

Subtype Buderus Logatherm WLW276 53/59

Certificate Holder	Bosch Thermotechnik GmbH (Buderus)
Address	Sophienstraße 30-32
ZIP	35576
City	Wetzlar
Country	DE
Certification Body	ICIM S.p.A.
Subtype title	Buderus Logatherm WLW276 53/59
Registration number	ICIM-PDC-000193
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	17.5 kg
Certification Date	23.01.2023
Testing basis	Heat Pump KEYMARK V11

Model WLW276 53

Model name	WLW276 53
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	78.37 kW	75.56 kW
El input	18.57 kW	29.87 kW
COP	4.22	2.53

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	166 %	125 %
Prated	53.4 kW	58.2 kW
SCOP	4.22	3.2
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	47.21 kW	47.66 kW
COP Tj = -7°C	2.70	1.96
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	30.76 kW	29.59 kW
COP Tj = +2°C	4.30	3.12

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	35.04 kW	39.10 kW
COP Tj = +7°C	5.39	4.42
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	40.87 kW	33.21 kW
COP Tj = 12°C	6.74	6.07
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	47.21 kW	49.09 kW
COP Tj = Tbiv	2.70	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	44.78 kW	45.04 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.59 kW	12.98 kW
Annual energy consumption Qhe	25852 kWh	36978 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	148 %	110 %
Prated	48.11 kW	57.26 kW
SCOP	3.77	2.83
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	28.89 kW	35.07 kW
COP Tj = -7°C	3.19	2.21
Cdh Tj = -7 °C	0.9	0.96
Pdh Tj = +2°C	29.23 kW	27.2 kW
COP Tj = +2°C	5.04	3.93
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	32.98 kW	31.06 kW
COP Tj = +7°C	5.83	4.99
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	36.06 kW	34.62 kW

COP Tj = 12 °C	6.6	6.11
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	39.25 kW	42.19 kW
COP Tj = Tbiv	2.08	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	31.92 kW	39.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.58	1.55
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	48.11 kW	57.26 kW
Annual energy consumption Qhe	31462 kWh	49913 kWh
Pdh Tj = -15 °C (if TOL	39.25	42.19
COP Tj = -15 °C (if TOL	2.08	1.79
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	71 dB(A)	71 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	211 %	154 %
Prated	64.53 kW	58.46 kW
SCOP	5.35	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	64.53 kW	58.46 kW
COP Tj = +2 °C	3.25	2.2
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7 °C	41.62 kW	36.56 kW
COP Tj = +7 °C	4.96	3.2
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12 °C	36 kW	33.33 kW
COP Tj = 12 °C	6.5	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	64.53 kW	58.46 kW
COP Tj = Tbiv	3.25	2.2

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	64.53 kW	58.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.25	2.2
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 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	16214 kWh	19936 kWh

Model WLW276 53 P

Model name	WLW276 53 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	78.37 kW	75.56 kW
El input	18.57 kW	29.87 kW
COP	4.22	2.53

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	166 %	125 %
Prated	53.4 kW	58.2 kW
SCOP	4.22	3.2
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	47.21 kW	47.66 kW
COP Tj = -7°C	2.70	1.96
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	30.76 kW	29.59 kW
COP Tj = +2°C	4.30	3.12

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	35.04 kW	39.10 kW
COP Tj = +7°C	5.39	4.42
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	40.87 kW	33.21 kW
COP Tj = 12°C	6.74	6.07
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	47.21 kW	49.09 kW
COP Tj = Tbiv	2.70	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	44.78 kW	45.04 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.59 kW	12.98 kW
Annual energy consumption Qhe	25852 kWh	36978 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	148 %	110 %
Prated	48.11 kW	57.26 kW
SCOP	3.77	2.83
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	28.89 kW	35.07 kW
COP Tj = -7°C	3.19	2.21
Cdh Tj = -7 °C	0.9	0.96
Pdh Tj = +2°C	29.23 kW	27.2 kW
COP Tj = +2°C	5.04	3.93
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	32.98 kW	31.06 kW
COP Tj = +7°C	5.83	4.99
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	36.06 kW	34.62 kW

