

Subtype SWCV 162 Inverter

Certificate Holder	ait-deutschland GmbH
Address	Industriestr. 3
ZIP	95359
City	Kasendorf
Country	DE
Certification Body	BRE Global Limited
Subtype title	SWCV 162 Inverter
Registration number	041-K001-14
Heat Pump Type	Brine/Water
Refrigerant	R407c
Mass of Refrigerant	2.2 kg
Certification Date	12.05.2017
Testing basis	HP Keymark Scheme Transition Rules
Testing laboratory	RISE Research Institutes of Sweden

Model alpha innotec SWCV 162(H)(K)3

Model name	alpha innotec SWCV 162(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	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
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EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	9.42 kW	9.06 kW
El input	1.91 kW	1.88 kW
COP	4.92	3.22

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
η_s	199 %	154 %
Prated	15.90 kW	16.00 kW
SCOP	5.17	4.05
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.20 kW	14.20 kW
COP Tj = -7°C	4.19	3.00
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	8.70 kW	8.70 kW
COP Tj = +2°C	5.26	4.10
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.70 kW	5.60 kW
COP Tj = +7°C	6.06	4.90
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW

COP Tj = 12°C	5.88	5.00
Cdh Tj = +12 °C	0.98	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6355 kWh	8154 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	210 %	160 %
Prated	15.90 kW	16.00 kW
SCOP	5.44	4.19
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.80 kW	9.80 kW
COP Tj = -7°C	5.10	3.80
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	6.00 kW	6.00 kW
COP Tj = +2°C	6.10	4.70
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.70 kW	5.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	5.70 kW	5.60 kW
COP Tj = 12°C	5.60	5.00
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7198 kWh	9415 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
η_s	197 %	151 %
Prated	15.90 kW	16.00 kW
SCOP	5.12	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	15.90 kW	15.40 kW
COP Tj = +2°C	3.89	2.80
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	10.40 kW	10.40 kW
COP Tj = +7°C	4.93	3.61
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	6.05	4.92
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.89	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.89	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	4150 kWh	5365 kWh

Model alpha innotec WZSV 162(H)(K)3M

Model name	alpha innotec WZSV 162(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	3x400V 50Hz
Off-peak product	Yes

Brine/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
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EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	9.42 kW	9.06 kW
El input	1.91 kW	1.88 kW
COP	4.92	3.22

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
η_s	199 %	154 %
Prated	15.90 kW	16.00 kW
SCOP	5.17	4.05
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.20 kW	14.20 kW
COP Tj = -7°C	4.19	3.00
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	8.70 kW	8.70 kW
COP Tj = +2°C	5.26	4.10
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.70 kW	5.60 kW
COP Tj = +7°C	6.06	4.90
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW

COP Tj = 12°C	5.88	5.00
Cdh Tj = +12 °C	0.98	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6355 kWh	8154 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	210 %	160 %
Prated	15.90 kW	16.00 kW
SCOP	5.44	4.19
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.80 kW	9.80 kW
COP Tj = -7°C	5.10	3.80
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	6.00 kW	6.00 kW
COP Tj = +2°C	6.10	4.70
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.70 kW	5.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	5.70 kW	5.60 kW
COP Tj = 12°C	5.60	5.00
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7198 kWh	9415 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
η_s	197 %	151 %
Prated	15.90 kW	16.00 kW
SCOP	5.12	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	15.90 kW	15.40 kW
COP Tj = +2°C	3.89	2.80
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	10.40 kW	10.40 kW
COP Tj = +7°C	4.93	3.61
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	6.05	4.92
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.89	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.89	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	4150 kWh	5365 kWh

Model alpha innotec PWZSV 162H3S

Model name	alpha innotec PWZSV 162H3S
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	Yes

Brine/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow passed

Complete power supply failure	passed
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EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	9.42 kW	9.06 kW
El input	1.91 kW	1.88 kW
COP	4.92	3.22

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
η_s	199 %	154 %
Prated	15.90 kW	16.00 kW
SCOP	5.17	4.05
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.20 kW	14.20 kW
COP Tj = -7°C	4.19	3.00
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	8.70 kW	8.70 kW
COP Tj = +2°C	5.26	4.10
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.70 kW	5.60 kW
COP Tj = +7°C	6.06	4.90
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW

COP Tj = 12°C	5.88	5.00
Cdh Tj = +12 °C	0.98	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6355 kWh	8154 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
η_s	210 %	160 %
Prated	15.90 kW	16.00 kW
SCOP	5.44	4.19
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	9.80 kW	9.80 kW
COP Tj = -7°C	5.10	3.80
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	6.00 kW	6.00 kW
COP Tj = +2°C	6.10	4.70
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.70 kW	5.60 kW
COP Tj = +7°C	6.10	5.00
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	5.70 kW	5.60 kW
COP Tj = 12°C	5.60	5.00
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7198 kWh	9415 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
η_s	197 %	151 %
Prated	15.90 kW	16.00 kW
SCOP	5.12	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	15.90 kW	15.40 kW
COP Tj = +2°C	3.89	2.80
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	10.40 kW	10.40 kW
COP Tj = +7°C	4.93	3.61
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	6.05	4.92
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.89	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.89	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	4150 kWh	5365 kWh

Model NOVELAN SICV 16.2(H)(K)3

Model name	NOVELAN SICV 16.2(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
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EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	9.42 kW	9.06 kW
El input	1.91 kW	1.88 kW
COP	4.92	3.22

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
η_s	199 %	154 %
Prated	15.90 kW	16.00 kW
SCOP	5.17	4.05
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.20 kW	14.20 kW
COP Tj = -7°C	4.19	3.00
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	8.70 kW	8.70 kW
COP Tj = +2°C	5.26	4.10
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	5.70 kW	5.60 kW
COP Tj = +7°C	6.06	4.90
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW

COP Tj = 12 °C	5.88	5.00
Cdh Tj = +12 °C	0.98	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6355 kWh	8154 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
η_s	210 %	160 %
Prated	15.90 kW	16.00 kW
SCOP	5.44	4.19
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7 °C	9.80 kW	9.80 kW
COP Tj = -7 °C	5.10	3.80
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2 °C	6.00 kW	6.00 kW
COP Tj = +2 °C	6.10	4.70
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7 °C	5.70 kW	5.60 kW
COP Tj = +7 °C	6.10	5.00
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12 °C	5.70 kW	5.60 kW
COP Tj = 12 °C	5.60	5.00
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.90	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.90	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	7198 kWh	9415 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
η_s	197 %	151 %
Prated	15.90 kW	16.00 kW
SCOP	5.12	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	15.90 kW	15.40 kW
COP Tj = +2°C	3.89	2.80
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	10.40 kW	10.40 kW
COP Tj = +7°C	4.93	3.61
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	5.80 kW	5.50 kW
COP Tj = 12°C	6.05	4.92
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	15.90 kW	15.40 kW
COP Tj = Tbiv	3.89	2.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.90 kW	15.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.89	2.80
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	20 W
PSB	7 W	7 W
PCK	30 W	30 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	4150 kWh	5365 kWh