushi EDAYOSHI  
 Manager, Quality Assurance Department  
 UNITED KINGDOM

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 (\*\*) 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.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-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:		yes
Parameters for		low-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	180	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	P <sub>d,h</sub>	8.9	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	3.16	-
Degradation co-efficient (**)	C <sub>d,h</sub>	1.00	-	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	4.46	-
T <sub>j</sub> = + 2 °C	P <sub>d,h</sub>	5.7	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	5.63	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.99	-	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	7.89	-
T <sub>j</sub> = + 7 °C	P <sub>d,h</sub>	5.4	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	2.92	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.98	-	T <sub>j</sub> = operation limit temperature (***)	COP <sub>d</sub>	2.92	-
T <sub>j</sub> = +12 °C	P <sub>d,h</sub>	4.5	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	C <sub>d,h</sub>	0.97	-	Heating water operating limit temperature	WTOL	60	°C
T <sub>j</sub> = bivalent temperature	P <sub>d,h</sub>	10.0	kW	Supplementary heater			
T <sub>j</sub> = operation limit temperature (***)	P <sub>d,h</sub>	10.0	kW	Rated heat output (*)	P <sub>sup</sub>	0.0	kW
Bivalent temperature	T <sub>biv</sub>	-10	°C	Type of energy input	Electrical		
Reference design conditions for space heating	T <sub>designh</sub>	-10	°C	Power consumption in modes other than active mode			
Off mode				P <sub>OFF</sub>			
Thermostat-off mode				P <sub>TO</sub>			
Standby mode				P <sub>SB</sub>			
Crankcase heater mode				P <sub>CK</sub>			
Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	4527	kWh				
For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	121	%	
Daily electricity consumption	Q <sub>elec</sub>	6.500	kWh				
Annual electricity consumption	AEC	1431	kWh				

**Contact details**

MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD.

Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.

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Atsushi EDAYOSHI

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Manager, Quality Assurance Department

UNITED KINGDOM

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 (\*\*\*) If the declared TOL is lower than the T<sub>designh</sub> of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T<sub>designh</sub>.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-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:		yes
Parameters for		medium-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	115	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	P <sub>d</sub> <sub>h</sub>	6.1	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	2.70	-
Degradation co-efficient (**)	C <sub>d</sub> <sub>h</sub>	0.99	-	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	3.32	-
T <sub>j</sub> = + 2 °C	P <sub>d</sub> <sub>h</sub>	3.7	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	4.65	-
Degradation co-efficient (**)	C <sub>d</sub> <sub>h</sub>	0.99	-	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	6.88	-
T <sub>j</sub> = + 7 °C	P <sub>d</sub> <sub>h</sub>	3.8	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	1.56	-
Degradation co-efficient (**)	C <sub>d</sub> <sub>h</sub>	0.98	-	T <sub>j</sub> = operation limit temperature (***)	COP <sub>d</sub>	1.57	-
T <sub>j</sub> = +12 °C	P <sub>d</sub> <sub>h</sub>	4.4	kW	T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	COP <sub>d</sub>	1.56	-
Degradation co-efficient (**)	C <sub>d</sub> <sub>h</sub>	0.98	-	Operation limit temperature	TOL	-28	°C
T <sub>j</sub> = bivalent temperature	P <sub>d</sub> <sub>h</sub>	8.4	kW	Heating water operating limit temperature	WTOL	60	°C
T <sub>j</sub> = operation limit temperature (***)	P <sub>d</sub> <sub>h</sub>	8.1	kW	Supplementary heater			
T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	P <sub>d</sub> <sub>h</sub>	8.5	kW	Rated heat output (*)	P <sub>sup</sub>	2.0	kW
Bivalent temperature	T <sub>biv</sub>	-16	°C	Type of energy input	Electrical		
Reference design conditions for space heating	T <sub>designh</sub>	-22	°C	Power consumption in modes other than active mode			
Power consumption in modes other than active mode				Off mode			
Off mode	P <sub>OFF</sub>	0.015	kW	Thermostat-off mode	P <sub>TO</sub>	0.015	kW
Thermostat-off mode	P <sub>TO</sub>	0.015	kW	Standby mode	P <sub>SB</sub>	0.015	kW
Standby mode	P <sub>SB</sub>	0.015	kW	Crankcase heater mode	P <sub>CK</sub>	0.000	kW
Crankcase heater mode	P <sub>CK</sub>	0.000	kW	Other items			

Capacity control	variable			Rated air flow rate, outdoors	-	2640	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	8364	kWh				