COP Tj = 12 °C	6.6	6.11
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	39.25 kW	42.19 kW
COP Tj = Tbiv	2.08	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	31.92 kW	39.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.58	1.55
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	48.11 kW	57.26 kW
Annual energy consumption Qhe	31462 kWh	49913 kWh
Pdh Tj = -15 °C (if TOL	39.25	42.19
COP Tj = -15 °C (if TOL	2.08	1.79
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	71 dB(A)	71 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	211 %	154 %
Prated	64.53 kW	58.46 kW
SCOP	5.35	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	64.53 kW	58.46 kW
COP Tj = +2 °C	3.25	2.2
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7 °C	41.62 kW	36.56 kW
COP Tj = +7 °C	4.96	3.2
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12 °C	36 kW	33.33 kW
COP Tj = 12 °C	6.5	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	64.53 kW	58.46 kW
COP Tj = Tbiv	3.25	2.2

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	64.53 kW	58.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.25	2.2
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 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	16214 kWh	19936 kWh

Model WLW276 53 IP

Model name	WLW276 53 IP
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	78.37 kW	75.56 kW
El input	18.57 kW	29.87 kW
COP	4.22	2.53

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	166 %	125 %
Prated	53.4 kW	58.2 kW
SCOP	4.22	3.2
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	47.21 kW	47.66 kW
COP Tj = -7°C	2.70	1.96
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	30.76 kW	29.59 kW
COP Tj = +2°C	4.30	3.12

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	35.04 kW	39.10 kW
COP Tj = +7°C	5.39	4.42
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	40.87 kW	33.21 kW
COP Tj = 12°C	6.74	6.07
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	47.21 kW	49.09 kW
COP Tj = Tbiv	2.70	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	44.78 kW	45.04 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.59 kW	12.98 kW
Annual energy consumption Qhe	25852 kWh	36978 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	148 %	110 %
Prated	48.11 kW	57.26 kW
SCOP	3.77	2.83
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	28.89 kW	35.07 kW
COP Tj = -7°C	3.19	2.21
Cdh Tj = -7 °C	0.9	0.96
Pdh Tj = +2°C	29.23 kW	27.2 kW
COP Tj = +2°C	5.04	3.93
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	32.98 kW	31.06 kW
COP Tj = +7°C	5.83	4.99
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	36.06 kW	34.62 kW

COP Tj = 12 °C	6.6	6.11
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	39.25 kW	42.19 kW
COP Tj = Tbiv	2.08	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	31.92 kW	39.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.58	1.55
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	48.11 kW	57.26 kW
Annual energy consumption Qhe	31462 kWh	49913 kWh
Pdh Tj = -15 °C (if TOL	39.25	42.19
COP Tj = -15 °C (if TOL	2.08	1.79
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	71 dB(A)	71 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	211 %	154 %
Prated	64.53 kW	58.46 kW
SCOP	5.35	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	64.53 kW	58.46 kW
COP Tj = +2 °C	3.25	2.2
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7 °C	41.62 kW	36.56 kW
COP Tj = +7 °C	4.96	3.2
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12 °C	36 kW	33.33 kW
COP Tj = 12 °C	6.5	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	64.53 kW	58.46 kW
COP Tj = Tbiv	3.25	2.2

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	64.53 kW	58.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.25	2.2
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 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	16214 kWh	19936 kWh

Model WLW276 53 V

Model name	WLW276 53 V
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	78.37 kW	75.56 kW
El input	18.57 kW	29.87 kW
COP	4.22	2.53

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	166 %	125 %
Prated	53.4 kW	58.2 kW
SCOP	4.22	3.2
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	47.21 kW	47.66 kW
COP Tj = -7°C	2.70	1.96
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	30.76 kW	29.59 kW
COP Tj = +2°C	4.30	3.12

