

Subtype SWCV 92 Inverter

Certificate Holder	ait-deutschland GmbH
Address	Industriestr. 3
ZIP	95359
City	Kasendorf
Country	DE
Certification Body	BRE Global Limited
Subtype title	SWCV 92 Inverter
Registration number	041-K001-26
Heat Pump Type	Brine/Water
Refrigerant	R407c
Mass of Refrigerant	1.25 kg
Certification Date	29.03.2019
Testing basis	HP KEYMARK Transitional Rules
Testing laboratory	Wärmepumpen-Testzentrum (WPZ), CH

Model alpha innotec SWCV 92(H)(K)3 (3~ 400V)

Model name	alpha innotec SWCV 92(H)(K)3 (3~ 400V)
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	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
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	4.00 kW	3.51 kW
El input	0.82 kW	1.16 kW
COP	4.86	3.02

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	203 %	148 %
Prated	8.50 kW	7.50 kW
SCOP	5.26	3.91
Tbiv	-8 °C	-8 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.52 kW	6.62 kW
COP Tj = -7°C	4.01	2.96
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	4.58 kW	4.05 kW
COP Tj = +2°C	5.33	3.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	2.96 kW	2.60 kW
COP Tj = +7°C	6.11	4.55
Cdh Tj = +7 °C	1.000	1.000

Pdh Tj = 12°C	1.66 kW	1.77 kW
COP Tj = 12°C	6.64	4.91
Cdh Tj = +12 °C	0.920	0.950
Pdh Tj = Tbiv	7.86 kW	6.94 kW
COP Tj = Tbiv	3.82	2.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.85 kW	6.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.78	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.65 kW	0.57 kW
Annual energy consumption Qhe	3337 kWh	3963 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	203 %	161 %
Prated	8.50 kW	8.50 kW
SCOP	5.29	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.14 kW	5.15 kW
COP Tj = -7°C	5.06	3.91
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.13 kW	3.13 kW
COP Tj = +2°C	5.71	4.61
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.01 kW	2.01 kW
COP Tj = +7°C	6.00	5.17
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	0.89 kW	1.29 kW
COP Tj = 12°C	5.79	4.88
Cdh Tj = +12 °C	1.00	0.93
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.50	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.50	2.91
WTOL	65 °C	65 °C

Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	3964 kWh	4967 kWh

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	193 %	156 %
Prated	8.50 kW	8.50 kW
SCOP	5.03	4.11
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.50 kW	8.10 kW
COP Tj = +2°C	3.96	2.87
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.46 kW	5.46 kW
COP Tj = +7°C	4.79	3.75
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	2.43 kW	2.43 kW
COP Tj = 12°C	5.75	4.92
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.96	2.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.96	2.87
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	2257 kWh	2763 kWh

Model alpha innotec SWCV 92H1 (1~ 230V)

Model name	alpha innotec SWCV 92H1 (1~ 230V)
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	4.00 kW	3.51 kW
El input	0.82 kW	1.16 kW
COP	4.86	3.02

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	203 %	148 %
Prated	8.50 kW	7.50 kW
SCOP	5.26	3.91
Tbiv	-8 °C	-8 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.52 kW	6.62 kW
COP Tj = -7°C	4.01	2.96
Cdh Tj = -7 °C	1.000	1.000
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COP Tj = +2°C	5.33	3.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	2.96 kW	2.60 kW
COP Tj = +7°C	6.11	4.55
Cdh Tj = +7 °C	1.000	1.000

Pdh Tj = 12°C	1.66 kW	1.77 kW
COP Tj = 12°C	6.64	4.91
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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.85 kW	6.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.78	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.65 kW	0.57 kW
Annual energy consumption Qhe	3337 kWh	3963 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	203 %	161 %
Prated	8.50 kW	8.50 kW
SCOP	5.29	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.14 kW	5.15 kW
COP Tj = -7°C	5.06	3.91
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.13 kW	3.13 kW
COP Tj = +2°C	5.71	4.61
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.01 kW	2.01 kW
COP Tj = +7°C	6.00	5.17
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	0.89 kW	1.29 kW
COP Tj = 12°C	5.79	4.88
Cdh Tj = +12 °C	1.00	0.93
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.50	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.50	2.91
WTOL	65 °C	65 °C

Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	3964 kWh	4967 kWh

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	193 %	156 %
Prated	8.50 kW	8.50 kW
SCOP	5.03	4.11
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.50 kW	8.10 kW
COP Tj = +2°C	3.96	2.87
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.46 kW	5.46 kW
COP Tj = +7°C	4.79	3.75
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	2.43 kW	2.43 kW
COP Tj = 12°C	5.75	4.92
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.96	2.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.96	2.87
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	2257 kWh	2763 kWh

Model alpha innotec WZSV 92(H)(K)3M (3~ 400V)

Model name	alpha innotec WZSV 92(H)(K)3M (3~ 400V)
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	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
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	4.00 kW	3.51 kW
El input	0.82 kW	1.16 kW
COP	4.86	3.02

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	203 %	148 %
Prated	8.50 kW	7.50 kW
SCOP	5.26	3.91
Tbiv	-8 °C	-8 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.52 kW	6.62 kW
COP Tj = -7°C	4.01	2.96
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	4.58 kW	4.05 kW
COP Tj = +2°C	5.33	3.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	2.96 kW	2.60 kW
COP Tj = +7°C	6.11	4.55
Cdh Tj = +7 °C	1.000	1.000

Pdh Tj = 12°C	1.66 kW	1.77 kW
COP Tj = 12°C	6.64	4.91
Cdh Tj = +12 °C	0.920	0.950
Pdh Tj = Tbiv	7.86 kW	6.94 kW
COP Tj = Tbiv	3.82	2.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.85 kW	6.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.78	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.65 kW	0.57 kW
Annual energy consumption Qhe	3337 kWh	3963 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	203 %	161 %
Prated	8.50 kW	8.50 kW
SCOP	5.29	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.14 kW	5.15 kW
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Pdh Tj = +7°C	2.01 kW	2.01 kW
COP Tj = +7°C	6.00	5.17
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COP Tj = Tbiv	3.50	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.50	2.91
WTOL	65 °C	65 °C

Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	3964 kWh	4967 kWh

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	193 %	156 %
Prated	8.50 kW	8.50 kW
SCOP	5.03	4.11
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.50 kW	8.10 kW
COP Tj = +2°C	3.96	2.87
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.46 kW	5.46 kW
COP Tj = +7°C	4.79	3.75
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.96	2.87
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	2257 kWh	2763 kWh

Model alpha innotec PWZSV 92H3S (3~ 400V)

Model name	alpha innotec PWZSV 92H3S (3~ 400V)
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	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
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	4.00 kW	3.51 kW
El input	0.82 kW	1.16 kW
COP	4.86	3.02

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	203 %	148 %
Prated	8.50 kW	7.50 kW
SCOP	5.26	3.91
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COP Tj = +2°C	5.33	3.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	2.96 kW	2.60 kW
COP Tj = +7°C	6.11	4.55
Cdh Tj = +7 °C	1.000	1.000

Pdh Tj = 12°C	1.66 kW	1.77 kW
COP Tj = 12°C	6.64	4.91
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Pdh Tj = Tbiv	7.86 kW	6.94 kW
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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.85 kW	6.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.78	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.65 kW	0.57 kW
Annual energy consumption Qhe	3337 kWh	3963 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	203 %	161 %
Prated	8.50 kW	8.50 kW
SCOP	5.29	4.22
Tbiv	-22 °C	-22 °C
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COP Tj = +2°C	5.71	4.61
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Pdh Tj = +7°C	2.01 kW	2.01 kW
COP Tj = +7°C	6.00	5.17
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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.50	2.91
WTOL	65 °C	65 °C

Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	3964 kWh	4967 kWh

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	193 %	156 %
Prated	8.50 kW	8.50 kW
SCOP	5.03	4.11
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.50 kW	8.10 kW
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WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	2257 kWh	2763 kWh

Model alpha innotec PWZSV 92H2S (3~ 230V)

Model name	alpha innotec PWZSV 92H2S (3~ 230V)
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	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
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	4.00 kW	3.51 kW
El input	0.82 kW	1.16 kW
COP	4.86	3.02

