

## Subtype SWCV 122 Inverter

Certificate Holder	ait-deutschland GmbH
Address	Industriestr. 3
ZIP	95359
City	Kasendorf
Country	DE
Certification Body	BRE Global Limited
Subtype title	SWCV 122 Inverter
Registration number	041-K001-13
Heat Pump Type	Brine/Water
Refrigerant	R407c
Mass of Refrigerant	2 kg
Certification Date	12.05.2017

## Model SWCV 122(H)(K)3 (3~400V)

Model name	SWCV 122(H)(K)3 (3~400V)
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

Power supply	3x400V 50Hz
Off-peak product	n/a

## Brine/Water

## EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

## EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	5.06 kW	4.58 kW
El input	1.04 kW	1.46 kW
COP	4.87	3.13

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	201 %	157 %
Prated	11.60 kW	12.40 kW
SCOP	5.22	4.12
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.30 kW	11.10 kW
COP Tj = -7°C	4.52	3.18
Pdh Tj = +2°C	6.30 kW	6.80 kW
COP Tj = +2°C	5.27	4.12
Pdh Tj = +7°C	4.10 kW	4.40 kW
COP Tj = +7°C	5.60	4.67
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.78	5.06
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4588 kWh	6220 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	208 %	162 %
Prated	11.60 kW	12.40 kW
SCOP	5.40	4.26
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.10 kW	7.60 kW
COP Tj = -7°C	5.26	3.94
Pdh Tj = +2°C	4.30 kW	4.70 kW
COP Tj = +2°C	5.62	4.58
Pdh Tj = +7°C	2.80 kW	3.00 kW
COP Tj = +7°C	6.01	5.11
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.44	4.98
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W

PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	5293 kWh	7177 kWh

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	204 %	158 %
Prated	11.60 kW	12.40 kW
SCOP	5.30	4.15
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>d,h</sub> T <sub>j</sub> = +2°C	11.50 kW	12.30 kW
COP T <sub>j</sub> = +2°C	4.26	2.91
P <sub>d,h</sub> T <sub>j</sub> = +7°C	7.60 kW	8.10 kW
COP T <sub>j</sub> = +7°C	5.12	3.74
P <sub>d,h</sub> T <sub>j</sub> = 12°C	3.40 kW	3.60 kW
COP T <sub>j</sub> = 12°C	5.75	4.85
P <sub>d,h</sub> T <sub>j</sub> = T <sub>biv</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.26	2.91
P <sub>d,h</sub> T <sub>j</sub> = TOL or P <sub>d,h</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	4.26	2.91
C <sub>d,h</sub> T <sub>j</sub> = TOL or P <sub>d,h</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	0.99	0.99
WTOL	65 °C	65 °C
P <sub>off</sub>	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	2924 kWh	3995 kWh

**Model SWCV 122H1 (1~230V)**

Model name	SWCV 122H1 (1~230V)
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	1x230V 50Hz
Off-peak product	n/a

**Brine/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	5.06 kW	4.58 kW
El input	1.04 kW	1.46 kW
COP	4.87	3.13

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	201 %	157 %
Prated	11.60 kW	12.40 kW
SCOP	5.25	4.12
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.30 kW	11.10 kW
COP Tj = -7°C	4.52	3.18
Pdh Tj = +2°C	6.30 kW	6.80 kW
COP Tj = +2°C	5.27	4.12
Pdh Tj = +7°C	4.10 kW	4.40 kW
COP Tj = +7°C	5.60	4.67
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.78	5.06
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4588 kWh	6220 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	208 %	162 %
Prated	11.60 kW	12.40 kW
SCOP	5.41	4.25
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.10 kW	7.60 kW
COP Tj = -7°C	5.26	3.94
Pdh Tj = +2°C	4.30 kW	4.70 kW
COP Tj = +2°C	5.62	4.58
Pdh Tj = +7°C	2.80 kW	3.00 kW
COP Tj = +7°C	6.01	5.11
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.44	4.98
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W

PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	5293 kWh	7177 kWh

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	204 %	158 %
Prated	11.60 kW	12.40 kW
SCOP	5.30	4.15
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>d,h</sub> T <sub>j</sub> = +2°C	11.50 kW	12.30 kW
COP T <sub>j</sub> = +2°C	4.26	2.91
P <sub>d,h</sub> T <sub>j</sub> = +7°C	7.60 kW	8.10 kW
COP T <sub>j</sub> = +7°C	5.12	3.74
P <sub>d,h</sub> T <sub>j</sub> = 12°C	3.40 kW	3.60 kW
COP T <sub>j</sub> = 12°C	5.75	4.85
P <sub>d,h</sub> T <sub>j</sub> = T <sub>biv</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.26	2.91
P <sub>d,h</sub> T <sub>j</sub> = TOL or P <sub>d,h</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	4.26	2.91
C <sub>d,h</sub> T <sub>j</sub> = TOL or P <sub>d,h</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	0.99	0.99
WTOL	65 °C	65 °C
P <sub>off</sub>	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	2924 kWh	3995 kWh