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	35.04 kW	39.10 kW
COP Tj = +7°C	5.39	4.42
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	40.87 kW	33.21 kW
COP Tj = 12°C	6.74	6.07
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	47.21 kW	49.09 kW
COP Tj = Tbiv	2.70	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	44.78 kW	45.04 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.59
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.59 kW	12.98 kW
Annual energy consumption Qhe	25852 kWh	36978 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	148 %	110 %
Prated	48.11 kW	57.26 kW
SCOP	3.77	2.83
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	28.89 kW	35.07 kW
COP Tj = -7°C	3.19	2.21
Cdh Tj = -7 °C	0.9	0.96
Pdh Tj = +2°C	29.23 kW	27.2 kW
COP Tj = +2°C	5.04	3.93
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	32.98 kW	31.06 kW
COP Tj = +7°C	5.83	4.99
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	36.06 kW	34.62 kW

COP Tj = 12 °C	6.6	6.11
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	39.25 kW	42.19 kW
COP Tj = Tbiv	2.08	1.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	31.92 kW	39.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.58	1.55
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	48.11 kW	57.26 kW
Annual energy consumption Qhe	31462 kWh	49913 kWh
Pdh Tj = -15 °C (if TOL	39.25	42.19
COP Tj = -15 °C (if TOL	2.08	1.79
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	71 dB(A)	71 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	211 %	154 %
Prated	64.53 kW	58.46 kW
SCOP	5.35	3.92
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	64.53 kW	58.46 kW
COP Tj = +2 °C	3.25	2.2
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7 °C	41.62 kW	36.56 kW
COP Tj = +7 °C	4.96	3.2
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12 °C	36 kW	33.33 kW
COP Tj = 12 °C	6.5	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	64.53 kW	58.46 kW
COP Tj = Tbiv	3.25	2.2

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	64.53 kW	58.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.25	2.2
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 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	16214 kWh	19936 kWh

Model WLW276 59

Model name	WLW276 59
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	87.4 kW	85.9 kW
El input	22.35 kW	35.06 kW
COP	3.91	2.45

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	164 %	123 %
Prated	58.9 kW	62.63 kW
SCOP	4.19	3.16
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	52.08 kW	51.45 kW
COP Tj = -7°C	2.65	1.92
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	30.80 kW	31.11 kW
COP Tj = +2°C	4.25	3.09

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	35.08 kW	40.31 kW
COP Tj = +7°C	5.32	4.34
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	40.91 kW	34.24 kW
COP Tj = 12°C	6.65	5.96
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	52.08 kW	53.00 kW
COP Tj = Tbiv	2.65	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	50.14 kW	48.62 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.48	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.73 kW	14.01 kW
Annual energy consumption Qhe	28792 kWh	40478 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	145 %	109 %
Prated	54.28 kW	62.74 kW
SCOP	3.69	2.79
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	31.73 kW	37.94 kW
COP Tj = -7°C	3.04	2.18
Cdh Tj = -7 °C	0.9	0.96
Pdh Tj = +2°C	29.33 kW	27.18 kW
COP Tj = +2°C	4.97	3.91
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	33.14 kW	31.06 kW
COP Tj = +7°C	5.76	4.99
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	36.2 kW	34.62 kW

COP Tj = 12°C	6.49	6.11
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	44.28 kW	46.23 kW
COP Tj = Tbiv	2.02	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	35.94 kW	42.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.55	1.52
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	54.28 kW	62.74 kW
Annual energy consumption Qhe	36277 kWh	55405 kWh
Pdh Tj = -15°C (if TOL	44.28	42.94
COP Tj = -15°C (if TOL	2.02	1.52
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	71 dB(A)	71 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	208 %	154 %
Prated	71.2 kW	64.1 kW
SCOP	5.27	3.94
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	71.2 kW	64.1 kW
COP Tj = +2°C	3.1	2.15
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	45.2 kW	40.3 kW
COP Tj = +7°C	4.85	3.32
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	36.03 kW	33.33 kW
COP Tj = 12°C	6.43	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	71.2 kW	64.1 kW
COP Tj = Tbiv	3.1	2.15