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	203 %	148 %
Prated	8.50 kW	7.50 kW
SCOP	5.26	3.91
Tbiv	-8 °C	-8 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.52 kW	6.62 kW
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COP Tj = +2°C	5.33	3.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	2.96 kW	2.60 kW
COP Tj = +7°C	6.11	4.55
Cdh Tj = +7 °C	1.000	1.000

Pdh Tj = 12°C	1.66 kW	1.77 kW
COP Tj = 12°C	6.64	4.91
Cdh Tj = +12 °C	0.920	0.950
Pdh Tj = Tbiv	7.86 kW	6.94 kW
COP Tj = Tbiv	3.82	2.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.85 kW	6.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.78	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.65 kW	0.57 kW
Annual energy consumption Qhe	3337 kWh	3963 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	203 %	161 %
Prated	8.50 kW	8.50 kW
SCOP	5.29	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.14 kW	5.15 kW
COP Tj = -7°C	5.06	3.91
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.13 kW	3.13 kW
COP Tj = +2°C	5.71	4.61
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.01 kW	2.01 kW
COP Tj = +7°C	6.00	5.17
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	0.89 kW	1.29 kW
COP Tj = 12°C	5.79	4.88
Cdh Tj = +12 °C	1.00	0.93
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.50	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.50	2.91
WTOL	65 °C	65 °C

Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	3964 kWh	4967 kWh

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	193 %	156 %
Prated	8.50 kW	8.50 kW
SCOP	5.03	4.11
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.50 kW	8.10 kW
COP Tj = +2°C	3.96	2.87
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.46 kW	5.46 kW
COP Tj = +7°C	4.79	3.75
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	2.43 kW	2.43 kW
COP Tj = 12°C	5.75	4.92
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.96	2.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.96	2.87
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	2257 kWh	2763 kWh

Model alpha innotec PWZSV 92H1S (1~ 230V)

Model name	alpha innotec PWZSV 92H1S (1~ 230V)
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	4.00 kW	3.51 kW
El input	0.82 kW	1.16 kW
COP	4.86	3.02

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	203 %	148 %
Prated	8.50 kW	7.50 kW
SCOP	5.26	3.91
Tbiv	-8 °C	-8 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.52 kW	6.62 kW
COP Tj = -7°C	4.01	2.96
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	4.58 kW	4.05 kW
COP Tj = +2°C	5.33	3.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	2.96 kW	2.60 kW
COP Tj = +7°C	6.11	4.55
Cdh Tj = +7 °C	1.000	1.000

Pdh Tj = 12°C	1.66 kW	1.77 kW
COP Tj = 12°C	6.64	4.91
Cdh Tj = +12 °C	0.920	0.950
Pdh Tj = Tbiv	7.86 kW	6.94 kW
COP Tj = Tbiv	3.82	2.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.85 kW	6.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.78	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.65 kW	0.57 kW
Annual energy consumption Qhe	3337 kWh	3963 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	203 %	161 %
Prated	8.50 kW	8.50 kW
SCOP	5.29	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.14 kW	5.15 kW
COP Tj = -7°C	5.06	3.91
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.13 kW	3.13 kW
COP Tj = +2°C	5.71	4.61
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.01 kW	2.01 kW
COP Tj = +7°C	6.00	5.17
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	0.89 kW	1.29 kW
COP Tj = 12°C	5.79	4.88
Cdh Tj = +12 °C	1.00	0.93
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.50	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.50	2.91
WTOL	65 °C	65 °C

Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	3964 kWh	4967 kWh

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	193 %	156 %
Prated	8.50 kW	8.50 kW
SCOP	5.03	4.11
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.50 kW	8.10 kW
COP Tj = +2°C	3.96	2.87
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.46 kW	5.46 kW
COP Tj = +7°C	4.79	3.75
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	2.43 kW	2.43 kW
COP Tj = 12°C	5.75	4.92
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.96	2.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.96	2.87
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	2257 kWh	2763 kWh

Model NOVELAN SICV 9.2(H)(K)3

Model name	NOVELAN SICV 9.2(H)(K)3
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	n/a
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	4.00 kW	3.51 kW
El input	0.82 kW	1.16 kW
COP	4.86	3.02

