

CERTIFICATE

Certificate holder

Bosch Thermotechnik GmbH
Sophienstr. 30-32
35576 Wetzlar
GERMANY

Production facility

Aveiro, Tranas

Product

Air/Water Heat pumps

Type, Model

Buderus Logatherm WLW196i-14 AR and IR

Testing basis

DIN EN 14511-1; DIN EN 14511-2; DIN EN 14511-3; DIN EN 14511-4:2019-07
DIN EN 14825:2019-07
DIN EN 12102-1:2018-02
DIN EN 16147:2017-08
European KEYMARK Scheme for Heat Pumps Rev. 8 (2020-09)

Mark of conformity**Registration No.**

011-1W0131

Valid until

2027-07-31

Right of use

This certificate entitles the holder to use the mark of conformity shown above in conjunction with the specified registration number.

See annex for further information.

S. Scholz

ANNEX

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Certificate	011-1W0131 dated 2021-05-17
Technical Data	See Heat Pump KEYMARK database for detailed information
Testing laboratory/ Inspection body	RISE Research Institutes of Sweden AB PO Box 857 501 15 Borås SWEDEN
Test report(s)	3P06665-02 dated 2014-06-30



This information was generated by the HP KEYMARK database on 25 Feb 2023

	Buderus Logatherm WLW196i-14 AR and IR	Reg. No.	011-1W0131
Certificate Holder	Bosch Thermotechnik GmbH (Buderus)		
	Sophienstraße 30-32		35576
	Wetzlar		Germany
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	Buderus Logatherm WLW196i-14 AR and IR		
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

Configure model	
Model name	Buderus Logatherm WLW196i-14 ARE
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	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 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 12102-1

	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

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Colder Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	161 %	123 %
Prated	10.00 kW	9.10 kW
SCOP	4.11	3.15

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

This information was generated by the HP KEYMARK database on 25 Feb 2023

Annual energy consumption Q_{he}	6000 kWh	7117 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	7.92	1.96
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	2.66	1.96

Average Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	191 %	141 %
Prated	12.00 kW	10.00 kW
SCOP	4.84	3.61
T_{biv}	-10 °C	-10 °C
TOL	-10 °C	-10 °C
$P_{dh} T_j = -7^{\circ}\text{C}$	11.36 kW	9.51 kW
$COP T_j = -7^{\circ}\text{C}$	2.87	2.25
$P_{dh} T_j = +2^{\circ}\text{C}$	6.84 kW	5.60 kW
$COP T_j = +2^{\circ}\text{C}$	4.84	3.64

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Model: Buderus Logatherm WLW196i-14 ARB

Configure model	
Model name	Buderus Logatherm WLW196i-14 ARB
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	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 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 12102-1

	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

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Colder Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	161 %	123 %
Prated	10.00 kW	9.10 kW
SCOP	4.11	3.15

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

This information was generated by the HP KEYMARK database on 25 Feb 2023

Annual energy consumption Q_{he}	6000 kWh	7117 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	7.92	1.96
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	2.66	1.96

Average Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	191 %	141 %
Prated	12.00 kW	10.00 kW
SCOP	4.84	3.61
T_{biv}	-10 °C	-10 °C
TOL	-10 °C	-10 °C
$P_{dh} T_j = -7^{\circ}\text{C}$	11.36 kW	9.51 kW
$COP T_j = -7^{\circ}\text{C}$	2.87	2.25
$P_{dh} T_j = +2^{\circ}\text{C}$	6.84 kW	5.60 kW
$COP T_j = +2^{\circ}\text{C}$	4.84	3.64

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Model: Buderus Logatherm WLW196i-14 ART190

Configure model	
Model name	Buderus Logatherm WLW196i-14 ART190
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	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 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 12102-1

	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

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Colder Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	161 %	123 %
Prated	10.00 kW	9.10 kW
SCOP	4.11	3.15

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

This information was generated by the HP KEYMARK database on 25 Feb 2023

Annual energy consumption Q_{he}	6000 kWh	7117 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	7.92	1.96
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	2.66	1.96

Average Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	191 %	141 %
Prated	12.00 kW	10.00 kW
SCOP	4.84	3.61
T_{biv}	-10 °C	-10 °C
TOL	-10 °C	-10 °C
$P_{dh} T_j = -7^{\circ}\text{C}$	11.36 kW	9.51 kW
$COP T_j = -7^{\circ}\text{C}$	2.87	2.25
$P_{dh} T_j = +2^{\circ}\text{C}$	6.84 kW	5.60 kW
$COP T_j = +2^{\circ}\text{C}$	4.84	3.64