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	71.2 kW	64.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.1	2.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 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	18041 kWh	21759 kWh

Model WLW276 59 P

Model name	WLW276 59 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	87.4 kW	85.9 kW
El input	22.35 kW	35.06 kW
COP	3.91	2.45

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	164 %	123 %
Prated	58.9 kW	62.63 kW
SCOP	4.19	3.16
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	52.08 kW	51.45 kW
COP Tj = -7°C	2.65	1.92
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	30.80 kW	31.11 kW
COP Tj = +2°C	4.25	3.09

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	35.08 kW	40.31 kW
COP Tj = +7°C	5.32	4.34
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	40.91 kW	34.24 kW
COP Tj = 12°C	6.65	5.96
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	52.08 kW	53.00 kW
COP Tj = Tbiv	2.65	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	50.14 kW	48.62 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.48	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.73 kW	14.01 kW
Annual energy consumption Qhe	28792 kWh	40478 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	145 %	109 %
Prated	54.28 kW	62.74 kW
SCOP	3.69	2.79
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	31.73 kW	37.94 kW
COP Tj = -7°C	3.04	2.18
Cdh Tj = -7 °C	0.9	0.96
Pdh Tj = +2°C	29.33 kW	27.18 kW
COP Tj = +2°C	4.97	3.91
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	33.14 kW	31.06 kW
COP Tj = +7°C	5.76	4.99
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	36.2 kW	34.62 kW

COP Tj = 12 °C	6.49	6.11
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	44.28 kW	46.23 kW
COP Tj = Tbiv	2.02	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	35.94 kW	42.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.55	1.52
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	54.28 kW	62.74 kW
Annual energy consumption Qhe	36277 kWh	55405 kWh
Pdh Tj = -15 °C (if TOL	44.28	42.94
COP Tj = -15 °C (if TOL	2.02	1.52
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	71 dB(A)	71 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	208 %	154 %
Prated	71.2 kW	64.1 kW
SCOP	5.27	3.94
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2 °C	71.2 kW	64.1 kW
COP Tj = +2 °C	3.1	2.15
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7 °C	45.2 kW	40.3 kW
COP Tj = +7 °C	4.85	3.32
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12 °C	36.03 kW	33.33 kW
COP Tj = 12 °C	6.43	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	71.2 kW	64.1 kW
COP Tj = Tbiv	3.1	2.15

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	71.2 kW	64.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.1	2.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 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	18041 kWh	21759 kWh

Model WLW276 59 IP

Model name	WLW276 59 IP
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	87.4 kW	85.9 kW
El input	22.35 kW	35.06 kW
COP	3.91	2.45

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	164 %	123 %
Prated	58.9 kW	62.63 kW
SCOP	4.19	3.16
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	52.08 kW	51.45 kW
COP Tj = -7°C	2.65	1.92
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	30.80 kW	31.11 kW
COP Tj = +2°C	4.25	3.09

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	35.08 kW	40.31 kW
COP Tj = +7°C	5.32	4.34
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	40.91 kW	34.24 kW
COP Tj = 12°C	6.65	5.96
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	52.08 kW	53.00 kW
COP Tj = Tbiv	2.65	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	50.14 kW	48.62 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.48	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.73 kW	14.01 kW
Annual energy consumption Qhe	28792 kWh	40478 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	145 %	109 %
Prated	54.28 kW	62.74 kW
SCOP	3.69	2.79
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	31.73 kW	37.94 kW
COP Tj = -7°C	3.04	2.18
Cdh Tj = -7 °C	0.9	0.96
Pdh Tj = +2°C	29.33 kW	27.18 kW
COP Tj = +2°C	4.97	3.91
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	33.14 kW	31.06 kW
COP Tj = +7°C	5.76	4.99
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	36.2 kW	34.62 kW

