

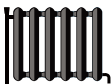


# ENERG

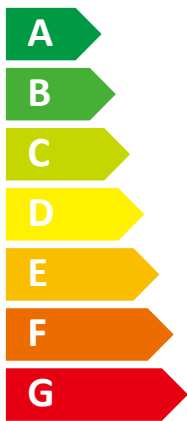
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Indoor unit E\*ST20D-\*\*C(W)  
Outdoor unit PUHZ-SW50VKA(-BS)



**A<sup>++</sup>**



**A**

Two icons showing sound power levels: a speaker icon with '40 dB' and a house icon with '63 dB'. A map of Europe is shown in the background, with various countries shaded in different shades of blue.

Legend for power consumption: a dark blue square for '04 kW', a medium blue square for '04 kW', and a light blue square for '04 kW'.

2015

811/2013

RG79Y768H01





Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	EHST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		medium-temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.3	kW	Seasonal space heating energy efficiency	$\eta_s$	125	%
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>dh</sub>	3.8	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	2.13	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.99	-				
T <sub>j</sub> = + 2 °C	P <sub>dh</sub>	2.3	kW	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	3.09	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.98	-				
T <sub>j</sub> = + 7 °C	P <sub>dh</sub>	2.2	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	4.41	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.96	-				
T <sub>j</sub> = +12 °C	P <sub>dh</sub>	2.7	kW	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	6.37	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.94	-				
T <sub>j</sub> = bivalent temperature	P <sub>dh</sub>	3.8	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	2.13	-
T <sub>j</sub> = operation limit temperature	P <sub>dh</sub>	3.2	kW	T <sub>j</sub> = operation limit temperature	COP <sub>d</sub>	1.33	-
T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	P <sub>dh</sub>	-	kW	T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	COP <sub>d</sub>	-	-
Bivalent temperature	T <sub>biv</sub>	-7	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	0.7	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW	Type of energy input			
Standby mode	P <sub>SB</sub>	0.010	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	2697	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	98	%
Daily electricity consumption	Q <sub>elec</sub>	5.100	kWh/h				
Annual electricity consumption	AEC	1112	kWh/h				

Contact details	
MITSUBISHI ELECTRIC CORPORATION SHIZUOKA WORKS	3-18-1, Oshika, Suruga-ku, Shizuoka 422-8528, Japan

(\*) 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.

Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	EHST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		low-temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.5	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	4.0	kW	Tj = - 7 °C	COPd	2.87	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 2 °C	Pdh	2.4	kW	Tj = + 2 °C	COPd	4.06	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	2.3	kW	Tj = + 7 °C	COPd	5.74	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = +12 °C	Pdh	2.7	kW	Tj = +12 °C	COPd	7.59	-
Degradation co-efficient (**)	Cdh	0.94	-				
Tj = bivalent temperature	Pdh	4.0	kW	Tj = bivalent temperature	COPd	2.87	-
Tj = operation limit temperature	Pdh	3.2	kW	Tj = operation limit temperature	COPd	1.33	-
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	0.8	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW	Type of energy input			
Standby mode	P <sub>SB</sub>	0.010	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	2169	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	98	%
Daily electricity consumption	Q <sub>elec</sub>	5.100	kWh/h				
Annual electricity consumption	AEC	1112	kWh/h				

Contact details

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(\*) 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.

Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	EHST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		medium-temperature application.
Parameters shall be declared for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.0	kW	Seasonal space heating energy efficiency	$\eta_s$	101	%
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>dh</sub>	2.4	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	2.51	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.99	-				
T <sub>j</sub> = + 2 °C	P <sub>dh</sub>	1.5	kW	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	3.22	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.98	-				
T <sub>j</sub> = + 7 °C	P <sub>dh</sub>	2.2	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	4.98	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.96	-				
T <sub>j</sub> = +12 °C	P <sub>dh</sub>	2.6	kW	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	6.64	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.94	-				
T <sub>j</sub> = bivalent temperature	P <sub>dh</sub>	3.2	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	1.33	-
T <sub>j</sub> = operation limit temperature	P <sub>dh</sub>	3.2	kW	T <sub>j</sub> = operation limit temperature	COP <sub>d</sub>	1.33	-
T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	P <sub>dh</sub>	-	kW	T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	COP <sub>d</sub>	-	-
Bivalent temperature	T <sub>biv</sub>	-15	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	4.0	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW				
Standby mode	P <sub>SB</sub>	0.010	kW	Type of energy input			
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