**Model WZSV 122(H)(K)3M**

Model name	WZSV 122(H)(K)3M
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	3x400V 50Hz
Off-peak product	n/a

**Brine/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	5.06 kW	4.58 kW
El input	1.04 kW	1.46 kW
COP	4.87	3.13

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	201 %	157 %
Prated	11.60 kW	12.40 kW
SCOP	5.22	4.12
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.30 kW	11.10 kW
COP Tj = -7°C	4.52	3.18
Pdh Tj = +2°C	6.30 kW	6.80 kW
COP Tj = +2°C	5.27	4.12
Pdh Tj = +7°C	4.10 kW	4.40 kW
COP Tj = +7°C	5.60	4.67
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.78	5.06
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91



Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4588 kWh	6220 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	208 %	162 %
Prated	11.60 kW	12.40 kW
SCOP	5.40	4.26
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.10 kW	7.60 kW
COP Tj = -7°C	5.26	3.94
Pdh Tj = +2°C	4.30 kW	4.70 kW
COP Tj = +2°C	5.62	4.58
Pdh Tj = +7°C	2.80 kW	3.00 kW
COP Tj = +7°C	6.01	5.11
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.44	4.98
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W

PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	5293 kWh	7177 kWh

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	204 %	158 %
Prated	11.60 kW	12.40 kW
SCOP	5.30	4.15
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	11.50 kW	12.30 kW
COP T <sub>j</sub> = +2°C	4.26	2.91
P <sub>dh</sub> T <sub>j</sub> = +7°C	7.60 kW	8.10 kW
COP T <sub>j</sub> = +7°C	5.12	3.74
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.40 kW	3.60 kW
COP T <sub>j</sub> = 12°C	5.75	4.85
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.26	2.91
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	4.26	2.91
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	0.99	0.99
WTOL	65 °C	65 °C
P <sub>off</sub>	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	2924 kWh	3995 kWh

**Model PWZSV 122H3S (3~400V)**

Model name	PWZSV 122H3S (3~400V)
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	3x400V 50Hz
Off-peak product	n/a

**Brine/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	5.06 kW	4.58 kW
El input	1.04 kW	1.46 kW
COP	4.87	3.13

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	201 %	157 %
Prated	11.60 kW	12.40 kW
SCOP	5.22	4.12
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.30 kW	11.10 kW
COP Tj = -7°C	4.52	3.18
Pdh Tj = +2°C	6.30 kW	6.80 kW
COP Tj = +2°C	5.27	4.12
Pdh Tj = +7°C	4.10 kW	4.40 kW
COP Tj = +7°C	5.60	4.67
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.78	5.06
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4588 kWh	6220 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	208 %	162 %
Prated	11.60 kW	12.40 kW
SCOP	5.40	4.26
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.10 kW	7.60 kW
COP Tj = -7°C	5.26	3.94
Pdh Tj = +2°C	4.30 kW	4.70 kW
COP Tj = +2°C	5.62	4.58
Pdh Tj = +7°C	2.80 kW	3.00 kW
COP Tj = +7°C	6.01	5.11
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.44	4.98
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W

PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	5293 kWh	7177 kWh

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	204 %	158 %
Prated	11.60 kW	12.40 kW
SCOP	5.30	4.15
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>d,h</sub> T <sub>j</sub> = +2°C	11.50 kW	12.30 kW
COP T <sub>j</sub> = +2°C	4.26	2.91
P <sub>d,h</sub> T <sub>j</sub> = +7°C	7.60 kW	8.10 kW
COP T <sub>j</sub> = +7°C	5.12	3.74
P <sub>d,h</sub> T <sub>j</sub> = 12°C	3.40 kW	3.60 kW
COP T <sub>j</sub> = 12°C	5.75	4.85
P <sub>d,h</sub> T <sub>j</sub> = T <sub>biv</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.26	2.91
P <sub>d,h</sub> T <sub>j</sub> = TOL or P <sub>d,h</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	4.26	2.91
C <sub>d,h</sub> T <sub>j</sub> = TOL or P <sub>d,h</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	0.99	0.99
WTOL	65 °C	65 °C
P <sub>off</sub>	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	2924 kWh	3995 kWh

