

**Subtype Buderus Logatherm WLW196i-6 AR and IR, Buderus Logatherm WLW196i.2-4 AR**

Certificate Holder	Bosch Thermotechnik GmbH (Buderus)
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Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	Buderus Logatherm WLW196i-6 AR and IR, Buderus Logatherm WLW196i.2-4 AR
Registration number	011-1W0128
Heat Pump Type	Outdoor Air/Water
Refrigerant	R410A
Mass of Refrigerant	1.75 kg
Certification Date	18.07.2017
Testing basis	HP KEYMARK certification scheme rules rev. 8

### Model Buderus Logatherm WLW196i-6 ARE

Model name	Buderus Logatherm WLW196i-6 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	2.29 kW	2.40 kW
El input	0.43 kW	0.88 kW
COP	5.27	2.75

#### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	202 %	143 %
Prated	5.43 kW	4.56 kW
SCOP	5.13	3.65
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.91 kW	4.26 kW
COP Tj = -7°C	3.08	2.24
Pdh Tj = +2°C	2.92 kW	2.57 kW
COP Tj = +2°C	5.00	3.66
Pdh Tj = +7°C	1.84 kW	2.11 kW

COP Tj = +7°C	6.99	4.68
Pdh Tj = 12°C	1.33 kW	2.56 kW
COP Tj = 12°C	8.38	6.14
Pdh Tj = Tbiv	5.43 kW	4.56 kW
COP Tj = Tbiv	2.64	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.43 kW	4.56 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.64	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	1.00
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2190 kWh	2580 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	178 %	130 %
Prated	5.11 kW	4.82 kW
SCOP	4.53	3.32
Tbiv	-17 °C	-17 °C
TOL	-20 °C	-19 °C
Pdh Tj = -7°C	3.20 kW	3.01 kW
COP Tj = -7°C	3.61	2.72
Pdh Tj = +2°C	1.80 kW	1.91 kW
COP Tj = +2°C	5.73	4.24
Pdh Tj = +7°C	1.19 kW	2.15 kW
COP Tj = +7°C	7.41	5.03
Pdh Tj = 12°C	1.31 kW	2.61 kW
COP Tj = 12°C	8.16	6.52
Pdh Tj = Tbiv	4.45 kW	4.20 kW
COP Tj = Tbiv	2.43	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.07 kW	3.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.25	1.65

WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.11 kW	4.82 kW
Annual energy consumption Qhe	2781 kWh	3575 kWh
Pdh Tj = -15°C (if TOL)	4.15	1.97
COP Tj = -15°C (if TOL)	2.68	1.97

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	261 %	175 %
Prated	6.27 kW	5.60 kW
SCOP	6.59	4.45
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.27 kW	5.60 kW
COP Tj = +2°C	3.05	2.19
Pdh Tj = +7°C	4.09 kW	3.77 kW
COP Tj = +7°C	5.70	3.86
Pdh Tj = 12°C	1.79 kW	2.54 kW
COP Tj = 12°C	8.77	5.94
Pdh Tj = Tbiv	6.27 kW	5.60 kW
COP Tj = Tbiv	3.05	2.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.27 kW	5.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.05	2.19
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1270 kWh	1683 kWh

### Model Buderus Logatherm WLW196i-6 ARB

Model name	Buderus Logatherm WLW196i-6 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	1x230V 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	2.29 kW	2.40 kW
El input	0.43 kW	0.88 kW
COP	5.27	2.75

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	202 %	143 %
Prated	5.43 kW	4.56 kW
SCOP	5.13	3.65
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.91 kW	4.26 kW
COP Tj = -7°C	3.08	2.24
Pdh Tj = +2°C	2.92 kW	2.57 kW
COP Tj = +2°C	5.00	3.66
Pdh Tj = +7°C	1.84 kW	2.11 kW

COP Tj = +7°C	6.99	4.68
Pdh Tj = 12°C	1.33 kW	2.56 kW
COP Tj = 12°C	8.38	6.14
Pdh Tj = Tbiv	5.43 kW	4.56 kW
COP Tj = Tbiv	2.64	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.43 kW	4.56 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.64	1.89
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	1.00
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2190 kWh	2580 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	178 %	130 %
Prated	5.11 kW	4.82 kW
SCOP	4.53	3.32
Tbiv	-17 °C	-17 °C
TOL	-20 °C	-19 °C
Pdh Tj = -7°C	3.20 kW	3.01 kW
COP Tj = -7°C	3.61	2.72
Pdh Tj = +2°C	1.80 kW	1.91 kW
COP Tj = +2°C	5.73	4.24
Pdh Tj = +7°C	1.19 kW	2.15 kW
COP Tj = +7°C	7.41	5.03
Pdh Tj = 12°C	1.31 kW	2.61 kW
COP Tj = 12°C	8.16	6.52
Pdh Tj = Tbiv	4.45 kW	4.20 kW
COP Tj = Tbiv	2.43	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.07 kW	3.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.25	1.65

WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2781 kWh	3575 kWh
Pdh Tj = -15°C (if TOL)	4.15	1.97
COP Tj = -15°C (if TOL)	2.68	1.97

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	261 %	175 %
Prated	6.27 kW	5.60 kW
SCOP	6.59	4.45
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.27 kW	5.60 kW
COP Tj = +2°C	3.05	2.19
Pdh Tj = +7°C	4.09 kW	3.77 kW
COP Tj = +7°C	5.70	3.86
Pdh Tj = 12°C	1.79 kW	2.54 kW
COP Tj = 12°C	8.77	5.94
Pdh Tj = Tbiv	6.27 kW	5.60 kW
COP Tj = Tbiv	3.05	2.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.27 kW	5.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.05	2.19
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1270 kWh	1683 kWh



## Model Buderus Logatherm WLW196i-6 ART190

Model name	Buderus Logatherm WLW196i-6 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 $\eta_{DHW}$	106 %
COP	2.48
Heating up time	03:14 h:min
Standby power input	51.0 W
Reference hot water temperature	54.3 °C
Mixed water at 40°C	273 l

## EN 16147 | Colder Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	97 %
COP	2.26
Heating up time	04:04 h:min
Standby power input	64.0 W
Reference hot water temperature	53.1 °C
Mixed water at 40°C	271 l

## EN 16147 | Warmer Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	119 %
COP	2.79
Heating up time	02:31 h:min
Standby power input	45.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	271 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	2.29 kW	2.40 kW
El input	0.43 kW	0.88 kW
COP	5.27	2.75

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	25 dB(A)	25 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	202 %	143 %
P <sub>rated</sub>	5.43 kW	4.56 kW
SCOP	5.13	3.65
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	4.91 kW	4.26 kW
COP T <sub>j</sub> = -7°C	3.08	2.24
P <sub>dh</sub> T <sub>j</sub> = +2°C	2.92 kW	2.57 kW
COP T <sub>j</sub> = +2°C	5.00	3.66
P <sub>dh</sub> T <sub>j</sub> = +7°C	1.84 kW	2.11 kW
COP T <sub>j</sub> = +7°C	6.99	4.68
P <sub>dh</sub> T <sub>j</sub> = 12°C	1.33 kW	2.56 kW
COP T <sub>j</sub> = 12°C	8.38	6.14
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	5.43 kW	4.56 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.64	1.89
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>	5.43 kW	4.56 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.64	1.89
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>	0.90	1.00
WTOL	60 °C	60 °C
P <sub>off</sub>	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW



Annual energy consumption Qhe	2190 kWh	2580 kWh
EN 12102-1   Colder Climate		
Sound power level indoor	Low temperature 25 dB(A)	Medium temperature 25 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)
EN 14825   Colder Climate		
ηs	Low temperature 178 %	Medium temperature 130 %
Prated	5.11 kW	4.82 kW
SCOP	4.53	3.32
Tbiv	-17 °C	-17 °C
TOL	-20 °C	-19 °C
Pdh Tj = -7°C	3.20 kW	3.01 kW
COP Tj = -7°C	3.61	2.72
Pdh Tj = +2°C	1.80 kW	1.91 kW
COP Tj = +2°C	5.73	4.24
Pdh Tj = +7°C	1.19 kW	2.15 kW
COP Tj = +7°C	7.41	5.03
Pdh Tj = 12°C	1.31 kW	2.61 kW
COP Tj = 12°C	8.16	6.52
Pdh Tj = Tbiv	4.45 kW	4.20 kW
COP Tj = Tbiv	2.43	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.07 kW	3.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.25	1.65
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.11 kW	4.82 kW
Annual energy consumption Qhe	2781 kWh	3575 kWh
Pdh Tj = -15°C (if TOL)	4.15	1.97
COP Tj = -15°C (if TOL)	2.68	1.97
EN 12102-1   Warmer Climate		
Sound power level indoor	Low temperature 25 dB(A)	Medium temperature 25 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)
EN 14825   Warmer Climate		

