Subtype Bosch CS3000 AWP 16/19/24

Certificate Holder	Bosch Thermotechnik GmbH
Address	Junkersstraße 20 - 24
ZIP	73249
City	Wernau
Country	DE
Certification Body	ICIM S.p.A.
Subtype title	Bosch CS3000 AWP 16/19/24
Registration number	ICIM-PDC-000179
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	7.9 kg
Certification Date	04.11.2022
Testing basis	Heat Pump KEYMARK V10

Model CS3000AWP 16

Model name	CS3000AWP 16
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	25.38 kW	23.06 kW
El input	5.81 kW	9.04 kW
COP	4.37	2.55

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	173 %	127 %
Prated	19.42 kW	16.78 kW
SCOP	4.41	3.24
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	17.18 kW	13.04 kW
COP Tj = -7°C	2.63	1.93
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	11.61 kW	9.50 kW
COP Tj = +2°C	4.63	3.25

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.42 kW	11.10 kW
COP Tj = +7°C	5.49	4.40
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.75 kW	13.45 kW
COP Tj = 12°C	6.87	6.15
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	17.18 kW	14.20 kW
COP Tj = Tbiv	2.63	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.67 kW	9.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.55	1.35
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.76 kW	7.63 kW
Annual energy consumption Qhe	9104 kWh	10709 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	144 %	106 %
Prated	16.55 kW	17.13 kW
SCOP	3.67	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	10.54 kW	10.18 kW
COP Tj = -7°C	2.80	2.16
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	10.53 kW	10.09 kW
COP Tj = +2°C	5.01	3.91
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	12.39 kW	11.93 kW
COP Tj = +7°C	5.98	4.95
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	14.30 kW	13.93 kW

COP Tj = 12°C	6.93	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	13.50 kW	12.62 kW
COP Tj = Tbiv	2.32	1.60
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.14 kW	11.35 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.78	1.45
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	16.55 kW	17.13 kW
Annual energy consumption Qhe	11102 kWh	15484 kWh
Pdh Tj = -15°C (if TOL	11.14	11.35
COP Tj = -15°C (if TOL	1.78	1.45
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	212 %	153 %
Prated	20.75 kW	15.97 kW
SCOP	5.39	3.91
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	20.75 kW	15.97 kW
COP Tj = +2°C	3.37	2.08
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	13.85 kW	11.18 kW
COP Tj = +7°C	4.99	3.49
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.21 kW	13.51 kW
COP Tj = 12°C	6.72	5.3
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	20.75 kW	15.97 kW
COP Tj = Tbiv	3.37	2.08

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	20.75 kW	15.97 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.37	2.08
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	5147 kWh	5462 kWh

Model CS3000AWP 16 P	
Model name	CS3000AWP 16 P
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water	
EN 14511-4 | Heating	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	25.38 kW	23.06 kW
El input	5.81 kW	9.04 kW
COP	4.37	2.55

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	173 %	127 %
Prated	19.42 kW	16.78 kW
SCOP	4.41	3.24
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	17.18 kW	13.04 kW
COP Tj = -7°C	2.63	1.93
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	11.61 kW	9.50 kW
COP Tj = +2°C	4.63	3.25

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.42 kW	11.10 kW
COP Tj = +7°C	5.49	4.40
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.75 kW	13.45 kW
COP Tj = 12°C	6.87	6.15
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	17.18 kW	14.20 kW
COP Tj = Tbiv	2.63	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.67 kW	9.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.55	1.35
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.76 kW	7.63 kW
Annual energy consumption Qhe	9104 kWh	10709 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	144 %	106 %
Prated	16.55 kW	17.13 kW
SCOP	3.67	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	10.54 kW	10.18 kW
COP Tj = -7°C	2.80	2.16
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	10.53 kW	10.09 kW
COP Tj = +2°C	5.01	3.91
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	12.39 kW	11.93 kW
COP Tj = +7°C	5.98	4.95
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	14.30 kW	13.93 kW