For heat pump combination heater:				Declared load profile			
Declared load profile	XL			Water heating energy efficiency	$\eta_{wh}$	102	%
Daily electricity consumption	Q <sub>elec</sub>	7.730	kWh				
Annual electricity consumption	AEC	1700	kWh				

Contact details	MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD.	Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.
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Manager, Quality Assurance Department

UNITED KINGDOM

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(\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-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:	yes	
Parameters for	low-temperature application.	
Parameters for	colder climate conditions.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	149	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	P <sub>d</sub> <sub>h</sub>	6.2	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	3.78	-
Degradation co-efficient (**)	C <sub>d</sub> <sub>h</sub>	0.99	-	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	4.10	-
T <sub>j</sub> = + 2 °C	P <sub>d</sub> <sub>h</sub>	3.9	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	5.45	-
Degradation co-efficient (**)	C <sub>d</sub> <sub>h</sub>	0.98	-	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	7.50	-
T <sub>j</sub> = + 7 °C	P <sub>d</sub> <sub>h</sub>	3.9	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	2.15	-
Degradation co-efficient (**)	C <sub>d</sub> <sub>h</sub>	0.98	-	T <sub>j</sub> = operation limit temperature (***)	COP <sub>d</sub>	1.86	-
T <sub>j</sub> = +12 °C	P <sub>d</sub> <sub>h</sub>	4.5	kW	T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	COP <sub>d</sub>	2.20	-
Degradation co-efficient (**)	C <sub>d</sub> <sub>h</sub>	0.98	-	Operation limit temperature	TOL	-28	°C
T <sub>j</sub> = bivalent temperature	P <sub>d</sub> <sub>h</sub>	8.4	kW	Heating water operating limit temperature	WTOL	60	°C
T <sub>j</sub> = operation limit temperature (***)	P <sub>d</sub> <sub>h</sub>	8.1	kW	Supplementary heater			
T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	P <sub>d</sub> <sub>h</sub>	8.5	kW	Rated heat output (*)	P <sub>sup</sub>	2.0	kW
Bivalent temperature	T <sub>biv</sub>	-16	°C	Type of energy input	Electrical		
Reference design conditions for space heating	T <sub>designh</sub>	-22	°C				
Power consumption in modes other than active mode							
Off mode	P <sub>OFF</sub>	0.015	kW				
Thermostat-off mode	P <sub>TO</sub>	0.015	kW				
Standby mode	P <sub>SB</sub>	0.015	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	6472	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	$\eta_{wh}$	102	%
Daily electricity consumption	Q <sub>elec</sub>	7.730	kWh				
Annual electricity consumption	AEC	1700	kWh				

Contact details		MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD.	Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.
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Manager, Quality Assurance Department

UNITED KINGDOM

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(\*\*) If C<sub>d</sub><sub>h</sub> is not determined by measurement then the default degradation coefficient is C<sub>d</sub><sub>h</sub> = 0,9.

(\*\*\*) If the declared TOL is lower than the T designh of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T designh.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-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:		yes
Parameters for		medium-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	163	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				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	COPd	2.05	-
Tj = + 2 °C	Pdh	10.0	kW	Tj = + 7 °C	COPd	3.52	-
Degradation co-efficient (**)	Cdh	1.00	-	Tj = +12 °C	COPd	5.70	-
Tj = + 7 °C	Pdh	6.4	kW	Tj = bivalent temperature	COPd	2.05	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = operation limit temperature (***)	COPd	2.05	-
Tj = +12 °C	Pdh	4.2	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	Cdh	0.98	-	Heating water operating limit temperature	WTOL	60	°C
Tj = bivalent temperature	Pdh	10.0	kW	Supplementary heater			
Tj = operation limit temperature (***)	Pdh	10.0	kW	Rated heat output (*)	Psup	0.0	kW
Bivalent temperature	Tbiv	2	°C	Type of energy input	Electrical		
Reference design conditions for space heating	Tdesignh	2	°C	Power consumption in modes other than active mode			
Off mode				P <sub>OFF</sub>			
Thermostat-off mode				P <sub>TO</sub>			
Standby mode				P <sub>SB</sub>			
Crankcase heater mode				P <sub>CK</sub>			
Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	3226	kWh				
For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	145	%	
Daily electricity consumption	Qelec	5.470	kWh				
Annual electricity consumption	AEC	1203	kWh				