	Low temperature	Medium temperature
$\eta_s$	261 %	175 %
Prated	6.27 kW	5.60 kW
SCOP	6.59	4.45
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.27 kW	5.60 kW
COP Tj = +2°C	3.05	2.19
Pdh Tj = +7°C	4.09 kW	3.77 kW
COP Tj = +7°C	5.70	3.86
Pdh Tj = 12°C	1.79 kW	2.54 kW
COP Tj = 12°C	8.77	5.94
Pdh Tj = Tbiv	6.27 kW	5.60 kW
COP Tj = Tbiv	3.05	2.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.27 kW	5.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.05	2.19
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1270 kWh	1683 kWh



## Model Buderus Logatherm WLW196i-6 ARTS185

Model name	Buderus Logatherm WLW196i-6 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 $\eta_{DHW}$	103 %
COP	2.43
Heating up time	03:18 h:min
Standby power input	53.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	263 l

## EN 16147 | Colder Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	95 %
COP	2.21
Heating up time	04:09 h:min
Standby power input	73.0 W
Reference hot water temperature	51.2 °C
Mixed water at 40°C	259 l

## EN 16147 | Warmer Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	109 %
COP	2.58
Heating up time	02:34 h:min
Standby power input	47.0 W
Reference hot water temperature	52.8 °C
Mixed water at 40°C	257 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	2.29 kW	2.40 kW
El input	0.43 kW	0.88 kW
COP	5.27	2.75

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	25 dB(A)	25 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	202 %	143 %
P <sub>rated</sub>	5.43 kW	4.56 kW
SCOP	5.13	3.65
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	4.91 kW	4.26 kW
COP T <sub>j</sub> = -7°C	3.08	2.24
P <sub>dh</sub> T <sub>j</sub> = +2°C	2.92 kW	2.57 kW
COP T <sub>j</sub> = +2°C	5.00	3.66
P <sub>dh</sub> T <sub>j</sub> = +7°C	1.84 kW	2.11 kW
COP T <sub>j</sub> = +7°C	6.99	4.68
P <sub>dh</sub> T <sub>j</sub> = 12°C	1.33 kW	2.56 kW
COP T <sub>j</sub> = 12°C	8.38	6.14
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	5.43 kW	4.56 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.64	1.89
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>	5.43 kW	4.56 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.64	1.89
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>	0.90	1.00
WTOL	60 °C	60 °C
P <sub>off</sub>	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW



Annual energy consumption Qhe	2190 kWh	2580 kWh
EN 12102-1   Colder Climate		
Sound power level indoor	Low temperature 25 dB(A)	Medium temperature 25 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)
EN 14825   Colder Climate		
ηs	Low temperature 178 %	Medium temperature 130 %
Prated	5.11 kW	4.82 kW
SCOP	4.53	3.32
Tbiv	-17 °C	-17 °C
TOL	-20 °C	-19 °C
Pdh Tj = -7°C	3.20 kW	3.01 kW
COP Tj = -7°C	3.61	2.72
Pdh Tj = +2°C	1.80 kW	1.91 kW
COP Tj = +2°C	5.73	4.24
Pdh Tj = +7°C	1.19 kW	2.15 kW
COP Tj = +7°C	7.41	5.03
Pdh Tj = 12°C	1.31 kW	2.61 kW
COP Tj = 12°C	8.16	6.52
Pdh Tj = Tbiv	4.45 kW	4.20 kW
COP Tj = Tbiv	2.43	1.75
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.07 kW	3.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.25	1.65
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.11 kW	4.82 kW
Annual energy consumption Qhe	2781 kWh	3575 kWh
Pdh Tj = -15°C (if TOL)	4.15	1.97
COP Tj = -15°C (if TOL)	2.68	1.97
EN 12102-1   Warmer Climate		
Sound power level indoor	Low temperature 25 dB(A)	Medium temperature 25 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)
EN 14825   Warmer Climate		

	Low temperature	Medium temperature
$\eta_s$	261 %	175 %
Prated	6.27 kW	5.60 kW
SCOP	6.59	4.45
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.27 kW	5.60 kW
COP Tj = +2°C	3.05	2.19
Pdh Tj = +7°C	4.09 kW	3.77 kW
COP Tj = +7°C	5.70	3.86
Pdh Tj = 12°C	1.79 kW	2.54 kW
COP Tj = 12°C	8.77	5.94
Pdh Tj = Tbiv	6.27 kW	5.60 kW
COP Tj = Tbiv	3.05	2.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.27 kW	5.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.05	2.19
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1270 kWh	1683 kWh