COP Tj = 12°C	6.93	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	13.50 kW	12.62 kW
COP Tj = Tbiv	2.32	1.60
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.14 kW	11.35 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.78	1.45
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	16.55 kW	17.13 kW
Annual energy consumption Qhe	11102 kWh	15484 kWh
Pdh Tj = -15°C (if TOL	11.14	11.35
COP Tj = -15°C (if TOL	1.78	1.45
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	212 %	153 %
Prated	20.75 kW	15.97 kW
SCOP	5.39	3.91
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	20.75 kW	15.97 kW
COP Tj = +2°C	3.37	2.08
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	13.85 kW	11.18 kW
COP Tj = +7°C	4.99	3.49
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.21 kW	13.51 kW
COP Tj = 12°C	6.72	5.3
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	20.75 kW	15.97 kW
COP Tj = Tbiv	3.37	2.08

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	20.75 kW	15.97 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.37	2.08
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	5147 kWh	5462 kWh

Model CS3000AWP 16 S	
Model name	CS3000AWP 16 S
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water	
EN 14511-4 | Heating	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	25.38 kW	23.06 kW
El input	5.81 kW	9.04 kW
COP	4.37	2.55

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	173 %	127 %
Prated	19.42 kW	16.78 kW
SCOP	4.41	3.24
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	17.18 kW	13.04 kW
COP Tj = -7°C	2.63	1.93
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	11.61 kW	9.50 kW
COP Tj = +2°C	4.63	3.25

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.42 kW	11.10 kW
COP Tj = +7°C	5.49	4.40
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.75 kW	13.45 kW
COP Tj = 12°C	6.87	6.15
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	17.18 kW	14.20 kW
COP Tj = Tbiv	2.63	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.67 kW	9.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.55	1.35
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.76 kW	7.63 kW
Annual energy consumption Qhe	9104 kWh	10709 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	144 %	106 %
Prated	16.55 kW	17.13 kW
SCOP	3.67	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	10.54 kW	10.18 kW
COP Tj = -7°C	2.80	2.16
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	10.53 kW	10.09 kW
COP Tj = +2°C	5.01	3.91
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	12.39 kW	11.93 kW
COP Tj = +7°C	5.98	4.95
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	14.30 kW	13.93 kW

COP Tj = 12°C	6.93	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	13.50 kW	12.62 kW
COP Tj = Tbiv	2.32	1.60
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.14 kW	11.35 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.78	1.45
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	16.55 kW	17.13 kW
Annual energy consumption Qhe	11102 kWh	15484 kWh
Pdh Tj = -15°C (if TOL	11.14	11.35
COP Tj = -15°C (if TOL	1.78	1.45
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	212 %	153 %
Prated	20.75 kW	15.97 kW
SCOP	5.39	3.91
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	20.75 kW	15.97 kW
COP Tj = +2°C	3.37	2.08
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	13.85 kW	11.18 kW
COP Tj = +7°C	4.99	3.49
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.21 kW	13.51 kW
COP Tj = 12°C	6.72	5.3
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	20.75 kW	15.97 kW
COP Tj = Tbiv	3.37	2.08

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	20.75 kW	15.97 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.37	2.08
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	5147 kWh	5462 kWh

Model CS3000AWP 16 MB

Model name	CS3000AWP 16 MB
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	25.38 kW	23.06 kW
El input	5.81 kW	9.04 kW
COP	4.37	2.55

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	173 %	127 %
Prated	19.42 kW	16.78 kW
SCOP	4.41	3.24
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	17.18 kW	13.04 kW
COP Tj = -7°C	2.63	1.93
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	11.61 kW	9.50 kW
COP Tj = +2°C	4.63	3.25

