Subtype SW 102 1~

Certificate Holder	ait-deutschland GmbH
Address	Industriestr. 3
ZIP	95359
City	Kasendorf
Country	DE
Certification Body	BRE Global Limited
Subtype title	SW 102 1~
Registration number	041-K001-18
Heat Pump Type	Brine/Water
Refrigerant	R410A
Mass of Refrigerant	1.84 kg
Certification Date	12.05.2017
Testing basis	Transitional Rules

Model alpha innotec SW 102H1

Model name	alpha innotec SW 102H1
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	n/a
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
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.30 kW	9.42 kW
El input	2.15 kW	3.21 kW
COP	4.80	2.93

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	196 %	141 %
Prated	12.25 kW	11.35 kW
SCOP	5.09	3.72
Tbiv	-6 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.34 kW	9.55 kW
COP Tj = -7°C	4.88	3.13
Pdh Tj = +2°C	10.44 kW	9.90 kW
COP Tj = +2°C	5.18	3.74
Pdh Tj = +7°C	10.52 kW	10.11 kW
COP Tj = +7°C	5.44	4.18
Pdh Tj = 12°C	10.60 kW	10.32 kW
COP Tj = 12°C	5.61	4.64
Pdh Tj = Tbiv	10.36 kW	9.60 kW

COP Tj = Tbiv	4.95	3.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.95 kW	1.93 kW
Annual energy consumption Qhe	4969 kWh	6301 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	202 %	145 %
Prated	12.37 kW	11.45 kW
SCOP	5.24	3.83
Tbiv	-16 °C	-16 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.46 kW	9.84 kW
COP Tj = -7°C	5.25	3.61
Pdh Tj = +2°C	10.52 kW	10.08 kW
COP Tj = +2°C	5.47	4.10
Pdh Tj = +7°C	10.58 kW	10.26 kW
COP Tj = +7°C	5.62	4.53
Pdh Tj = 12°C	10.59 kW	10.39 kW
COP Tj = 12°C	5.45	4.78
Pdh Tj = Tbiv	10.41 kW	9.65 kW
COP Tj = Tbiv	5.11	3.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W

PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.07 kW	2.03 kW
Annual energy consumption Qhe	5823 kWh	7370 kWh

EN 12102-1 | Warmer Climate		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Warmer Climate		
	Low temperature	Medium temperature
ηs	196 %	141 %
Prated	12.10 kW	11.17 kW
SCOP	5.09	3.72
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.30 kW	9.42 kW
COP Tj = +2°C	4.75	2.93
Pdh Tj = +7°C	10.42 kW	9.76 kW
COP Tj = +7°C	5.12	3.46
Pdh Tj = 12°C	10.54 kW	10.18 kW
COP Tj = 12°C	5.51	4.34
Pdh Tj = Tbiv	10.37 kW	9.58 kW
COP Tj = Tbiv	4.97	3.17
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.80 kW	1.75 kW
Annual energy consumption Qhe	3177 kWh	4013 kWh

Model alpha innotec SWC 102H1

Model name	alpha innotec SWC 102H1
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	n/a
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
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.30 kW	9.42 kW
El input	2.15 kW	3.21 kW
COP	4.80	2.93

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	196 %	141 %
Prated	12.25 kW	11.35 kW
SCOP	5.09	3.72
Tbiv	-6 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.34 kW	9.55 kW
COP Tj = -7°C	4.88	3.13
Pdh Tj = +2°C	10.44 kW	9.90 kW
COP Tj = +2°C	5.18	3.74
Pdh Tj = +7°C	10.52 kW	10.11 kW
COP Tj = +7°C	5.44	4.18
Pdh Tj = 12°C	10.60 kW	10.32 kW
COP Tj = 12°C	5.61	4.64
Pdh Tj = Tbiv	10.36 kW	9.60 kW

COP Tj = Tbiv	4.95	3.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.95 kW	1.93 kW
Annual energy consumption Qhe	4969 kWh	6301 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	202 %	145 %
Prated	12.37 kW	11.45 kW
SCOP	5.24	3.83
Tbiv	-16 °C	-16 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.46 kW	9.84 kW
COP Tj = -7°C	5.25	3.61
Pdh Tj = +2°C	10.52 kW	10.08 kW
COP Tj = +2°C	5.47	4.10
Pdh Tj = +7°C	10.58 kW	10.26 kW
COP Tj = +7°C	5.62	4.53
Pdh Tj = 12°C	10.59 kW	10.39 kW
COP Tj = 12°C	5.45	4.78
Pdh Tj = Tbiv	10.41 kW	9.65 kW
COP Tj = Tbiv	5.11	3.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W

PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.07 kW	2.03 kW
Annual energy consumption Qhe	5823 kWh	7370 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	196 %	141 %
Prated	12.10 kW	11.17 kW
SCOP	5.09	3.72
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.30 kW	9.42 kW
COP Tj = +2°C	4.75	2.93
Pdh Tj = +7°C	10.42 kW	9.76 kW
COP Tj = +7°C	5.12	3.46
Pdh Tj = 12°C	10.54 kW	10.18 kW
COP Tj = 12°C	5.51	4.34
Pdh Tj = Tbiv	10.37 kW	9.58 kW
COP Tj = Tbiv	4.97	3.17
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.80 kW	1.75 kW
Annual energy consumption Qhe	3177 kWh	4013 kWh