**Model PWZSV 122H2S (3~230V)**

Model name	PWZSV 122H2S (3~230V)
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	3x230V 50Hz
Off-peak product	n/a

**Brine/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	5.06 kW	4.58 kW
El input	1.04 kW	1.46 kW
COP	4.87	3.13

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	201 %	157 %
Prated	11.60 kW	12.40 kW
SCOP	5.22	4.12
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.30 kW	11.10 kW
COP Tj = -7°C	4.52	3.18
Pdh Tj = +2°C	6.30 kW	6.80 kW
COP Tj = +2°C	5.27	4.12
Pdh Tj = +7°C	4.10 kW	4.40 kW
COP Tj = +7°C	5.60	4.67
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.78	5.06
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4588 kWh	6220 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	208 %	162 %
Prated	11.60 kW	12.40 kW
SCOP	5.40	4.26
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.10 kW	7.60 kW
COP Tj = -7°C	5.26	3.94
Pdh Tj = +2°C	4.30 kW	4.70 kW
COP Tj = +2°C	5.62	4.58
Pdh Tj = +7°C	2.80 kW	3.00 kW
COP Tj = +7°C	6.01	5.11
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.44	4.98
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W

PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	5293 kWh	7177 kWh

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	204 %	158 %
Prated	11.60 kW	12.40 kW
SCOP	5.30	4.15
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	11.50 kW	12.30 kW
COP T <sub>j</sub> = +2°C	4.26	2.91
P <sub>dh</sub> T <sub>j</sub> = +7°C	7.60 kW	8.10 kW
COP T <sub>j</sub> = +7°C	5.12	3.74
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.40 kW	3.60 kW
COP T <sub>j</sub> = 12°C	5.75	4.85
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.26	2.91
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	4.26	2.91
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	0.99	0.99
WTOL	65 °C	65 °C
P <sub>off</sub>	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	2924 kWh	3995 kWh



**Model PWZSV 122H1S (1~230V)**

Model name	PWZSV 122H1S (1~230V)
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	1x230V 50Hz
Off-peak product	n/a

**Brine/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	5.06 kW	4.58 kW
El input	1.04 kW	1.46 kW
COP	4.87	3.13

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	201 %	157 %
Prated	11.60 kW	12.40 kW
SCOP	5.22	4.12
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.30 kW	11.10 kW
COP Tj = -7°C	4.52	3.18
Pdh Tj = +2°C	6.30 kW	6.80 kW
COP Tj = +2°C	5.27	4.12
Pdh Tj = +7°C	4.10 kW	4.40 kW
COP Tj = +7°C	5.60	4.67
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.78	5.06
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4588 kWh	6220 kWh

## EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_s$	208 %	162 %
Prated	11.60 kW	12.40 kW
SCOP	5.40	4.26
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.10 kW	7.60 kW
COP Tj = -7°C	5.26	3.94
Pdh Tj = +2°C	4.30 kW	4.70 kW
COP Tj = +2°C	5.62	4.58
Pdh Tj = +7°C	2.80 kW	3.00 kW
COP Tj = +7°C	6.01	5.11
Pdh Tj = 12°C	2.70 kW	2.60 kW
COP Tj = 12°C	5.44	4.98
Pdh Tj = Tbiv	11.50 kW	12.30 kW
COP Tj = Tbiv	4.26	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.50 kW	12.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.26	2.91
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	65 °C	65 °C
Poff	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W

PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	5293 kWh	7177 kWh

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	204 %	158 %
Prated	11.60 kW	12.40 kW
SCOP	5.30	4.15
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>d,h</sub> T <sub>j</sub> = +2°C	11.50 kW	12.30 kW
COP T <sub>j</sub> = +2°C	4.26	2.91
P <sub>d,h</sub> T <sub>j</sub> = +7°C	7.60 kW	8.10 kW
COP T <sub>j</sub> = +7°C	5.12	3.74
P <sub>d,h</sub> T <sub>j</sub> = 12°C	3.40 kW	3.60 kW
COP T <sub>j</sub> = 12°C	5.75	4.85
P <sub>d,h</sub> T <sub>j</sub> = T <sub>biv</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.26	2.91
P <sub>d,h</sub> T <sub>j</sub> = TOL or P <sub>d,h</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	11.50 kW	12.30 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	4.26	2.91
C <sub>d,h</sub> T <sub>j</sub> = TOL or P <sub>d,h</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	0.99	0.99
WTOL	65 °C	65 °C
P <sub>off</sub>	5 W	5 W
PTO	15 W	15 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	2924 kWh	3995 kWh