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.42 kW	11.10 kW
COP Tj = +7°C	5.49	4.40
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.75 kW	13.45 kW
COP Tj = 12°C	6.87	6.15
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	17.18 kW	14.20 kW
COP Tj = Tbiv	2.63	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.67 kW	9.15 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.55	1.35
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.76 kW	7.63 kW
Annual energy consumption Qhe	9104 kWh	10709 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	144 %	106 %
Prated	16.55 kW	17.13 kW
SCOP	3.67	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	10.54 kW	10.18 kW
COP Tj = -7°C	2.80	2.16
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	10.53 kW	10.09 kW
COP Tj = +2°C	5.01	3.91
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	12.39 kW	11.93 kW
COP Tj = +7°C	5.98	4.95
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	14.30 kW	13.93 kW

COP Tj = 12°C	6.93	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	13.50 kW	12.62 kW
COP Tj = Tbiv	2.32	1.60
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.14 kW	11.35 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.78	1.45
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	16.55 kW	17.13 kW
Annual energy consumption Qhe	11102 kWh	15484 kWh
Pdh Tj = -15°C (if TOL	11.14	11.35
COP Tj = -15°C (if TOL	1.78	1.45
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	212 %	153 %
Prated	20.75 kW	15.97 kW
SCOP	5.39	3.91
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	20.75 kW	15.97 kW
COP Tj = +2°C	3.37	2.08
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	13.85 kW	11.18 kW
COP Tj = +7°C	4.99	3.49
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.21 kW	13.51 kW
COP Tj = 12°C	6.72	5.3
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	20.75 kW	15.97 kW
COP Tj = Tbiv	3.37	2.08

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	20.75 kW	15.97 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.37	2.08
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	5147 kWh	5462 kWh

Model CS3000AWP 19	
Model name	CS3000AWP 19
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water	
EN 14511-4 | Heating	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	30 kW	27.7 kW
El input	6.88 kW	11.49 kW
COP	4.36	2.41

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	172 %	126 %
Prated	22.5 kW	19.53 kW
SCOP	4.36	3.22
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	19.90 kW	15.95 kW
COP Tj = -7°C	2.60	1.94
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	12.43 kW	10.80 kW
COP Tj = +2°C	4.52	3.20

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.42 kW	11.47 kW
COP Tj = +7°C	5.46	4.41
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.76 kW	13.80 kW
COP Tj = 12°C	6.85	6.14
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	19.90 kW	16.52 kW
COP Tj = Tbiv	2.60	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	17.28 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.30
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.21 kW	9.53 kW
Annual energy consumption Qhe	10646 kWh	12512 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	143 %	106 %
Prated	18.75 kW	19.01 kW
SCOP	3.65	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	10.57 kW	11.35 kW
COP Tj = -7°C	2.78	2.14
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	10.56 kW	10.09 kW
COP Tj = +2°C	4.94	3.91
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	12.43 kW	11.93 kW
COP Tj = +7°C	5.90	4.95
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	14.34 kW	13.93 kW

COP Tj = 12°C	6.87	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	15.30 kW	14.01 kW
COP Tj = Tbiv	2.28	1.58
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.17 kW	13.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.76	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	18.75 kW	19.01 kW
Annual energy consumption Qhe	12674 kWh	17151 kWh
Pdh Tj = -15°C (if TOL	12.17	13.07
COP Tj = -15°C (if TOL	1.76	1.49
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	210 %	154 %
Prated	24.4 kW	17.75 kW
SCOP	5.33	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.4 kW	17.75 kW
COP Tj = +2°C	3.28	2.04
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	16.03 kW	11.18 kW
COP Tj = +7°C	4.83	3.49
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.26 kW	13.5 kW
COP Tj = 12°C	6.67	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	24.4 kW	17.75 kW
COP Tj = Tbiv	3.28	2.04

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.4 kW	17.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.28	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	6120 kWh	6042 kWh

Model CS3000AWP 19 P	
Model name	CS3000AWP 19 P
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water	
EN 14511-4 | Heating	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	30 kW	27.7 kW
El input	6.88 kW	11.49 kW
COP	4.36	2.41

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	172 %	126 %
Prated	22.5 kW	19.53 kW
SCOP	4.36	3.22
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	19.90 kW	15.95 kW
COP Tj = -7°C	2.60	1.94
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	12.43 kW	10.80 kW
COP Tj = +2°C	4.52	3.20

