

**Subtype Buderus Logatherm WLW196i-14 AR and IR**

Certificate Holder	Bosch Thermotechnik GmbH (Buderus)
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Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	Buderus Logatherm WLW196i-14 AR and IR
Registration number	011-1W0131
Heat Pump Type	Outdoor Air/Water
Refrigerant	R410A
Mass of Refrigerant	4 kg
Certification Date	18.07.2017
Testing basis	HP KEYMARK certification scheme rules rev. 8

**Model Buderus Logatherm WLW196i-14 ARE**

Model name	Buderus Logatherm WLW196i-14 ARE
Application	Heating (medium temp)
Units	Indoor, 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	5.63 kW	4.48 kW
El input	1.16 kW	1.63 kW
COP	4.87	2.75

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	191 %	141 %
Prated	12.00 kW	10.00 kW
SCOP	4.84	3.61
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.36 kW	9.51 kW
COP Tj = -7°C	2.87	2.25
Pdh Tj = +2°C	6.84 kW	5.60 kW
COP Tj = +2°C	4.84	3.64
Pdh Tj = +7°C	4.21 kW	5.07 kW

COP Tj = +7°C	6.41	4.49
Pdh Tj = 12°C	3.03 kW	6.01 kW
COP Tj = 12°C	7.31	5.79
Pdh Tj = Tbiv	12.26 kW	10.11 kW
COP Tj = Tbiv	2.43	1.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.26 kW	10.11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5117 kWh	5721 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	161 %	123 %
Prated	10.00 kW	9.10 kW
SCOP	4.11	3.15
Tbiv	-19 °C	-17 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	6.20 kW	5.60 kW
COP Tj = -7°C	3.71	2.68
Pdh Tj = +2°C	4.91 kW	4.40 kW
COP Tj = +2°C	4.64	3.86
Pdh Tj = +7°C	5.34 kW	5.07 kW
COP Tj = +7°C	6.14	4.76
Pdh Tj = 12°C	6.28 kW	6.00 kW
COP Tj = 12°C	7.41	6.23
Pdh Tj = Tbiv	9.25 kW	7.90 kW
COP Tj = Tbiv	2.21	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.00 kW	7.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.16	1.65

WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.00 kW	9.10 kW
Annual energy consumption Qhe	6000 kWh	7117 kWh
Pdh Tj = -15°C (if TOL)	7.92	1.96
COP Tj = -15°C (if TOL)	2.66	1.96

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	242 %	170 %
Prated	14.30 kW	12.50 kW
SCOP	6.13	4.34
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.59 kW	12.49 kW
COP Tj = +2°C	2.85	2.18
Pdh Tj = +7°C	8.92 kW	8.08 kW
COP Tj = +7°C	5.37	3.81
Pdh Tj = 12°C	4.16 kW	5.99 kW
COP Tj = 12°C	8.00	5.61
Pdh Tj = Tbiv	14.59 kW	12.49 kW
COP Tj = Tbiv	2.85	2.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.59 kW	12.49 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.85	2.18
WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3115 kWh	3852 kWh

**Model Buderus Logatherm WLW196i-14 ARB**

Model name	Buderus Logatherm WLW196i-14 ARB
Application	Heating (medium temp)
Units	Indoor, 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	5.63 kW	4.48 kW
El input	1.16 kW	1.63 kW
COP	4.87	2.75

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	191 %	141 %
Prated	12.00 kW	10.00 kW
SCOP	4.84	3.61
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.36 kW	9.51 kW
COP Tj = -7°C	2.87	2.25
Pdh Tj = +2°C	6.84 kW	5.60 kW
COP Tj = +2°C	4.84	3.64
Pdh Tj = +7°C	4.21 kW	5.07 kW