COP Tj = 12°C	6.49	6.11
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	44.28 kW	46.23 kW
COP Tj = Tbiv	2.02	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	35.94 kW	42.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.55	1.52
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	54.28 kW	62.74 kW
Annual energy consumption Qhe	36277 kWh	55405 kWh
Pdh Tj = -15°C (if TOL	44.28	42.94
COP Tj = -15°C (if TOL	2.02	1.52
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	71 dB(A)	71 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	208 %	154 %
Prated	71.2 kW	64.1 kW
SCOP	5.27	3.94
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	71.2 kW	64.1 kW
COP Tj = +2°C	3.1	2.15
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	45.2 kW	40.3 kW
COP Tj = +7°C	4.85	3.32
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	36.03 kW	33.33 kW
COP Tj = 12°C	6.43	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	71.2 kW	64.1 kW
COP Tj = Tbiv	3.1	2.15

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	71.2 kW	64.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.1	2.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 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	18041 kWh	21759 kWh

Model WLW276 59 V

Model name	WLW276 59 V
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	87.4 kW	85.9 kW
El input	22.35 kW	35.06 kW
COP	3.91	2.45

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	164 %	123 %
Prated	58.9 kW	62.63 kW
SCOP	4.19	3.16
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	52.08 kW	51.45 kW
COP Tj = -7°C	2.65	1.92
Cdh Tj = -7 °C	0.9	0.9
Pdh Tj = +2°C	30.80 kW	31.11 kW
COP Tj = +2°C	4.25	3.09

Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	35.08 kW	40.31 kW
COP Tj = +7°C	5.32	4.34
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	40.91 kW	34.24 kW
COP Tj = 12°C	6.65	5.96
Cdh Tj = +12 °C	0.96	0.97
Pdh Tj = Tbiv	52.08 kW	53.00 kW
COP Tj = Tbiv	2.65	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	50.14 kW	48.62 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.48	1.56
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.73 kW	14.01 kW
Annual energy consumption Qhe	28792 kWh	40478 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	-99 dB(A)	-99 dB(A)
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	145 %	109 %
Prated	54.28 kW	62.74 kW
SCOP	3.69	2.79
Tbiv	-15 °C	-12 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	31.73 kW	37.94 kW
COP Tj = -7°C	3.04	2.18
Cdh Tj = -7 °C	0.9	0.96
Pdh Tj = +2°C	29.33 kW	27.18 kW
COP Tj = +2°C	4.97	3.91
Cdh Tj = +2 °C	0.96	0.96
Pdh Tj = +7°C	33.14 kW	31.06 kW
COP Tj = +7°C	5.76	4.99
Cdh Tj = +7 °C	0.96	0.96
Pdh Tj = 12°C	36.2 kW	34.62 kW

COP Tj = 12°C	6.49	6.11
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	44.28 kW	46.23 kW
COP Tj = Tbiv	2.02	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	35.94 kW	42.94 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.55	1.52
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 W
PCK	10 W	10 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	54.28 kW	62.74 kW
Annual energy consumption Qhe	36277 kWh	55405 kWh
Pdh Tj = -15°C (if TOL	44.28	42.94
COP Tj = -15°C (if TOL	2.02	1.52
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	71 dB(A)	71 dB(A)

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	Low temperature	Medium temperature
ηs	208 %	154 %
Prated	71.2 kW	64.1 kW
SCOP	5.27	3.94
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	71.2 kW	64.1 kW
COP Tj = +2°C	3.1	2.15
Cdh Tj = +2 °C	0.9	0.9
Pdh Tj = +7°C	45.2 kW	40.3 kW
COP Tj = +7°C	4.85	3.32
Cdh Tj = +7 °C	0.9	0.9
Pdh Tj = 12°C	36.03 kW	33.33 kW
COP Tj = 12°C	6.43	5.28
Cdh Tj = +12 °C	0.96	0.96
Pdh Tj = Tbiv	71.2 kW	64.1 kW
COP Tj = Tbiv	3.1	2.15

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	71.2 kW	64.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.1	2.15
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.9	0.9
WTOL	60 °C	60 °C
Poff	110 W	110 W
PTO	200 W	200 W
PSB	110 W	110 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	18041 kWh	21759 kWh