Model alpha innotec PWZS 102H1S

Model name	alpha innotec PWZS 102H1S
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	n/a
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
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.30 kW	9.42 kW
El input	2.15 kW	3.21 kW
COP	4.80	2.93

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	196 %	141 %
Prated	12.25 kW	11.35 kW
SCOP	5.09	3.72
Tbiv	-6 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.34 kW	9.55 kW
COP Tj = -7°C	4.88	3.13
Pdh Tj = +2°C	10.44 kW	9.90 kW
COP Tj = +2°C	5.18	3.74
Pdh Tj = +7°C	10.52 kW	10.11 kW
COP Tj = +7°C	5.44	4.18
Pdh Tj = 12°C	10.60 kW	10.32 kW
COP Tj = 12°C	5.61	4.64
Pdh Tj = Tbiv	10.36 kW	9.60 kW

COP Tj = Tbiv	4.95	3.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.95 kW	1.93 kW
Annual energy consumption Qhe	4969 kWh	6301 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	202 %	145 %
Prated	12.37 kW	11.45 kW
SCOP	5.24	3.83
Tbiv	-16 °C	-16 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.46 kW	9.84 kW
COP Tj = -7°C	5.25	3.61
Pdh Tj = +2°C	10.52 kW	10.08 kW
COP Tj = +2°C	5.47	4.10
Pdh Tj = +7°C	10.58 kW	10.26 kW
COP Tj = +7°C	5.62	4.53
Pdh Tj = 12°C	10.59 kW	10.39 kW
COP Tj = 12°C	5.45	4.78
Pdh Tj = Tbiv	10.41 kW	9.65 kW
COP Tj = Tbiv	5.11	3.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W

PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.07 kW	2.03 kW
Annual energy consumption Qhe	5823 kWh	7370 kWh

EN 12102-1 | Warmer Climate		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Warmer Climate		
	Low temperature	Medium temperature
ηs	196 %	141 %
Prated	12.10 kW	11.17 kW
SCOP	5.09	3.72
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.30 kW	9.42 kW
COP Tj = +2°C	4.75	2.93
Pdh Tj = +7°C	10.42 kW	9.76 kW
COP Tj = +7°C	5.12	3.46
Pdh Tj = 12°C	10.54 kW	10.18 kW
COP Tj = 12°C	5.51	4.34
Pdh Tj = Tbiv	10.37 kW	9.58 kW
COP Tj = Tbiv	4.97	3.17
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.80 kW	1.75 kW
Annual energy consumption Qhe	3177 kWh	4013 kWh

Model alpha innotec PWZS 102H2S

Model name	alpha innotec PWZS 102H2S
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	n/a
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
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	10.30 kW	9.42 kW
El input	2.15 kW	3.21 kW
COP	4.80	2.93

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	196 %	141 %
Prated	12.25 kW	11.35 kW
SCOP	5.09	3.72
Tbiv	-6 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.34 kW	9.55 kW
COP Tj = -7°C	4.88	3.13
Pdh Tj = +2°C	10.44 kW	9.90 kW
COP Tj = +2°C	5.18	3.74
Pdh Tj = +7°C	10.52 kW	10.11 kW
COP Tj = +7°C	5.44	4.18
Pdh Tj = 12°C	10.60 kW	10.32 kW
COP Tj = 12°C	5.61	4.64
Pdh Tj = Tbiv	10.36 kW	9.60 kW

COP Tj = Tbiv	4.95	3.20
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.95 kW	1.93 kW
Annual energy consumption Qhe	4969 kWh	6301 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	202 %	145 %
Prated	12.37 kW	11.45 kW
SCOP	5.24	3.83
Tbiv	-16 °C	-16 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.46 kW	9.84 kW
COP Tj = -7°C	5.25	3.61
Pdh Tj = +2°C	10.52 kW	10.08 kW
COP Tj = +2°C	5.47	4.10
Pdh Tj = +7°C	10.58 kW	10.26 kW
COP Tj = +7°C	5.62	4.53
Pdh Tj = 12°C	10.59 kW	10.39 kW
COP Tj = 12°C	5.45	4.78
Pdh Tj = Tbiv	10.41 kW	9.65 kW
COP Tj = Tbiv	5.11	3.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W

PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.07 kW	2.03 kW
Annual energy consumption Qhe	5823 kWh	7370 kWh

EN 12102-1 | Warmer Climate		
	Low temperature	Medium temperature
Sound power level indoor	43 dB(A)	43 dB(A)

EN 14825 | Warmer Climate		
	Low temperature	Medium temperature
ηs	196 %	141 %
Prated	12.10 kW	11.17 kW
SCOP	5.09	3.72
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.30 kW	9.42 kW
COP Tj = +2°C	4.75	2.93
Pdh Tj = +7°C	10.42 kW	9.76 kW
COP Tj = +7°C	5.12	3.46
Pdh Tj = 12°C	10.54 kW	10.18 kW
COP Tj = 12°C	5.51	4.34
Pdh Tj = Tbiv	10.37 kW	9.58 kW
COP Tj = Tbiv	4.97	3.17
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.30 kW	9.42 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.75	2.93
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.80 kW	1.75 kW
Annual energy consumption Qhe	3177 kWh	4013 kWh