COP Tj = +7°C	6.41	4.49
Pdh Tj = 12°C	3.03 kW	6.01 kW
COP Tj = 12°C	7.31	5.79
Pdh Tj = Tbiv	12.26 kW	10.11 kW
COP Tj = Tbiv	2.43	1.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.26 kW	10.11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.43	1.90
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5117 kWh	5721 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	161 %	123 %
Prated	10.00 kW	9.10 kW
SCOP	4.11	3.15
Tbiv	-19 °C	-17 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	6.20 kW	5.60 kW
COP Tj = -7°C	3.71	2.68
Pdh Tj = +2°C	4.91 kW	4.40 kW
COP Tj = +2°C	4.64	3.86
Pdh Tj = +7°C	5.34 kW	5.07 kW
COP Tj = +7°C	6.14	4.76
Pdh Tj = 12°C	6.28 kW	6.00 kW
COP Tj = 12°C	7.41	6.23
Pdh Tj = Tbiv	9.25 kW	7.90 kW
COP Tj = Tbiv	2.21	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.00 kW	7.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.16	1.65

WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	6000 kWh	7117 kWh
Pdh Tj = -15°C (if TOL)	7.92	1.96
COP Tj = -15°C (if TOL)	2.66	1.96

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	41 dB(A)	41 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	242 %	170 %
Prated	14.30 kW	12.50 kW
SCOP	6.13	4.34
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.59 kW	12.49 kW
COP Tj = +2°C	2.85	2.18
Pdh Tj = +7°C	8.92 kW	8.08 kW
COP Tj = +7°C	5.37	3.81
Pdh Tj = 12°C	4.16 kW	5.99 kW
COP Tj = 12°C	8.00	5.61
Pdh Tj = Tbiv	14.59 kW	12.49 kW
COP Tj = Tbiv	2.85	2.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.59 kW	12.49 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.85	2.18
WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3115 kWh	3852 kWh

**Model Buderus Logatherm WLW196i-14 ART190**

Model name	Buderus Logatherm WLW196i-14 ART190
Application	Heating + DHW + low temp
Units	Indoor, 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 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	91 %
COP	2.12
Heating up time	02:24 h:min
Standby power input	64.3 W
Reference hot water temperature	52.9 °C
Mixed water at 40°C	269 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	78 %
COP	1.82
Heating up time	02:48 h:min
Standby power input	80.7 W
Reference hot water temperature	53.5 °C
Mixed water at 40°C	272 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	107 %
COP	2.49
Heating up time	01:57 h:min
Standby power input	58.5 W
Reference hot water temperature	52.8 °C
Mixed water at 40°C	266 l

**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	5.63 kW	4.48 kW
El input	1.16 kW	1.63 kW
COP	4.87	2.75

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	26 dB(A)	26 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	191 %	141 %
P <sub>rated</sub>	12.00 kW	10.00 kW
SCOP	4.84	3.61
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.36 kW	9.51 kW
COP T <sub>j</sub> = -7°C	2.87	2.25
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.84 kW	5.60 kW
COP T <sub>j</sub> = +2°C	4.84	3.64
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.21 kW	5.07 kW
COP T <sub>j</sub> = +7°C	6.41	4.49
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.03 kW	6.01 kW
COP T <sub>j</sub> = 12°C	7.31	5.79
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	12.26 kW	10.11 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.43	1.90
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	12.26 kW	10.11 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.43	1.90
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	1.00	1.00
WTOL	60 °C	60 °C
P <sub>off</sub>	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW

Annual energy consumption Qhe	5117 kWh	5721 kWh
<b>EN 12102-1   Colder Climate</b>		
	Low temperature	Medium temperature
Sound power level indoor	26 dB(A)	26 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)
<b>EN 14825   Colder Climate</b>		
	Low temperature	Medium temperature
ηs	161 %	123 %
Prated	10.00 kW	9.10 kW
SCOP	4.11	3.15
Tbiv	-19 °C	-17 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	6.20 kW	5.60 kW
COP Tj = -7°C	3.71	2.68
Pdh Tj = +2°C	4.91 kW	4.40 kW
COP Tj = +2°C	4.64	3.86
Pdh Tj = +7°C	5.34 kW	5.07 kW
COP Tj = +7°C	6.14	4.76
Pdh Tj = 12°C	6.28 kW	6.00 kW
COP Tj = 12°C	7.41	6.23
Pdh Tj = Tbiv	9.25 kW	7.90 kW
COP Tj = Tbiv	2.21	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.00 kW	7.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.16	1.65
WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.00 kW	9.10 kW
Annual energy consumption Qhe	6000 kWh	7117 kWh
Pdh Tj = -15°C (if TOL)	7.92	1.96
COP Tj = -15°C (if TOL)	2.66	1.96
<b>EN 12102-1   Warmer Climate</b>		
	Low temperature	Medium temperature
Sound power level indoor	26 dB(A)	26 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)
<b>EN 14825   Warmer Climate</b>		