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.42 kW	11.47 kW
COP Tj = +7°C	5.46	4.41
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.76 kW	13.80 kW
COP Tj = 12°C	6.85	6.14
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	19.90 kW	16.52 kW
COP Tj = Tbiv	2.60	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	17.28 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.30
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.21 kW	9.53 kW
Annual energy consumption Qhe	10646 kWh	12512 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	143 %	106 %
Prated	18.75 kW	19.01 kW
SCOP	3.65	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	10.57 kW	11.35 kW
COP Tj = -7°C	2.78	2.14
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	10.56 kW	10.09 kW
COP Tj = +2°C	4.94	3.91
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	12.43 kW	11.93 kW
COP Tj = +7°C	5.90	4.95
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	14.34 kW	13.93 kW

COP Tj = 12°C	6.87	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	15.30 kW	14.01 kW
COP Tj = Tbiv	2.28	1.58
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.17 kW	13.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.76	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	18.75 kW	19.01 kW
Annual energy consumption Qhe	12674 kWh	17151 kWh
Pdh Tj = -15°C (if TOL	12.17	13.07
COP Tj = -15°C (if TOL	1.76	1.49
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	210 %	154 %
Prated	24.4 kW	17.75 kW
SCOP	5.33	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.4 kW	17.75 kW
COP Tj = +2°C	3.28	2.04
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	16.03 kW	11.18 kW
COP Tj = +7°C	4.83	3.49
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.26 kW	13.5 kW
COP Tj = 12°C	6.67	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	24.4 kW	17.75 kW
COP Tj = Tbiv	3.28	2.04

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.4 kW	17.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.28	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	6120 kWh	6042 kWh

Model CS3000AWP 19 S

Model name	CS3000AWP 19 S
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	30 kW	27.7 kW
El input	6.88 kW	11.49 kW
COP	4.36	2.41

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	172 %	126 %
Prated	22.5 kW	19.53 kW
SCOP	4.36	3.22
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	19.90 kW	15.95 kW
COP Tj = -7°C	2.60	1.94
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	12.43 kW	10.80 kW
COP Tj = +2°C	4.52	3.20

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.42 kW	11.47 kW
COP Tj = +7°C	5.46	4.41
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.76 kW	13.80 kW
COP Tj = 12°C	6.85	6.14
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	19.90 kW	16.52 kW
COP Tj = Tbiv	2.60	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	17.28 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.30
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.21 kW	9.53 kW
Annual energy consumption Qhe	10646 kWh	12512 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	143 %	106 %
Prated	18.75 kW	19.01 kW
SCOP	3.65	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	10.57 kW	11.35 kW
COP Tj = -7°C	2.78	2.14
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	10.56 kW	10.09 kW
COP Tj = +2°C	4.94	3.91
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	12.43 kW	11.93 kW
COP Tj = +7°C	5.90	4.95
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	14.34 kW	13.93 kW

COP Tj = 12°C	6.87	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	15.30 kW	14.01 kW
COP Tj = Tbiv	2.28	1.58
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.17 kW	13.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.76	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	18.75 kW	19.01 kW
Annual energy consumption Qhe	12674 kWh	17151 kWh
Pdh Tj = -15°C (if TOL	12.17	13.07
COP Tj = -15°C (if TOL	1.76	1.49
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	210 %	154 %
Prated	24.4 kW	17.75 kW
SCOP	5.33	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.4 kW	17.75 kW
COP Tj = +2°C	3.28	2.04
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	16.03 kW	11.18 kW
COP Tj = +7°C	4.83	3.49
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.26 kW	13.5 kW
COP Tj = 12°C	6.67	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	24.4 kW	17.75 kW
COP Tj = Tbiv	3.28	2.04

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.4 kW	17.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.28	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	6120 kWh	6042 kWh