### Model Buderus Logatherm WLW196i-6 IRE

Model name	Buderus Logatherm WLW196i-6 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	2.29 kW	2.34 kW
El input	0.46 kW	0.87 kW
COP	4.96	2.67

#### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	184 %	140 %
Prated	5.18 kW	4.20 kW
SCOP	4.68	3.57
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.67 kW	3.86 kW
COP Tj = -7°C	2.95	2.24
Pdh Tj = +2°C	2.81 kW	2.38 kW
COP Tj = +2°C	4.26	3.66
Pdh Tj = +7°C	1.84 kW	2.11 kW

COP Tj = +7°C	6.99	4.43
Pdh Tj = 12°C	1.33 kW	2.56 kW
COP Tj = 12°C	8.06	5.56
Pdh Tj = Tbiv	5.18 kW	4.20 kW
COP Tj = Tbiv	2.64	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.18 kW	4.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.64	1.89
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	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2289 kWh	2431 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	168 %	128 %
Prated	5.27 kW	4.82 kW
SCOP	4.27	3.28
Tbiv	-16 °C	-15 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	3.20 kW	2.91 kW
COP Tj = -7°C	3.17	2.72
Pdh Tj = +2°C	1.80 kW	1.91 kW
COP Tj = +2°C	5.73	4.24
Pdh Tj = +7°C	1.14 kW	2.15 kW
COP Tj = +7°C	7.41	5.03
Pdh Tj = 12°C	1.31 kW	2.61 kW
COP Tj = 12°C	8.16	6.52
Pdh Tj = Tbiv	4.45 kW	3.89 kW
COP Tj = Tbiv	2.43	1.97
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.50 kW	3.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.07	1.64

WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.27 kW	4.82 kW
Annual energy consumption Qhe	3040 kWh	3621 kWh
Pdh Tj = -15°C (if TOL)	4.15	1.97
COP Tj = -15°C (if TOL)	2.44	1.97

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	255 %	163 %
Prated	5.77 kW	5.08 kW
SCOP	6.45	4.16
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.77 kW	5.08 kW
COP Tj = +2°C	2.91	2.09
Pdh Tj = +7°C	3.39 kW	3.55 kW
COP Tj = +7°C	5.70	3.62
Pdh Tj = 12°C	1.79 kW	2.42 kW
COP Tj = 12°C	8.45	5.56
Pdh Tj = Tbiv	5.77 kW	5.08 kW
COP Tj = Tbiv	2.91	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.77 kW	5.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.91	2.09
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1195 kWh	1631 kWh

**Model Buderus Logatherm WLW196i-6 IRB**

Model name	Buderus Logatherm WLW196i-6 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	1x230V 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	2.29 kW	2.34 kW
El input	0.46 kW	0.87 kW
COP	4.96	2.67

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	184 %	140 %
Prated	5.18 kW	4.20 kW
SCOP	4.68	3.57
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.67 kW	3.86 kW
COP Tj = -7°C	2.95	2.24
Pdh Tj = +2°C	2.81 kW	2.38 kW
COP Tj = +2°C	4.26	3.66
Pdh Tj = +7°C	1.84 kW	2.11 kW

COP Tj = +7°C	6.99	4.43
Pdh Tj = 12°C	1.33 kW	2.56 kW
COP Tj = 12°C	8.06	5.56
Pdh Tj = Tbiv	5.18 kW	4.20 kW
COP Tj = Tbiv	2.64	1.89
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.18 kW	4.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.64	1.89
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	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2289 kWh	2431 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	168 %	128 %
Prated	5.27 kW	4.82 kW
SCOP	4.27	3.28
Tbiv	-16 °C	-15 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	3.20 kW	2.91 kW
COP Tj = -7°C	3.17	2.72
Pdh Tj = +2°C	1.80 kW	1.91 kW
COP Tj = +2°C	5.73	4.24
Pdh Tj = +7°C	1.14 kW	2.15 kW
COP Tj = +7°C	7.41	5.03
Pdh Tj = 12°C	1.31 kW	2.61 kW
COP Tj = 12°C	8.16	6.52
Pdh Tj = Tbiv	4.45 kW	3.89 kW
COP Tj = Tbiv	2.43	1.97
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.50 kW	3.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.07	1.64

WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3040 kWh	3621 kWh
Pdh Tj = -15°C (if TOL)	4.15	1.97
COP Tj = -15°C (if TOL)	2.44	1.97

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
ηs	255 %	163 %
Prated	5.77 kW	5.08 kW
SCOP	6.45	4.16
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.77 kW	5.08 kW
COP Tj = +2°C	2.91	2.09
Pdh Tj = +7°C	3.39 kW	3.55 kW
COP Tj = +7°C	5.70	3.62
Pdh Tj = 12°C	1.79 kW	2.42 kW
COP Tj = 12°C	8.45	5.56
Pdh Tj = Tbiv	5.77 kW	5.08 kW
COP Tj = Tbiv	2.91	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.77 kW	5.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.91	2.09
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1195 kWh	1631 kWh



## Model Buderus Logatherm WLW196i-6 IRT190

Model name	Buderus Logatherm WLW196i-6 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 $\eta_{DHW}$	106 %
COP	2.48
Heating up time	03:14 h:min
Standby power input	51.0 W
Reference hot water temperature	54.3 °C
Mixed water at 40°C	273 l

## EN 16147 | Colder Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	97 %
COP	2.26
Heating up time	04:04 h:min
Standby power input	64.0 W
Reference hot water temperature	53.1 °C
Mixed water at 40°C	271 l

## EN 16147 | Warmer Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	119 %
COP	2.80
Heating up time	02:31 h:min
Standby power input	45.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	271 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	2.29 kW	2.34 kW
El input	0.46 kW	0.87 kW
COP	4.96	2.67

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	184 %	140 %
P <sub>rated</sub>	5.18 kW	4.20 kW
SCOP	4.68	3.57
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	4.67 kW	3.86 kW
COP T <sub>j</sub> = -7°C	2.95	2.24
P <sub>dh</sub> T <sub>j</sub> = +2°C	2.81 kW	2.38 kW
COP T <sub>j</sub> = +2°C	4.26	3.66
P <sub>dh</sub> T <sub>j</sub> = +7°C	1.84 kW	2.11 kW
COP T <sub>j</sub> = +7°C	6.99	4.43
P <sub>dh</sub> T <sub>j</sub> = 12°C	1.33 kW	2.56 kW
COP T <sub>j</sub> = 12°C	8.06	5.56
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	5.18 kW	4.20 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.64	1.89
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>	5.18 kW	4.20 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.64	1.89
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	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW



Annual energy consumption Qhe	2289 kWh	2431 kWh
EN 12102-1   Colder Climate		
Sound power level indoor	Low temperature 48 dB(A)	Medium temperature 48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)
EN 14825   Colder Climate		
ηs	Low temperature 168 %	Medium temperature 128 %
Prated	5.27 kW	4.82 kW
SCOP	4.27	3.28
Tbiv	-16 °C	-15 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	3.20 kW	2.91 kW
COP Tj = -7°C	3.17	2.72
Pdh Tj = +2°C	1.80 kW	1.91 kW
COP Tj = +2°C	5.73	4.24
Pdh Tj = +7°C	1.14 kW	2.15 kW
COP Tj = +7°C	7.41	5.03
Pdh Tj = 12°C	1.31 kW	2.61 kW
COP Tj = 12°C	8.16	6.52
Pdh Tj = Tbiv	4.45 kW	3.89 kW
COP Tj = Tbiv	2.43	1.97
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.50 kW	3.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.07	1.64
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.27 kW	4.82 kW
Annual energy consumption Qhe	3040 kWh	3621 kWh
Pdh Tj = -15°C (if TOL)	4.15	1.97
COP Tj = -15°C (if TOL)	2.44	1.97
EN 12102-1   Warmer Climate		
Sound power level indoor	Low temperature 48 dB(A)	Medium temperature 48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)
EN 14825   Warmer Climate		

	Low temperature	Medium temperature
$\eta_s$	255 %	163 %
Prated	5.77 kW	5.08 kW
SCOP	6.45	4.16
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.77 kW	5.08 kW
COP Tj = +2°C	2.91	2.09
Pdh Tj = +7°C	3.39 kW	3.55 kW
COP Tj = +7°C	5.70	3.62
Pdh Tj = 12°C	1.79 kW	2.42 kW
COP Tj = 12°C	8.45	5.56
Pdh Tj = Tbiv	5.77 kW	5.08 kW
COP Tj = Tbiv	2.91	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.77 kW	5.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.91	2.09
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1195 kWh	1631 kWh