	Low temperature	Medium temperature
$\eta_s$	242 %	170 %
Prated	14.30 kW	12.50 kW
SCOP	6.13	4.34
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.59 kW	12.49 kW
COP Tj = +2°C	2.85	2.18
Pdh Tj = +7°C	8.92 kW	8.08 kW
COP Tj = +7°C	5.37	3.81
Pdh Tj = 12°C	4.16 kW	5.99 kW
COP Tj = 12°C	8.00	5.61
Pdh Tj = Tbiv	14.59 kW	12.49 kW
COP Tj = Tbiv	2.85	2.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.59 kW	12.49 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.85	2.18
WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3115 kWh	3852 kWh

**Model Buderus Logatherm WLW196i-14 ARTS185**

Model name	Buderus Logatherm WLW196i-14 ARTS185
Application	Heating + DHW + low temp
Units	Indoor, 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 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	89 %
COP	2.08
Heating up time	02:27 h:min
Standby power input	67.0 W
Reference hot water temperature	51.8 °C
Mixed water at 40°C	259 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	77 %
COP	1.78
Heating up time	02:51 h:min
Standby power input	92.0 W
Reference hot water temperature	52.3 °C
Mixed water at 40°C	260 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	99 %
COP	2.30
Heating up time	01:59 h:min
Standby power input	61.0 W
Reference hot water temperature	51.4 °C
Mixed water at 40°C	252 l

**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	5.63 kW	4.48 kW
El input	1.16 kW	1.63 kW
COP	4.87	2.75

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	26 dB(A)	26 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	191 %	141 %
P <sub>rated</sub>	12.00 kW	10.00 kW
SCOP	4.84	3.61
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh T <sub>j</sub> = -7°C	11.36 kW	9.51 kW
COP T <sub>j</sub> = -7°C	2.87	2.25
Pdh T <sub>j</sub> = +2°C	6.84 kW	5.60 kW
COP T <sub>j</sub> = +2°C	4.84	3.64
Pdh T <sub>j</sub> = +7°C	4.21 kW	5.07 kW
COP T <sub>j</sub> = +7°C	6.41	4.49
Pdh T <sub>j</sub> = 12°C	3.03 kW	6.01 kW
COP T <sub>j</sub> = 12°C	7.31	5.79
Pdh T <sub>j</sub> = T <sub>biv</sub>	12.26 kW	10.11 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.43	1.90
Pdh T <sub>j</sub> = TOL or Pdh T <sub>j</sub> = Tdesignh if TOL < Tdesignh	12.26 kW	10.11 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = Tdesignh if TOL < Tdesignh	2.43	1.90
Cdh T <sub>j</sub> = TOL or Pdh T <sub>j</sub> = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
P <sub>off</sub>	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW

Annual energy consumption Qhe	5117 kWh	5721 kWh
<b>EN 12102-1   Colder Climate</b>		
	Low temperature	Medium temperature
Sound power level indoor	26 dB(A)	26 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)
<b>EN 14825   Colder Climate</b>		
	Low temperature	Medium temperature
ηs	161 %	123 %
P <sub>rated</sub>	10.00 kW	9.10 kW
SCOP	4.11	3.15
T <sub>biv</sub>	-19 °C	-17 °C
TOL	-20 °C	-18 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	6.20 kW	5.60 kW
COP T <sub>j</sub> = -7°C	3.71	2.68
P <sub>dh</sub> T <sub>j</sub> = +2°C	4.91 kW	4.40 kW
COP T <sub>j</sub> = +2°C	4.64	3.86
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.34 kW	5.07 kW
COP T <sub>j</sub> = +7°C	6.14	4.76
P <sub>dh</sub> T <sub>j</sub> = 12°C	6.28 kW	6.00 kW
COP T <sub>j</sub> = 12°C	7.41	6.23
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	9.25 kW	7.90 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.21	1.75
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	9.00 kW	7.47 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.16	1.65
WTOL	60 °C	60 °C
P <sub>off</sub>	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.00 kW	9.10 kW
Annual energy consumption Qhe	6000 kWh	7117 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL)	7.92	1.96
COP T <sub>j</sub> = -15°C (if TOL)	2.66	1.96
<b>EN 12102-1   Warmer Climate</b>		
	Low temperature	Medium temperature
Sound power level indoor	26 dB(A)	26 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)
<b>EN 14825   Warmer Climate</b>		

	Low temperature	Medium temperature
$\eta_s$	242 %	170 %
Prated	14.30 kW	12.50 kW
SCOP	6.13	4.34
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.59 kW	12.49 kW
COP Tj = +2°C	2.85	2.18
Pdh Tj = +7°C	8.92 kW	8.08 kW
COP Tj = +7°C	5.37	3.81
Pdh Tj = 12°C	4.16 kW	5.99 kW
COP Tj = 12°C	8.00	5.61
Pdh Tj = Tbiv	14.59 kW	12.49 kW
COP Tj = Tbiv	2.85	2.18
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.59 kW	12.49 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.85	2.18
WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3115 kWh	3852 kWh

**Model Buderus Logatherm WLW196i-14 IRE**

Model name	Buderus Logatherm WLW196i-14 IRE
Application	Heating (medium temp)
Units	Indoor, 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	5.08 kW	4.10 kW
El input	1.04 kW	1.63 kW
COP	4.90	2.51

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	194 %	140 %
Prated	12.13 kW	10.00 kW
SCOP	4.92	3.56
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.89 kW	8.44 kW
COP Tj = -7°C	2.98	2.25
Pdh Tj = +2°C	6.78 kW	5.45 kW
COP Tj = +2°C	4.91	3.56
Pdh Tj = +7°C	4.05 kW	4.98 kW

COP Tj = +7°C	6.33	4.44
Pdh Tj = 12°C	3.00 kW	5.93 kW
COP Tj = 12°C	7.60	5.76
Pdh Tj = Tbiv	12.13 kW	10.00 kW
COP Tj = Tbiv	2.56	1.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.13 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.56	1.88
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5090 kWh	5794 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	170 %	123 %
Prated	10.00 kW	9.40 kW
SCOP	4.33	3.16
Tbiv	-17 °C	-17 °C
TOL	-18 °C	-17 °C
Pdh Tj = -7°C	6.09 kW	5.63 kW
COP Tj = -7°C	3.68	2.71
Pdh Tj = +2°C	3.66 kW	4.40 kW
COP Tj = +2°C	5.48	3.89
Pdh Tj = +7°C	2.70 kW	5.06 kW
COP Tj = +7°C	6.48	4.75
Pdh Tj = 12°C	6.23 kW	5.98 kW
COP Tj = 12°C	7.42	5.99
Pdh Tj = Tbiv	8.29 kW	8.23 kW
COP Tj = Tbiv	2.52	1.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.64 kW	8.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.41	1.80

WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.00 kW	9.40 kW
Annual energy consumption Qhe	5697 kWh	7343 kWh
Pdh Tj = -15°C (if TOL)	8.01	2.01
COP Tj = -15°C (if TOL)	2.72	2.01

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	242 %	166 %
Prated	13.44 kW	12.41 kW
SCOP	6.12	4.23
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.44 kW	12.41 kW
COP Tj = +2°C	2.86	2.21
Pdh Tj = +7°C	8.54 kW	8.58 kW
COP Tj = +7°C	5.31	3.64
Pdh Tj = 12°C	4.07 kW	5.86 kW
COP Tj = 12°C	7.94	5.48
Pdh Tj = Tbiv	13.44 kW	12.41 kW
COP Tj = Tbiv	2.86	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.44 kW	12.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	2.21
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2931 kWh	3916 kWh