Contact details		MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD.		Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.	
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 (\*\*) 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.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	EHST30D-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:		yes
Parameters for		low-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	235	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				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	COPd	3.45	-
Tj = + 2 °C	Pdh	10.0	kW	Tj = + 7 °C	COPd	5.52	-
Degradation co-efficient (**)	Cdh	1.00	-	Tj = +12 °C	COPd	7.50	-
Tj = + 7 °C	Pdh	6.4	kW	Tj = bivalent temperature	COPd	3.45	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = operation limit temperature (***)	COPd	3.45	-
Tj = +12 °C	Pdh	4.4	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	Cdh	0.97	-	Heating water operating limit temperature	WTOL	60	°C
Tj = bivalent temperature	Pdh	10.0	kW	Supplementary heater			
Tj = operation limit temperature (***)	Pdh	10.0	kW	Rated heat output (*)	Psup	0.0	kW
Bivalent temperature	Tbiv	2	°C	Type of energy input	Electrical		
Reference design conditions for space heating	Tdesignh	2	°C	Power consumption in modes other than active mode			
Off mode				P <sub>OFF</sub>			
Thermostat-off mode				P <sub>TO</sub>			
Standby mode				P <sub>SB</sub>			
Crankcase heater mode				P <sub>CK</sub>			

Capacity control	variable			Rated air flow rate, outdoors	-	2640	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	2246	kWh				

For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	145	%	
Daily electricity consumption	Q <sub>elec</sub>	5.470	kWh				
Annual electricity consumption	AEC	1203	kWh				

Contact details

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(\*\*) 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.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	ERST30D-****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:		yes
Parameters for		medium-temperature application.
Parameters for		average climate conditions.

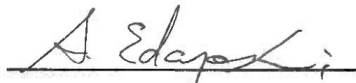
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	136	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	8.9	kW	Tj = - 7 °C	COPd	2.18	-
Degradation co-efficient (**)	Cdh	1.00	-	Tj = + 2 °C	COPd	3.27	-
Tj = + 2 °C	Pdh	5.4	kW	Tj = + 7 °C	COPd	4.81	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = +12 °C	COPd	7.06	-
Tj = + 7 °C	Pdh	5.2	kW	Tj = bivalent temperature	COPd	1.91	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = operation limit temperature (***)	COPd	1.91	-
Tj = +12 °C	Pdh	3.6	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	Cdh	0.97	-	Heating water operating limit temperature	WTOL	60	°C
Tj = bivalent temperature	Pdh	10.0	kW	Supplementary heater			
Tj = operation limit temperature (***)	Pdh	10.0	kW	Rated heat output (*)	Psup	0.0	kW
Bivalent temperature	Tbiv	-10	°C	Type of energy input	Electrical		
Reference design conditions for space heating	Tdesignh	-10	°C	Power consumption in modes other than active mode			
Off mode				P <sub>OFF</sub>			
Thermostat-off mode				P <sub>TO</sub>			
Standby mode				P <sub>SB</sub>			
Crankcase heater mode				P <sub>CK</sub>			

Capacity control	variable			Rated air flow rate, outdoors	-	2640	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	5938	kWh				

For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	121	%	
Daily electricity consumption	Q <sub>elec</sub>	6.500	kWh				
Annual electricity consumption	AEC	1431	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:



Atsushi EDAYOSHI  
 Manager, Quality Assurance Department  
 UNITED KINGDOM

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 (\*\*\*) 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.



**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	ERST30D-****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:		yes
Parameters for		low-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	180	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	P <sub>d,h</sub>	8.9	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	3.16	-
Degradation co-efficient (**)	C <sub>d,h</sub>	1.00	-	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	4.46	-
T <sub>j</sub> = + 2 °C	P <sub>d,h</sub>	5.7	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	5.63	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.99	-	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	7.89	-
T <sub>j</sub> = + 7 °C	P <sub>d,h</sub>	5.4	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	2.92	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.98	-	T <sub>j</sub> = operation limit temperature (***)	COP <sub>d</sub>	2.92	-
T <sub>j</sub> = +12 °C	P <sub>d,h</sub>	4.5	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	C <sub>d,h</sub>	0.97	-	Heating water operating limit temperature	WTOL	60	°C
T <sub>j</sub> = bivalent temperature	P <sub>d,h</sub>	10.0	kW	Supplementary heater			
T <sub>j</sub> = operation limit temperature (***)	P <sub>d,h</sub>	10.0	kW	Rated heat output (*)	P <sub>sup</sub>	0.0	kW
Bivalent temperature				Type of energy input	Electrical		
Reference design conditions for space heating							
T <sub>biv</sub>							
T <sub>designh</sub>							
-10							
°C							
-10							
°C							
Power consumption in modes other than active mode							
Off mode	P <sub>OFF</sub>	0.015	kW				
Thermostat-off mode	P <sub>TO</sub>	0.015	kW				
Standby mode	P <sub>SB</sub>	0.015	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				
Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2640	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	4527	kWh				