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	203 %	148 %
Prated	8.50 kW	7.50 kW
SCOP	5.26	3.91
Tbiv	-8 °C	-8 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.52 kW	6.62 kW
COP Tj = -7°C	4.01	2.96
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	4.58 kW	4.05 kW
COP Tj = +2°C	5.33	3.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	2.96 kW	2.60 kW
COP Tj = +7°C	6.11	4.55
Cdh Tj = +7 °C	1.000	1.000

Pdh Tj = 12°C	1.66 kW	1.77 kW
COP Tj = 12°C	6.64	4.91
Cdh Tj = +12 °C	0.920	0.950
Pdh Tj = Tbiv	7.86 kW	6.94 kW
COP Tj = Tbiv	3.82	2.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.85 kW	6.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.78	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.65 kW	0.57 kW
Annual energy consumption Qhe	3337 kWh	3963 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	203 %	161 %
Prated	8.50 kW	8.50 kW
SCOP	5.29	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.14 kW	5.15 kW
COP Tj = -7°C	5.06	3.91
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.13 kW	3.13 kW
COP Tj = +2°C	5.71	4.61
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.01 kW	2.01 kW
COP Tj = +7°C	6.00	5.17
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	0.89 kW	1.29 kW
COP Tj = 12°C	5.79	4.88
Cdh Tj = +12 °C	1.00	0.93
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.50	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.50	2.91
WTOL	65 °C	65 °C

Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	3964 kWh	4967 kWh

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	193 %	156 %
Prated	8.50 kW	8.50 kW
SCOP	5.03	4.11
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.50 kW	8.10 kW
COP Tj = +2°C	3.96	2.87
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.46 kW	5.46 kW
COP Tj = +7°C	4.79	3.75
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	2.43 kW	2.43 kW
COP Tj = 12°C	5.75	4.92
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.96	2.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.96	2.87
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	2257 kWh	2763 kWh

Model NOVELAN WSV 9.2(H)(K)3M

Model name	NOVELAN WSV 9.2(H)(K)3M
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	n/a
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	4.00 kW	3.51 kW
El input	0.82 kW	1.16 kW
COP	4.86	3.02

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	203 %	148 %
Prated	8.50 kW	7.50 kW
SCOP	5.26	3.91
Tbiv	-8 °C	-8 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.52 kW	6.62 kW
COP Tj = -7°C	4.01	2.96
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	4.58 kW	4.05 kW
COP Tj = +2°C	5.33	3.95
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	2.96 kW	2.60 kW
COP Tj = +7°C	6.11	4.55
Cdh Tj = +7 °C	1.000	1.000

Pdh Tj = 12°C	1.66 kW	1.77 kW
COP Tj = 12°C	6.64	4.91
Cdh Tj = +12 °C	0.920	0.950
Pdh Tj = Tbiv	7.86 kW	6.94 kW
COP Tj = Tbiv	3.82	2.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.85 kW	6.93 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.78	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.65 kW	0.57 kW
Annual energy consumption Qhe	3337 kWh	3963 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	203 %	161 %
Prated	8.50 kW	8.50 kW
SCOP	5.29	4.22
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.14 kW	5.15 kW
COP Tj = -7°C	5.06	3.91
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	3.13 kW	3.13 kW
COP Tj = +2°C	5.71	4.61
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	2.01 kW	2.01 kW
COP Tj = +7°C	6.00	5.17
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	0.89 kW	1.29 kW
COP Tj = 12°C	5.79	4.88
Cdh Tj = +12 °C	1.00	0.93
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.50	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.50	2.91
WTOL	65 °C	65 °C

Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	3964 kWh	4967 kWh

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	193 %	156 %
Prated	8.50 kW	8.50 kW
SCOP	5.03	4.11
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.50 kW	8.10 kW
COP Tj = +2°C	3.96	2.87
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.46 kW	5.46 kW
COP Tj = +7°C	4.79	3.75
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	2.43 kW	2.43 kW
COP Tj = 12°C	5.75	4.92
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	8.50 kW	8.10 kW
COP Tj = Tbiv	3.96	2.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.50 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.96	2.87
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	19 W	19 W
PSB	12 W	12 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	2257 kWh	2763 kWh