**Model Buderus Logatherm WLW196i-14 IRB**

Model name	Buderus Logatherm WLW196i-14 IRB
Application	Heating (medium temp)
Units	Indoor, 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	5.08 kW	4.10 kW
El input	1.04 kW	1.63 kW
COP	4.90	2.51

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	194 %	140 %
Prated	12.13 kW	10.00 kW
SCOP	4.92	3.56
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.89 kW	8.44 kW
COP Tj = -7°C	2.98	2.25
Pdh Tj = +2°C	6.78 kW	5.45 kW
COP Tj = +2°C	4.91	3.56
Pdh Tj = +7°C	4.05 kW	4.98 kW

COP Tj = +7°C	6.33	4.44
Pdh Tj = 12°C	3.00 kW	5.93 kW
COP Tj = 12°C	7.60	5.76
Pdh Tj = Tbiv	12.13 kW	10.00 kW
COP Tj = Tbiv	2.56	1.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.13 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.56	1.88
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5090 kWh	5794 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	170 %	123 %
Prated	10.00 kW	9.40 kW
SCOP	4.33	3.16
Tbiv	-17 °C	-17 °C
TOL	-18 °C	-17 °C
Pdh Tj = -7°C	6.09 kW	5.63 kW
COP Tj = -7°C	3.68	2.71
Pdh Tj = +2°C	3.66 kW	4.40 kW
COP Tj = +2°C	5.48	3.89
Pdh Tj = +7°C	2.70 kW	5.06 kW
COP Tj = +7°C	6.48	4.75
Pdh Tj = 12°C	6.23 kW	5.98 kW
COP Tj = 12°C	7.42	5.99
Pdh Tj = Tbiv	8.29 kW	8.23 kW
COP Tj = Tbiv	2.52	1.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.64 kW	8.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.41	1.80

WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5697 kWh	7343 kWh
Pdh Tj = -15°C (if TOL)	8.01	2.01
COP Tj = -15°C (if TOL)	2.72	2.01

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	242 %	166 %
Prated	13.44 kW	12.41 kW
SCOP	6.12	4.23
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.44 kW	12.41 kW
COP Tj = +2°C	2.86	2.21
Pdh Tj = +7°C	8.54 kW	8.58 kW
COP Tj = +7°C	5.31	3.64
Pdh Tj = 12°C	4.07 kW	5.86 kW
COP Tj = 12°C	7.94	5.48
Pdh Tj = Tbiv	13.44 kW	12.41 kW
COP Tj = Tbiv	2.86	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.44 kW	12.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	2.21
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2931 kWh	3916 kWh

**Model Buderus Logatherm WLW196i-14 IRT190**

Model name	Buderus Logatherm WLW196i-14 IRT190
Application	Heating + DHW + low temp
Units	Indoor, 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 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	91 %
COP	2.12
Heating up time	02:24 h:min
Standby power input	54.0 W
Reference hot water temperature	52.9 °C
Mixed water at 40°C	269 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	78 %
COP	1.82
Heating up time	02:48 h:min
Standby power input	81.0 W
Reference hot water temperature	53.5 °C
Mixed water at 40°C	272 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	107 %
COP	2.49
Heating up time	01:57 h:min
Standby power input	59.0 W
Reference hot water temperature	52.8 °C
Mixed water at 40°C	266 l

**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	5.08 kW	4.10 kW
El input	1.04 kW	1.63 kW
COP	4.90	2.51

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	194 %	140 %
P <sub>rated</sub>	12.13 kW	10.00 kW
SCOP	4.92	3.56
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	10.89 kW	8.44 kW
COP T <sub>j</sub> = -7°C	2.98	2.25
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.78 kW	5.45 kW
COP T <sub>j</sub> = +2°C	4.91	3.56
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.05 kW	4.98 kW
COP T <sub>j</sub> = +7°C	6.33	4.44
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.00 kW	5.93 kW
COP T <sub>j</sub> = 12°C	7.60	5.76
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	12.13 kW	10.00 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.56	1.88
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	12.13 kW	10.00 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.56	1.88
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	1.00	1.00
WTOL	60 °C	60 °C
P <sub>off</sub>	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW