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	$\eta_{wh}$	121	%
Daily electricity consumption	Q <sub>elec</sub>	6.500	kWh				
Annual electricity consumption	AEC	1431	kWh				

Contact details	MITSUBISHI ELECTRIC AIR CODITIONING SYSTEM EUROPE LTD.	Nettlehill Road, Houston Industrial Estate, Livingston, EH54 5EQ, Scotland, U.K.
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Manager, Quality Assurance Department

UNITED KINGDOM

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(\*\*\*) If the declared TOL is lower than the T<sub>designh</sub> of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T<sub>designh</sub>.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	ERST30D-****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:		yes
Parameters for		medium-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	115	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	6.1	kW	Tj = - 7 °C	COPd	2.70	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = + 2 °C	COPd	3.32	-
Tj = + 2 °C	Pdh	3.7	kW	Tj = + 7 °C	COPd	4.65	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = +12 °C	COPd	6.88	-
Tj = + 7 °C	Pdh	3.8	kW	Tj = bivalent temperature	COPd	1.56	-
Degradation co-efficient (**)	Cdh	0.98	-	Tj = operation limit temperature (***)	COPd	1.57	-
Tj = +12 °C	Pdh	4.4	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	1.56	-
Degradation co-efficient (**)	Cdh	0.98	-	Operation limit temperature	TOL	-28	°C
Tj = bivalent temperature	Pdh	8.4	kW	Heating water operating limit temperature	WTOL	60	°C
Tj = operation limit temperature (***)	Pdh	8.1	kW	Supplementary heater			
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	8.5	kW	Rated heat output (*)	Psup	2.0	kW
Bivalent temperature	Tbiv	-16	°C	Type of energy input	Electrical		
Reference design conditions for space heating	Tdesignh	-22	°C	Power consumption in modes other than active mode			
Off mode				P <sub>OFF</sub>			
Thermostat-off mode				P <sub>TO</sub>			
Standby mode				P <sub>SB</sub>			
Crankcase heater mode				P <sub>CK</sub>			

Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	8364	kWh				

For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	102	%	
Daily electricity consumption	Q <sub>elec</sub>	7.730	kWh				
Annual electricity consumption	AEC	1700	kWh				

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(\*\*) 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.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	ERST30D-****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:		yes
Parameters for		low-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	149	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = - 7 °C	Pdh	6.2	kW	Tj = - 7 °C	COPd	3.78	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = + 2 °C	COPd	4.10	-
Tj = + 2 °C	Pdh	3.9	kW	Tj = + 7 °C	COPd	5.45	-
Degradation co-efficient (**)	Cdh	0.98	-	Tj = +12 °C	COPd	7.50	-
Tj = + 7 °C	Pdh	3.9	kW	Tj = bivalent temperature	COPd	2.15	-
Degradation co-efficient (**)	Cdh	0.98	-	Tj = operation limit temperature (***)	COPd	1.86	-
Tj = +12 °C	Pdh	4.5	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	2.20	-
Degradation co-efficient (**)	Cdh	0.98	-	Operation limit temperature	TOL	-28	°C
Tj = bivalent temperature	Pdh	8.4	kW	Heating water operating limit temperature	WTOL	60	°C
Tj = operation limit temperature (***)	Pdh	8.1	kW				
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	8.5	kW				
Bivalent temperature	Tbiv	-16	°C				
Reference design conditions for space heating	Tdesignh	-22	°C				

Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.015	kW	Rated heat output (*)	P <sub>sup</sub>	2.0	kW
Thermostat-off mode	P <sub>TO</sub>	0.015	kW				
Standby mode	P <sub>SB</sub>	0.015	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				
				Type of energy input	Electrical		

Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	6472	kWh				

For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	102		%
Daily electricity consumption	Q <sub>elec</sub>	7.730	kWh				
Annual electricity consumption	AEC	1700	kWh				