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Domestic Hot Water (DHW)

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 16147	
Declared load profile	L
Efficiency η_{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

Colder Climate

EN 16147	
Declared load profile	L
Efficiency η_{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

Average Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 16147	
Declared load profile	L
Efficiency η_{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

Model: Buderus Logatherm WLW196i-14 ARTS185

Configure model

Model name	Buderus Logatherm WLW196i-14 ARTS185
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data

Power supply	3x400V 50Hz
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Heating

EN 14511-2

	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 14511-4

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

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 12102-1

	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

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Colder Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	161 %	123 %
Prated	10.00 kW	9.10 kW
SCOP	4.11	3.15

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

This information was generated by the HP KEYMARK database on 25 Feb 2023

Annual energy consumption Q_{he}	6000 kWh	7117 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	7.92	1.96
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	2.66	1.96

Average Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	191 %	141 %
Prated	12.00 kW	10.00 kW
SCOP	4.84	3.61
T_{biv}	-10 °C	-10 °C
TOL	-10 °C	-10 °C
$P_{dh} T_j = -7^{\circ}\text{C}$	11.36 kW	9.51 kW
$COP T_j = -7^{\circ}\text{C}$	2.87	2.25
$P_{dh} T_j = +2^{\circ}\text{C}$	6.84 kW	5.60 kW
$COP T_j = +2^{\circ}\text{C}$	4.84	3.64

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Domestic Hot Water (DHW)

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 16147	
Declared load profile	L
Efficiency η_{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

Colder Climate

EN 16147	
Declared load profile	L
Efficiency η_{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

Average Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 16147	
Declared load profile	L
Efficiency η_{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

Model: Buderus Logatherm WLW196i-14 IRE

Configure model	
Model name	Buderus Logatherm WLW196i-14 IRE
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	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 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 12102-1

	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

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 25 Feb 2023

COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	2.86	2.21
WTOL	60 °C	60 °C
P _{off}	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 Q _{he}	2931 kWh	3916 kWh

Colder Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	170 %	123 %
Prated	10.00 kW	9.40 kW
SCOP	4.33	3.16

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

This information was generated by the HP KEYMARK database on 25 Feb 2023

Annual energy consumption Q_{he}	5697 kWh	7343 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	8.01	2.01
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	2.72	2.01

Average Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	194 %	140 %
Prated	12.13 kW	10.00 kW
SCOP	4.92	3.56
T_{biv}	-10°C	-10°C
TOL	-10°C	-10°C
$P_{dh} T_j = -7^{\circ}\text{C}$	10.89 kW	8.44 kW
$COP T_j = -7^{\circ}\text{C}$	2.98	2.25
$P_{dh} T_j = +2^{\circ}\text{C}$	6.78 kW	5.45 kW
$COP T_j = +2^{\circ}\text{C}$	4.91	3.56

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Model: Buderus Logatherm WLW196i-14 IRB

Configure model	
Model name	Buderus Logatherm WLW196i-14 IRB
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	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 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 12102-1

	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

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Colder Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	170 %	123 %
Prated	10.00 kW	9.40 kW
SCOP	4.33	3.16

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

This information was generated by the HP KEYMARK database on 25 Feb 2023

Annual energy consumption Q_{he}	5697 kWh	7343 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	8.01	2.01
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	2.72	2.01

Average Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	194 %	140 %
Prated	12.13 kW	10.00 kW
SCOP	4.92	3.56
T_{biv}	-10 °C	-10 °C
TOL	-10 °C	-10 °C
$P_{dh} T_j = -7^{\circ}\text{C}$	10.89 kW	8.44 kW
$COP T_j = -7^{\circ}\text{C}$	2.98	2.25
$P_{dh} T_j = +2^{\circ}\text{C}$	6.78 kW	5.45 kW
$COP T_j = +2^{\circ}\text{C}$	4.91	3.56

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Model: Buderus Logatherm WLW196i-14 IRT190

Configure model	
Model name	Buderus Logatherm WLW196i-14 IRT190
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	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 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 12102-1

	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

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 25 Feb 2023

COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	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 Q_{he}	2931 kWh	3916 kWh

Colder Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	170 %	123 %
Prated	10.00 kW	9.40 kW
SCOP	4.33	3.16

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

This information was generated by the HP KEYMARK database on 25 Feb 2023

Annual energy consumption Q_{he}	5697 kWh	7343 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	8.01	2.01
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	2.72	2.01