Model CS3000AWP 19 MB

Model name	CS3000AWP 19 MB
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	30 kW	27.7 kW
El input	6.88 kW	11.49 kW
COP	4.36	2.41

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	172 %	126 %
Prated	22.5 kW	19.53 kW
SCOP	4.36	3.22
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	19.90 kW	15.95 kW
COP Tj = -7°C	2.60	1.94
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	12.43 kW	10.80 kW
COP Tj = +2°C	4.52	3.20

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.42 kW	11.47 kW
COP Tj = +7°C	5.46	4.41
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.76 kW	13.80 kW
COP Tj = 12°C	6.85	6.14
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	19.90 kW	16.52 kW
COP Tj = Tbiv	2.60	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	17.28 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.30
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.21 kW	9.53 kW
Annual energy consumption Qhe	10646 kWh	12512 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	143 %	106 %
Prated	18.75 kW	19.01 kW
SCOP	3.65	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	10.57 kW	11.35 kW
COP Tj = -7°C	2.78	2.14
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	10.56 kW	10.09 kW
COP Tj = +2°C	4.94	3.91
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	12.43 kW	11.93 kW
COP Tj = +7°C	5.90	4.95
Cdh Tj = +7 °C	0.960	0.960
Pdh Tj = 12°C	14.34 kW	13.93 kW

COP Tj = 12°C	6.87	6.17
Cdh Tj = +12 °C	0.960	0.960
Pdh Tj = Tbiv	15.30 kW	14.01 kW
COP Tj = Tbiv	2.28	1.58
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.17 kW	13.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.76	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	18.75 kW	19.01 kW
Annual energy consumption Qhe	12674 kWh	17151 kWh
Pdh Tj = -15°C (if TOL	12.17	13.07
COP Tj = -15°C (if TOL	1.76	1.49
Cdh Tj = -15 °C	0.900	0.900

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	210 %	154 %
Prated	24.4 kW	17.75 kW
SCOP	5.33	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	24.4 kW	17.75 kW
COP Tj = +2°C	3.28	2.04
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	16.03 kW	11.18 kW
COP Tj = +7°C	4.83	3.49
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.26 kW	13.5 kW
COP Tj = 12°C	6.67	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	24.4 kW	17.75 kW
COP Tj = Tbiv	3.28	2.04

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	24.4 kW	17.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.28	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	6120 kWh	6042 kWh

Model CS3000AWP 24	
Model name	CS3000AWP 24
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water	
EN 14511-4 | Heating	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	35.78 kW	32.64 kW
El input	8.75 kW	14.01 kW
COP	4.09	2.33

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	169 %	124 %
Prated	25.5 kW	22.97 kW
SCOP	4.31	3.18
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	22.60 kW	18.82 kW
COP Tj = -7°C	2.60	1.89
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	13.25 kW	12.44 kW
COP Tj = +2°C	4.41	3.15

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.44 kW	11.48 kW
COP Tj = +7°C	5.44	4.40
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.77 kW	13.82 kW
COP Tj = 12°C	6.83	6.12
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	22.60 kW	19.44 kW
COP Tj = Tbiv	2.60	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	18.38 kW	11.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.25
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.17 kW	11.97 kW
Annual energy consumption Qhe	12250 kWh	14935 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	140 %	106 %
Prated	21.57 kW	20.72 kW
SCOP	3.57	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	11.9 kW	12.58 kW
COP Tj = -7°C	2.7	2.12
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	10.64 kW	10.1 kW
COP Tj = +2°C	4.78	3.9
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	12.5 kW	11.95 kW
COP Tj = +7°C	5.72	4.96
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	14.42 kW	13.93 kW

COP Tj = 12°C	6.69	6.17
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	17.6 kW	15.27 kW
COP Tj = Tbiv	2.22	1.59
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.8 kW	13.86 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.84	1.47
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	21.57 kW	20.72 kW
Annual energy consumption Qhe	14915 kWh	18714 kWh
Pdh Tj = -15°C (if TOL	13.8	13.86
COP Tj = -15°C (if TOL	1.84	1.47
Cdh Tj = -15 °C	0.9	0.9