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 (\*\*) 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.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	ERST30D-****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:		yes
Parameters for		medium-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	163	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T <sub>j</sub>			
T <sub>j</sub> = - 7 °C	P <sub>d,h</sub>	-	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	-	-
Degradation co-efficient (**)	C <sub>d,h</sub>	-	-	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	2.05	-
T <sub>j</sub> = + 2 °C	P <sub>d,h</sub>	10.0	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	3.52	-
Degradation co-efficient (**)	C <sub>d,h</sub>	1.00	-	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	5.70	-
T <sub>j</sub> = + 7 °C	P <sub>d,h</sub>	6.4	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	2.05	-
Degradation co-efficient (**)	C <sub>d,h</sub>	0.99	-	T <sub>j</sub> = operation limit temperature (***)	COP <sub>d</sub>	2.05	-
T <sub>j</sub> = +12 °C	P <sub>d,h</sub>	4.2	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	C <sub>d,h</sub>	0.98	-	Heating water operating limit temperature	WTOL	60	°C
T <sub>j</sub> = bivalent temperature	P <sub>d,h</sub>	10.0	kW	Supplementary heater			
T <sub>j</sub> = operation limit temperature (***)	P <sub>d,h</sub>	10.0	kW	Rated heat output (*)	P <sub>sup</sub>	0.0	kW
Bivalent temperature	T <sub>biv</sub>	2	°C	Type of energy input	Electrical		
Reference design conditions for space heating	T <sub>designh</sub>	2	°C	Power consumption in modes other than active mode			
Power consumption in modes other than active mode				Off mode			
Off mode	P <sub>OFF</sub>	0.015	kW	Thermostat-off mode	P <sub>TO</sub>	0.015	kW
Thermostat-off mode	P <sub>TO</sub>	0.015	kW	Standby mode	P <sub>SB</sub>	0.015	kW
Standby mode	P <sub>SB</sub>	0.015	kW	Crankcase heater mode	P <sub>CK</sub>	0.000	kW
Crankcase heater mode	P <sub>CK</sub>	0.000	kW	Other items			
Capacity control				Rated air flow rate, outdoors			
variable				-			
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA	2640			
Annual energy consumption	Q <sub>HE</sub>	3226	kWh	m <sup>3</sup> /h			

For heat pump combination heater:							
Declared load profile	XL			Water heating energy efficiency	$\eta_{wh}$	145	%
Daily electricity consumption	Q <sub>elec</sub>	5.470	kWh				
Annual electricity consumption	AEC	1203	kWh				

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Manager, Quality Assurance Department

UNITED KINGDOM

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(\*\*\*) If the declared TOL is lower than the T<sub>designh</sub> of the considered climate then the outdoor dry bulb temperature T<sub>j</sub> is equal to T<sub>designh</sub>.

**PRODUCT INFORMATION / TECHNICAL DOCUMENTATION**

Model(s):	Outdoor unit:	PUD-SHWM100VAA(-BS)
	Indoor unit:	ERST30D-****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:		yes
Parameters for		low-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.0	kW	Seasonal space heating energy efficiency	$\eta_s$	235	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				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	COPd	3.45	-
Tj = + 2 °C	Pdh	10.0	kW	Tj = + 7 °C	COPd	5.52	-
Degradation co-efficient (**)	Cdh	1.00	-	Tj = +12 °C	COPd	7.50	-
Tj = + 7 °C	Pdh	6.4	kW	Tj = bivalent temperature	COPd	3.45	-
Degradation co-efficient (**)	Cdh	0.99	-	Tj = operation limit temperature (***)	COPd	3.45	-
Tj = +12 °C	Pdh	4.4	kW	Operation limit temperature	TOL	-28	°C
Degradation co-efficient (**)	Cdh	0.97	-	Heating water operating limit temperature	WTOL	60	°C
Tj = bivalent temperature	Pdh	10.0	kW	Supplementary heater			
Tj = operation limit temperature (***)	Pdh	10.0	kW	Rated heat output (*)	Psup	0.0	kW
Bivalent temperature	Tbiv	2	°C	Type of energy input	Electrical		
Reference design conditions for space heating	Tdesignh	2	°C				
Power consumption in modes other than active mode							
Off mode	P <sub>OFF</sub>	0.015	kW				
Thermostat-off mode	P <sub>TO</sub>	0.015	kW				
Standby mode	P <sub>SB</sub>	0.015	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items				Rated air flow rate, outdoors			
Capacity control	variable			-	2640	m <sup>3</sup> /h	
Sound power level, indoors/outdoors	L <sub>WA</sub>	41 / 59	dBA				
Annual energy consumption	Q <sub>HE</sub>	2246	kWh				

For heat pump combination heater:				Water heating energy efficiency			
Declared load profile	XL			$\eta_{wh}$	145	%	
Daily electricity consumption	Q <sub>elec</sub>	5.470	kWh				
Annual electricity consumption	AEC	1203	kWh				

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 (\*\*) 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.