Annual energy consumption Qhe	5090 kWh	5794 kWh
<b>EN 12102-1   Colder Climate</b>		
	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)
<b>EN 14825   Colder Climate</b>		
	Low temperature	Medium temperature
ηs	170 %	123 %
P <sub>rated</sub>	10.00 kW	9.40 kW
SCOP	4.33	3.16
T <sub>biv</sub>	-17 °C	-17 °C
TOL	-18 °C	-17 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	6.09 kW	5.63 kW
COP T <sub>j</sub> = -7°C	3.68	2.71
P <sub>dh</sub> T <sub>j</sub> = +2°C	3.66 kW	4.40 kW
COP T <sub>j</sub> = +2°C	5.48	3.89
P <sub>dh</sub> T <sub>j</sub> = +7°C	2.70 kW	5.06 kW
COP T <sub>j</sub> = +7°C	6.48	4.75
P <sub>dh</sub> T <sub>j</sub> = 12°C	6.23 kW	5.98 kW
COP T <sub>j</sub> = 12°C	7.42	5.99
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	8.29 kW	8.23 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.52	1.80
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	8.64 kW	8.23 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.41	1.80
WTOL	60 °C	60 °C
P <sub>off</sub>	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.00 kW	9.40 kW
Annual energy consumption Qhe	5697 kWh	7343 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL)	8.01	2.01
COP T <sub>j</sub> = -15°C (if TOL)	2.72	2.01
<b>EN 12102-1   Warmer Climate</b>		
	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)
<b>EN 14825   Warmer Climate</b>		

	Low temperature	Medium temperature
$\eta_s$	242 %	166 %
Prated	13.44 kW	12.41 kW
SCOP	6.12	4.23
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.44 kW	12.41 kW
COP Tj = +2°C	2.86	2.21
Pdh Tj = +7°C	8.54 kW	8.58 kW
COP Tj = +7°C	5.31	3.64
Pdh Tj = 12°C	4.07 kW	5.86 kW
COP Tj = 12°C	7.94	5.48
Pdh Tj = Tbiv	13.44 kW	12.41 kW
COP Tj = Tbiv	2.86	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.44 kW	12.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	2.21
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2931 kWh	3916 kWh

**Model Buderus Logatherm WLW196i-14 IRTS185**

Model name	Buderus Logatherm WLW196i-14 IRTS185
Application	Heating + DHW + low temp
Units	Indoor, 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 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	89 %
COP	2.08
Heating up time	02:27 h:min
Standby power input	67.0 W
Reference hot water temperature	51.8 °C
Mixed water at 40°C	259 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	77 %
COP	1.78
Heating up time	02:51 h:min
Standby power input	92.0 W
Reference hot water temperature	52.3 °C
Mixed water at 40°C	260 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	99 %
COP	2.30
Heating up time	01:59 h:min
Standby power input	61.0 W
Reference hot water temperature	51.4 °C
Mixed water at 40°C	252 l

**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	5.08 kW	4.10 kW
El input	1.04 kW	1.63 kW
COP	4.90	2.51

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	194 %	140 %
P <sub>rated</sub>	12.13 kW	10.00 kW
SCOP	4.92	3.56
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	10.89 kW	8.44 kW
COP T <sub>j</sub> = -7°C	2.98	2.25
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.78 kW	5.45 kW
COP T <sub>j</sub> = +2°C	4.91	3.56
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.05 kW	4.98 kW
COP T <sub>j</sub> = +7°C	6.33	4.44
P <sub>dh</sub> T <sub>j</sub> = 12°C	3.00 kW	5.93 kW
COP T <sub>j</sub> = 12°C	7.60	5.76
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	12.13 kW	10.00 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.56	1.88
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	12.13 kW	10.00 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.56	1.88
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	1.00	1.00
WTOL	60 °C	60 °C
P <sub>off</sub>	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW

Annual energy consumption Qhe	5090 kWh	5794 kWh
<b>EN 12102-1   Colder Climate</b>		
Sound power level indoor	Low temperature 51 dB(A)	Medium temperature 51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)
<b>EN 14825   Colder Climate</b>		
ηs	Low temperature 170 %	Medium temperature 123 %
Prated	10.00 kW	9.40 kW
SCOP	4.33	3.16
Tbiv	-17 °C	-17 °C
TOL	-18 °C	-17 °C
Pdh Tj = -7°C	6.09 kW	5.63 kW
COP Tj = -7°C	3.68	2.71
Pdh Tj = +2°C	3.66 kW	4.40 kW
COP Tj = +2°C	5.48	3.89
Pdh Tj = +7°C	2.70 kW	5.06 kW
COP Tj = +7°C	6.48	4.75
Pdh Tj = 12°C	6.23 kW	5.98 kW
COP Tj = 12°C	7.42	5.99
Pdh Tj = Tbiv	8.29 kW	8.23 kW
COP Tj = Tbiv	2.52	1.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.64 kW	8.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.41	1.80
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.00 kW	9.40 kW
Annual energy consumption Qhe	5697 kWh	7343 kWh
Pdh Tj = -15°C (if TOL)	8.01	2.01
COP Tj = -15°C (if TOL)	2.72	2.01
<b>EN 12102-1   Warmer Climate</b>		
Sound power level indoor	Low temperature 51 dB(A)	Medium temperature 51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)
<b>EN 14825   Warmer Climate</b>		

	Low temperature	Medium temperature
$\eta_s$	242 %	166 %
Prated	13.44 kW	12.41 kW
SCOP	6.12	4.23
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.44 kW	12.41 kW
COP Tj = +2°C	2.86	2.21
Pdh Tj = +7°C	8.54 kW	8.58 kW
COP Tj = +7°C	5.31	3.64
Pdh Tj = 12°C	4.07 kW	5.86 kW
COP Tj = 12°C	7.94	5.48
Pdh Tj = Tbiv	13.44 kW	12.41 kW
COP Tj = Tbiv	2.86	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.44 kW	12.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.86	2.21
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2931 kWh	3916 kWh

**Model Buderus Logatherm WLW196i-14 IRTP120**

Model name	Buderus Logatherm WLW196i-14 IRTP120
Application	Heating (medium temp)
Units	Indoor, 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	5.08 kW	4.10 kW
El input	1.09 kW	1.68 kW
COP	4.68	2.45

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	185 %	136 %
Prated	12.13 kW	10.00 kW
SCOP	4.70	3.48
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.89 kW	8.44 kW
COP Tj = -7°C	2.92	2.22
Pdh Tj = +2°C	6.78 kW	5.45 kW
COP Tj = +2°C	4.69	3.48
Pdh Tj = +7°C	4.05 kW	4.98 kW

COP Tj = +7°C	5.96	4.32
Pdh Tj = 12°C	3.00 kW	5.93 kW
COP Tj = 12°C	7.04	5.57
Pdh Tj = Tbiv	12.13 kW	10.00 kW
COP Tj = Tbiv	2.52	1.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.13 kW	10.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.52	1.86
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5335 kWh	5935 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	163 %	120 %
Prated	10.00 kW	9.40 kW
SCOP	4.15	3.09
Tbiv	-17 °C	-17 °C
TOL	-18 °C	-17 °C
Pdh Tj = -7°C	6.09 kW	5.63 kW
COP Tj = -7°C	3.56	2.66
Pdh Tj = +2°C	3.66 kW	4.40 kW
COP Tj = +2°C	5.20	3.79
Pdh Tj = +7°C	2.70 kW	5.06 kW
COP Tj = +7°C	6.06	4.61
Pdh Tj = 12°C	6.23 kW	5.98 kW
COP Tj = 12°C	6.94	5.78
Pdh Tj = Tbiv	8.29 kW	8.23 kW
COP Tj = Tbiv	2.46	1.78
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.64 kW	8.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.35	1.78
WTOL	60 °C	60 °C
Poff	22 W	22 W

PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.00 kW	9.40 kW
Annual energy consumption Qhe	5947 kWh	7507 kWh
Pdh Tj = -15°C (if TOL)	8.01	7.48
COP Tj = -15°C (if TOL)	2.65	1.99

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	51 dB(A)	51 dB(A)
Sound power level outdoor	37 dB(A)	37 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	228 %	162 %
Prated	13.44 kW	12.41 kW
SCOP	5.78	4.12
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	13.44 kW	12.41 kW
COP Tj = +2°C	2.82	2.17
Pdh Tj = +7°C	8.54 kW	8.58 kW
COP Tj = +7°C	5.05	3.56
Pdh Tj = 12°C	4.07 kW	5.86 kW
COP Tj = 12°C	7.38	5.30
Pdh Tj = Tbiv	13.44 kW	12.41 kW
COP Tj = Tbiv	2.82	2.17
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.44 kW	12.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.82	2.17
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	23 W	23 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3105 kWh	4025 kWh

**Model Buderus Logatherm WLW196i-14 ARTP120**

Model name	Buderus Logatherm WLW196i-14 ARTP120
Application	Heating (medium temp)
Units	Indoor, 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	5.63 kW	4.32 kW
El input	1.21 kW	1.66 kW
COP	4.66	2.60

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	49 dB(A)	49 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	183 %	138 %
Prated	12.00 kW	10.00 kW
SCOP	4.64	3.52
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.36 kW	9.51 kW
COP Tj = -7°C	2.82	2.22
Pdh Tj = +2°C	6.84 kW	5.60 kW
COP Tj = +2°C	4.64	3.56
Pdh Tj = +7°C	4.21 kW	5.07 kW

COP Tj = +7°C	6.02	4.36
Pdh Tj = 12°C	3.03 kW	6.01 kW
COP Tj = 12°C	6.87	5.58
Pdh Tj = Tbiv	12.26 kW	10.11 kW
COP Tj = Tbiv	2.40	1.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.26 kW	10.11 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.40	1.88
WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5346 kWh	5861 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	49 dB(A)	49 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	155 %	120 %
Prated	10.00 kW	9.10 kW
SCOP	3.94	3.08
Tbiv	-19 °C	-17 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	6.20 kW	5.60 kW
COP Tj = -7°C	3.59	2.64
Pdh Tj = +2°C	4.91 kW	4.40 kW
COP Tj = +2°C	4.43	3.76
Pdh Tj = +7°C	5.34 kW	5.07 kW
COP Tj = +7°C	5.81	4.60
Pdh Tj = 12°C	6.28 kW	6.00 kW
COP Tj = 12°C	6.92	6.03
Pdh Tj = Tbiv	9.25 kW	7.90 kW
COP Tj = Tbiv	2.17	1.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.00 kW	7.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.12	1.63
WTOL	60 °C	60 °C
Poff	24 W	24 W

PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.00 kW	9.10 kW
Annual energy consumption Qhe	6251 kWh	7274 kWh
Pdh Tj = -15°C (if TOL)	7.92	7.13
COP Tj = -15°C (if TOL)	2.59	1.94

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	49 dB(A)	49 dB(A)
Sound power level outdoor	53 dB(A)	53 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
$\eta_s$	229 %	166 %
Prated	14.30 kW	12.50 kW
SCOP	5.79	4.22
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	14.59 kW	12.49 kW
COP Tj = +2°C	2.81	2.15
Pdh Tj = +7°C	8.92 kW	8.08 kW
COP Tj = +7°C	5.10	3.73
Pdh Tj = 12°C	4.16 kW	5.99 kW
COP Tj = 12°C	7.44	5.42
Pdh Tj = Tbiv	14.59 kW	12.49 kW
COP Tj = Tbiv	2.81	2.15
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	14.59 kW	12.49 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	2.15
WTOL	60 °C	60 °C
Poff	24 W	24 W
PTO	41 W	41 W
PSB	24 W	24 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3299 kWh	3959 kWh