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	199 %	155 %
Prated	27.9 kW	19.9 kW
SCOP	5.05	3.95
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	27.9 kW	19.9 kW
COP Tj = +2°C	3.08	2.04
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	19.1 kW	12.4 kW
COP Tj = +7°C	4.41	3.48
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.34 kW	13.52 kW
COP Tj = 12°C	6.48	5.29
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	27.9 kW	19.9 kW
COP Tj = Tbiv	3.08	2.04

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	27.9 kW	19.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.08	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	7376 kWh	6734 kWh

Model CS3000AWP 24 P	
Model name	CS3000AWP 24 P
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water	
EN 14511-4 | Heating	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	35.78 kW	32.64 kW
El input	8.75 kW	14.01 kW
COP	4.09	2.33

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	169 %	124 %
Prated	25.5 kW	22.97 kW
SCOP	4.31	3.18
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	22.60 kW	18.82 kW
COP Tj = -7°C	2.60	1.89
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	13.25 kW	12.44 kW
COP Tj = +2°C	4.41	3.15

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.44 kW	11.48 kW
COP Tj = +7°C	5.44	4.40
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.77 kW	13.82 kW
COP Tj = 12°C	6.83	6.12
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	22.60 kW	19.44 kW
COP Tj = Tbiv	2.60	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	18.38 kW	11.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.25
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.17 kW	11.97 kW
Annual energy consumption Qhe	12250 kWh	14935 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	140 %	106 %
Prated	21.57 kW	20.72 kW
SCOP	3.57	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	11.9 kW	12.58 kW
COP Tj = -7°C	2.7	2.12
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	10.64 kW	10.1 kW
COP Tj = +2°C	4.78	3.9
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	12.5 kW	11.95 kW
COP Tj = +7°C	5.72	4.96
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	14.42 kW	13.93 kW

COP Tj = 12°C	6.69	6.17
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	17.6 kW	15.27 kW
COP Tj = Tbiv	2.22	1.59
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.8 kW	13.86 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.84	1.47
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	21.57 kW	20.72 kW
Annual energy consumption Qhe	14915 kWh	18714 kWh
Pdh Tj = -15°C (if TOL	13.8	13.86
COP Tj = -15°C (if TOL	1.84	1.47
Cdh Tj = -15 °C	0.9	0.9

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	199 %	155 %
Prated	27.9 kW	19.9 kW
SCOP	5.05	3.95
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	27.9 kW	19.9 kW
COP Tj = +2°C	3.08	2.04
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	19.1 kW	12.4 kW
COP Tj = +7°C	4.41	3.48
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.34 kW	13.52 kW
COP Tj = 12°C	6.48	5.29
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	27.9 kW	19.9 kW
COP Tj = Tbiv	3.08	2.04

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	27.9 kW	19.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.08	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	7376 kWh	6734 kWh

Model CS3000AWP 24 S	
Model name	CS3000AWP 24 S
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water	
EN 14511-4 | Heating	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	35.78 kW	32.64 kW
El input	8.75 kW	14.01 kW
COP	4.09	2.33

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	169 %	124 %
Prated	25.5 kW	22.97 kW
SCOP	4.31	3.18
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	22.60 kW	18.82 kW
COP Tj = -7°C	2.60	1.89
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	13.25 kW	12.44 kW
COP Tj = +2°C	4.41	3.15

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.44 kW	11.48 kW
COP Tj = +7°C	5.44	4.40
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.77 kW	13.82 kW
COP Tj = 12°C	6.83	6.12
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	22.60 kW	19.44 kW
COP Tj = Tbiv	2.60	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	18.38 kW	11.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.25
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.17 kW	11.97 kW
Annual energy consumption Qhe	12250 kWh	14935 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	140 %	106 %
Prated	21.57 kW	20.72 kW
SCOP	3.57	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	11.9 kW	12.58 kW
COP Tj = -7°C	2.7	2.12
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	10.64 kW	10.1 kW
COP Tj = +2°C	4.78	3.9
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	12.5 kW	11.95 kW
COP Tj = +7°C	5.72	4.96
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	14.42 kW	13.93 kW