Average Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	194 %	140 %
Prated	12.13 kW	10.00 kW
SCOP	4.92	3.56
T_{biv}	-10°C	-10°C
TOL	-10°C	-10°C
$P_{dh} T_j = -7^{\circ}\text{C}$	10.89 kW	8.44 kW
$COP T_j = -7^{\circ}\text{C}$	2.98	2.25
$P_{dh} T_j = +2^{\circ}\text{C}$	6.78 kW	5.45 kW
$COP T_j = +2^{\circ}\text{C}$	4.91	3.56

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Domestic Hot Water (DHW)

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 16147	
Declared load profile	L
Efficiency η_{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

Colder Climate

EN 16147	
Declared load profile	L
Efficiency η_{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

Average Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 16147	
Declared load profile	L
Efficiency η_{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

Model: Buderus Logatherm WLW196i-14 IRTS185

Configure model

Model name	Buderus Logatherm WLW196i-14 IRTS185
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data

Power supply	3x400V 50Hz
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Heating

EN 14511-2

	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 14511-4

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

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 12102-1

	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

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Colder Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	170 %	123 %
Prated	10.00 kW	9.40 kW
SCOP	4.33	3.16

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

This information was generated by the HP KEYMARK database on 25 Feb 2023

Annual energy consumption Q_{he}	5697 kWh	7343 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	8.01	2.01
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	2.72	2.01

Average Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	194 %	140 %
Prated	12.13 kW	10.00 kW
SCOP	4.92	3.56
T_{biv}	-10°C	-10°C
TOL	-10°C	-10°C
$P_{dh} T_j = -7^{\circ}\text{C}$	10.89 kW	8.44 kW
$COP T_j = -7^{\circ}\text{C}$	2.98	2.25
$P_{dh} T_j = +2^{\circ}\text{C}$	6.78 kW	5.45 kW
$COP T_j = +2^{\circ}\text{C}$	4.91	3.56

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Domestic Hot Water (DHW)

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 16147	
Declared load profile	L
Efficiency η_{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

Colder Climate

EN 16147	
Declared load profile	L
Efficiency η_{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

Average Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 16147	
Declared load profile	L
Efficiency η_{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

Model: Buderus Logatherm WLW196i-14 IRTP120

Configure model	
Model name	Buderus Logatherm WLW196i-14 IRTP120
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	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 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 12102-1

	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

	Low temperature	Medium temperature
η_s	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

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Colder Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	163 %	120 %
Prated	10.00 kW	9.40 kW
SCOP	4.15	3.09

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

This information was generated by the HP KEYMARK database on 25 Feb 2023

Annual energy consumption Q_{he}	5947 kWh	7507 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	8.01	7.48
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	2.65	1.99

Average Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	185 %	136 %
Prated	12.13 kW	10.00 kW
SCOP	4.70	3.48
T_{biv}	-10°C	-10°C
TOL	-10°C	-10°C
$P_{dh} T_j = -7^{\circ}\text{C}$	10.89 kW	8.44 kW
$COP T_j = -7^{\circ}\text{C}$	2.92	2.22
$P_{dh} T_j = +2^{\circ}\text{C}$	6.78 kW	5.45 kW
$COP T_j = +2^{\circ}\text{C}$	4.69	3.48

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Model: Buderus Logatherm WLW196i-14 ARTP120

Configure model	
Model name	Buderus Logatherm WLW196i-14 ARTP120
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	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 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

Warmer Climate

This information was generated by the HP KEYMARK database on 25 Feb 2023

EN 12102-1

	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

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

Colder Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	155 %	120 %
Prated	10.00 kW	9.10 kW
SCOP	3.94	3.08

This information was generated by the HP KEYMARK database on 25 Feb 2023

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

This information was generated by the HP KEYMARK database on 25 Feb 2023

Annual energy consumption Q_{he}	6251 kWh	7274 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	7.92	7.13
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	2.59	1.94

Average Climate

EN 12102-1		
	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		
	Low temperature	Medium temperature
η_s	183 %	138 %
Prated	12.00 kW	10.00 kW
SCOP	4.64	3.52
T_{biv}	-10°C	-10°C
TOL	-10°C	-10°C
$P_{dh} T_j = -7^{\circ}\text{C}$	11.36 kW	9.51 kW
$COP T_j = -7^{\circ}\text{C}$	2.82	2.22
$P_{dh} T_j = +2^{\circ}\text{C}$	6.84 kW	5.60 kW
$COP T_j = +2^{\circ}\text{C}$	4.64	3.56

This information was generated by the HP KEYMARK database on 25 Feb 2023

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