#### Other items

Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	3644	kWh				

#### For heat pump combination heater:

Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	80	%
Daily electricity consumption	Q <sub>elec</sub>	6.200	kWh				
Annual electricity consumption	AEC	1373	kWh				

#### Contact details

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(\*) 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.

Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	EHST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		low-temperature application.
Parameters shall be declared for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.2	kW	Seasonal space heating energy efficiency	$\eta_s$	141	%
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	2.5	kW	Tj = - 7 °C	COPd	3.29	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 2 °C	Pdh	1.5	kW	Tj = + 2 °C	COPd	4.10	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	2.3	kW	Tj = + 7 °C	COPd	6.08	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = +12 °C	Pdh	2.7	kW	Tj = +12 °C	COPd	6.08	-
Degradation co-efficient (**)	Cdh	0.94	-				
Tj = bivalent temperature	Pdh	3.4	kW	Tj = bivalent temperature	COPd	2.50	-
Tj = operation limit temperature	Pdh	3.4	kW	Tj = operation limit temperature	COPd	2.50	-
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	4.2	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW	Type of energy input			
Standby mode	P <sub>SB</sub>	0.010	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA
Annual energy consumption	Q <sub>HE</sub>	2745	kWh
Rated air flow rate, outdoors		2100	m <sup>3</sup> /h

For heat pump combination heater:			
Declared load profile		L	
Daily electricity consumption	Q <sub>elec</sub>	6.200	kWh/h
Annual electricity consumption	AEC	1373	kWh/h
Water heating energy efficiency	$\eta_{wh}$	80	%

Contact details	
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(\*) 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.

Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	EHST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		medium-temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.3	kW	Seasonal space heating energy efficiency	$\eta_s$	157	%
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	Pdh	4.3	kW	Tj = + 2 °C	COPd	1.80	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	2.8	kW	Tj = + 7 °C	COPd	3.64	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = +12 °C	Pdh	2.5	kW	Tj = +12 °C	COPd	5.48	-
Degradation co-efficient (**)	Cdh	0.94	-				
Tj = bivalent temperature	Pdh	3.8	kW	Tj = bivalent temperature	COPd	2.13	-
Tj = operation limit temperature	Pdh	3.2	kW	Tj = operation limit temperature	COPd	1.33	-
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	0.0	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW	Type of energy input			
Standby mode	P <sub>SB</sub>	0.010	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	1399	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	105	%
Daily electricity consumption	Q <sub>elec</sub>	4.700	kWh/h				
Annual electricity consumption	AEC	1034	kWh/h				

Contact details  
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(\*) 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.



Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	EHST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		low-temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.5	kW	Seasonal space heating energy efficiency	$\eta_s$	207	%
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	Pdh	4.5	kW	Tj = + 2 °C	COPd	2.71	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	2.9	kW	Tj = + 7 °C	COPd	5.44	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = +12 °C	Pdh	2.6	kW	Tj = +12 °C	COPd	6.31	-
Degradation co-efficient (**)	Cdh	0.94	-				
Tj = bivalent temperature	Pdh	4.0	kW	Tj = bivalent temperature	COPd	2.87	-
Tj = operation limit temperature	Pdh	3.2	kW	Tj = operation limit temperature	COPd	1.33	-
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	0.0	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW	Type of energy input			
Standby mode	P <sub>SB</sub>	0.010	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	1113	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	105	%
Daily electricity consumption	Q <sub>elec</sub>	4.700	kWh/h				
Annual electricity consumption	AEC	1034	kWh/h				

Contact details  
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(\*) 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.

Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	ERST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		medium-temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.3	kW	Seasonal space heating energy efficiency	$\eta_s$	128	%
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	3.8	kW	Tj = - 7 °C	COPd	2.13	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 2 °C	Pdh	2.3	kW	Tj = + 2 °C	COPd	3.09	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	2.2	kW	Tj = + 7 °C	COPd	4.41	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = +12 °C	Pdh	2.7	kW	Tj = +12 °C	COPd	6.37	-
Degradation co-efficient (**)	Cdh	0.94	-				
Tj = bivalent temperature	Pdh	3.8	kW	Tj = bivalent temperature	COPd	2.13	-
Tj = operation limit temperature	Pdh	3.2	kW	Tj = operation limit temperature	COPd	1.33	-
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	0.7	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW	Type of energy input			
Standby mode	P <sub>SB</sub>	0.010	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	2697	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	98	%
Daily electricity consumption	Q <sub>elec</sub>	5.100	kWh/h				
Annual electricity consumption	AEC	1112	kWh/h				

Contact details	
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(\*) 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.

Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	ERST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		low-temperature application.
Parameters shall be declared for		average climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.5	kW	Seasonal space heating energy efficiency	$\eta_s$	167	%
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	4.0	kW	Tj = - 7 °C	COPd	2.87	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 2 °C	Pdh	2.4	kW	Tj = + 2 °C	COPd	4.06	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	2.3	kW	Tj = + 7 °C	COPd	5.74	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = +12 °C	Pdh	2.7	kW	Tj = +12 °C	COPd	7.59	-
Degradation co-efficient (**)	Cdh	0.94	-				
Tj = bivalent temperature	Pdh	4.0	kW	Tj = bivalent temperature	COPd	2.87	-
Tj = operation limit temperature	Pdh	3.2	kW	Tj = operation limit temperature	COPd	1.33	-
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	0.8	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW	Type of energy input			
Standby mode	P <sub>SB</sub>	0.010	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	2169	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	98	%
Daily electricity consumption	Q <sub>elec</sub>	5.100	kWh/h				
Annual electricity consumption	AEC	1112	kWh/h				

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(\*) 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.

Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	ERST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		medium-temperature application.
Parameters shall be declared for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.0	kW	Seasonal space heating energy efficiency	$\eta_s$	103	%
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>dh</sub>	2.4	kW	T <sub>j</sub> = - 7 °C	COP <sub>d</sub>	2.51	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.99	-				
T <sub>j</sub> = + 2 °C	P <sub>dh</sub>	1.5	kW	T <sub>j</sub> = + 2 °C	COP <sub>d</sub>	3.22	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.98	-				
T <sub>j</sub> = + 7 °C	P <sub>dh</sub>	2.2	kW	T <sub>j</sub> = + 7 °C	COP <sub>d</sub>	4.98	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.96	-				
T <sub>j</sub> = +12 °C	P <sub>dh</sub>	2.6	kW	T <sub>j</sub> = +12 °C	COP <sub>d</sub>	6.64	-
Degradation co-efficient (**)	C <sub>dh</sub>	0.94	-				
T <sub>j</sub> = bivalent temperature	P <sub>dh</sub>	3.2	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	1.33	-
T <sub>j</sub> = operation limit temperature	P <sub>dh</sub>	3.2	kW	T <sub>j</sub> = operation limit temperature	COP <sub>d</sub>	1.33	-
T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	P <sub>dh</sub>	-	kW	T <sub>j</sub> = - 15 °C (if TOL < - 20 °C)	COP <sub>d</sub>	-	-
Bivalent temperature	T <sub>biv</sub>	-15	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	4.0	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW	Type of energy input			
Standby mode	P <sub>SB</sub>	0.010	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	3644	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	80	%
Daily electricity consumption	Q <sub>elec</sub>	6.200	kWh/h				
Annual electricity consumption	AEC	1373	kWh/h				

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(\*) 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.

Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	ERST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		low-temperature application.
Parameters shall be declared for		colder climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.2	kW	Seasonal space heating energy efficiency	$\eta_s$	145	%
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	2.5	kW	Tj = - 7 °C	COPd	3.29	-
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = + 2 °C	Pdh	1.5	kW	Tj = + 2 °C	COPd	4.10	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	2.3	kW	Tj = + 7 °C	COPd	6.08	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = +12 °C	Pdh	2.7	kW	Tj = +12 °C	COPd	6.08	-
Degradation co-efficient (**)	Cdh	0.94	-				
Tj = bivalent temperature	Pdh	3.4	kW	Tj = bivalent temperature	COPd	2.50	-
Tj = operation limit temperature	Pdh	3.4	kW	Tj = operation limit temperature	COPd	2.50	-
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	4.2	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW				
Standby mode	P <sub>SB</sub>	0.010	kW	Type of energy input			
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	2745	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	80	%
Daily electricity consumption	Q <sub>elec</sub>	6.200	kWh				
Annual electricity consumption	AEC	1373	kWh				

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(\*) 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.

Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	ERST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		medium-temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.3	kW	Seasonal space heating energy efficiency	$\eta_s$	161	%
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	Pdh	4.3	kW	Tj = + 2 °C	COPd	1.80	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	2.8	kW	Tj = + 7 °C	COPd	3.64	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = +12 °C	Pdh	2.5	kW	Tj = +12 °C	COPd	5.48	-
Degradation co-efficient (**)	Cdh	0.94	-				
Tj = bivalent temperature	Pdh	3.8	kW	Tj = bivalent temperature	COPd	2.13	-
Tj = operation limit temperature	Pdh	3.2	kW	Tj = operation limit temperature	COPd	1.33	-
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	0.0	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW	Type of energy input			
Standby mode	P <sub>SB</sub>	0.010	kW				
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	1399	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	105	%
Daily electricity consumption	Q <sub>elec</sub>	4.700	kWh/h				
Annual electricity consumption	AEC	1034	kWh/h				

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(\*) 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.

Model(s):	Outdoor unit:	PUHZ-SW50VKA(-BS)
	Indoor unit:	ERST20D-****
Air-to-water heat pump:		yes
Water-to-water heat pump:		no
Brine-to-water heat pump:		no
Low-temperature heat pump:		yes
Equipped with a supplementary heater:		no
Heat pump combination heater:		yes
Parameters shall be declared for		low-temperature application.
Parameters shall be declared for		warmer climate conditions.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.5	kW	Seasonal space heating energy efficiency	$\eta_s$	214	%
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	Pdh	4.5	kW	Tj = + 2 °C	COPd	2.71	-
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = + 7 °C	Pdh	2.9	kW	Tj = + 7 °C	COPd	5.44	-
Degradation co-efficient (**)	Cdh	0.96	-				
Tj = +12 °C	Pdh	2.6	kW	Tj = +12 °C	COPd	6.31	-
Degradation co-efficient (**)	Cdh	0.94	-				
Tj = bivalent temperature	Pdh	4.0	kW	Tj = bivalent temperature	COPd	2.87	-
Tj = operation limit temperature	Pdh	3.2	kW	Tj = operation limit temperature	COPd	1.33	-
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-15	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P <sub>OFF</sub>	0.010	kW	Rated heat output (*)	P <sub>sup</sub>	0.0	kW
Thermostat-off mode	P <sub>TO</sub>	0.010	kW				
Standby mode	P <sub>SB</sub>	0.010	kW	Type of energy input			
Crankcase heater mode	P <sub>CK</sub>	0.000	kW				

Other items							
Capacity control	variable			Rated air flow rate, outdoors	-	2100	m <sup>3</sup> /h
Sound power level, indoors/outdoors	L <sub>WA</sub>	40/63	dBA				
Annual energy consumption	Q <sub>HE</sub>	1113	kWh				

For heat pump combination heater:							
Declared load profile	L			Water heating energy efficiency	$\eta_{wh}$	105	%
Daily electricity consumption	Q <sub>elec</sub>	4.700	kWh/h				
Annual electricity consumption	AEC	1034	kWh/h				

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(\*) 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.