COP Tj = 12°C	6.69	6.17
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	17.6 kW	15.27 kW
COP Tj = Tbiv	2.22	1.59
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.8 kW	13.86 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.84	1.47
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	21.57 kW	20.72 kW
Annual energy consumption Qhe	14915 kWh	18714 kWh
Pdh Tj = -15°C (if TOL	13.8	13.86
COP Tj = -15°C (if TOL	1.84	1.47
Cdh Tj = -15 °C	0.9	0.9

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	199 %	155 %
Prated	27.9 kW	19.9 kW
SCOP	5.05	3.95
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	27.9 kW	19.9 kW
COP Tj = +2°C	3.08	2.04
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	19.1 kW	12.4 kW
COP Tj = +7°C	4.41	3.48
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.34 kW	13.52 kW
COP Tj = 12°C	6.48	5.29
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	27.9 kW	19.9 kW
COP Tj = Tbiv	3.08	2.04

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	27.9 kW	19.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.08	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	7376 kWh	6734 kWh

Model CS3000AWP 24 MB	
Model name	CS3000AWP 24 MB
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	3x400V 50Hz
Off-peak product	No

Outdoor Air/Water	
EN 14511-4 | Heating	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	35.78 kW	32.64 kW
El input	8.75 kW	14.01 kW
COP	4.09	2.33

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	169 %	124 %
Prated	25.5 kW	22.97 kW
SCOP	4.31	3.18
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	22.60 kW	18.82 kW
COP Tj = -7°C	2.60	1.89
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	13.25 kW	12.44 kW
COP Tj = +2°C	4.41	3.15

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	12.44 kW	11.48 kW
COP Tj = +7°C	5.44	4.40
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	14.77 kW	13.82 kW
COP Tj = 12°C	6.83	6.12
Cdh Tj = +12 °C	0.98	0.98
Pdh Tj = Tbiv	22.60 kW	19.44 kW
COP Tj = Tbiv	2.60	1.96
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	18.38 kW	11.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.60	1.25
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.17 kW	11.97 kW
Annual energy consumption Qhe	12250 kWh	14935 kWh

EN 12102-1 | Colder Climate		
	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825 | Colder Climate		
	Low temperature	Medium temperature
ηs	140 %	106 %
Prated	21.57 kW	20.72 kW
SCOP	3.57	2.73
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	11.9 kW	12.58 kW
COP Tj = -7°C	2.7	2.12
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	10.64 kW	10.1 kW
COP Tj = +2°C	4.78	3.9
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	12.5 kW	11.95 kW
COP Tj = +7°C	5.72	4.96
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	14.42 kW	13.93 kW

COP Tj = 12°C	6.69	6.17
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	17.6 kW	15.27 kW
COP Tj = Tbiv	2.22	1.59
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.8 kW	13.86 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.84	1.47
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	21.57 kW	20.72 kW
Annual energy consumption Qhe	14915 kWh	18714 kWh
Pdh Tj = -15°C (if TOL	13.8	13.86
COP Tj = -15°C (if TOL	1.84	1.47
Cdh Tj = -15 °C	0.9	0.9

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	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

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	Low temperature	Medium temperature
ηs	199 %	155 %
Prated	27.9 kW	19.9 kW
SCOP	5.05	3.95
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	27.9 kW	19.9 kW
COP Tj = +2°C	3.08	2.04
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	19.1 kW	12.4 kW
COP Tj = +7°C	4.41	3.48
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	14.34 kW	13.52 kW
COP Tj = 12°C	6.48	5.29
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	27.9 kW	19.9 kW
COP Tj = Tbiv	3.08	2.04

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	27.9 kW	19.9 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.08	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	50 W	50 W
PTO	100 W	100 W
PSB	50 W	50 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	7376 kWh	6734 kWh