## Model Buderus Logatherm WLW196i-6 IRTS185

Model name	Buderus Logatherm WLW196i-6 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 $\eta_{DHW}$	103 %
COP	2.43
Heating up time	03:18 h:min
Standby power input	53.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	263 l

## EN 16147 | Colder Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	95 %
COP	2.21
Heating up time	04:09 h:min
Standby power input	73.0 W
Reference hot water temperature	51.8 °C
Mixed water at 40°C	259 l

## EN 16147 | Warmer Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	109 %
COP	2.58
Heating up time	02:34 h:min
Standby power input	47.0 W
Reference hot water temperature	52.8 °C
Mixed water at 40°C	257 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	2.29 kW	2.34 kW
El input	0.46 kW	0.87 kW
COP	4.96	2.67

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	184 %	140 %
P <sub>rated</sub>	5.18 kW	4.20 kW
SCOP	4.68	3.57
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	4.67 kW	3.86 kW
COP T <sub>j</sub> = -7°C	2.95	2.24
P <sub>dh</sub> T <sub>j</sub> = +2°C	2.81 kW	2.38 kW
COP T <sub>j</sub> = +2°C	4.26	3.66
P <sub>dh</sub> T <sub>j</sub> = +7°C	1.84 kW	2.11 kW
COP T <sub>j</sub> = +7°C	6.99	4.43
P <sub>dh</sub> T <sub>j</sub> = 12°C	1.33 kW	2.56 kW
COP T <sub>j</sub> = 12°C	8.06	5.56
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	5.18 kW	4.20 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.64	1.89
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>	5.18 kW	4.20 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.64	1.89
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	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW



Annual energy consumption Qhe	2289 kWh	2431 kWh
EN 12102-1   Colder Climate		
Sound power level indoor	Low temperature 48 dB(A)	Medium temperature 48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)
EN 14825   Colder Climate		
ηs	Low temperature 168 %	Medium temperature 128 %
Prated	5.27 kW	4.82 kW
SCOP	4.27	3.28
Tbiv	-16 °C	-15 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	3.20 kW	2.91 kW
COP Tj = -7°C	3.17	2.72
Pdh Tj = +2°C	1.80 kW	1.91 kW
COP Tj = +2°C	5.73	4.24
Pdh Tj = +7°C	1.14 kW	2.15 kW
COP Tj = +7°C	7.41	5.03
Pdh Tj = 12°C	1.31 kW	2.61 kW
COP Tj = 12°C	8.16	6.52
Pdh Tj = Tbiv	4.45 kW	3.89 kW
COP Tj = Tbiv	2.43	1.97
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.50 kW	3.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.07	1.64
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.27 kW	4.82 kW
Annual energy consumption Qhe	3040 kWh	3621 kWh
Pdh Tj = -15°C (if TOL)	4.15	1.97
COP Tj = -15°C (if TOL)	2.44	1.97
EN 12102-1   Warmer Climate		
Sound power level indoor	Low temperature 48 dB(A)	Medium temperature 48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)
EN 14825   Warmer Climate		

	Low temperature	Medium temperature
$\eta_s$	255 %	163 %
Prated	5.77 kW	5.08 kW
SCOP	6.45	4.16
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.77 kW	5.08 kW
COP Tj = +2°C	2.91	2.09
Pdh Tj = +7°C	3.39 kW	3.55 kW
COP Tj = +7°C	5.70	3.62
Pdh Tj = 12°C	1.79 kW	2.42 kW
COP Tj = 12°C	8.45	5.56
Pdh Tj = Tbiv	5.77 kW	5.08 kW
COP Tj = Tbiv	2.91	2.09
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.77 kW	5.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.91	2.09
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1195 kWh	1631 kWh

### Model Buderus Logatherm WLW196i.2-4 ARB S+

Model name	Buderus Logatherm WLW196i.2-4 ARB S+
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	2.82 kW	1.78 kW
El input	0.56 kW	0.69 kW
COP	5.01	2.57

#### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	196 %	133 %
Prated	4.76 kW	4.49 kW
SCOP	4.98	3.40
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.27 kW	3.93 kW
COP Tj = -7°C	3.11	2.11
Pdh Tj = +2°C	2.51 kW	2.41 kW
COP Tj = +2°C	4.96	3.36
Pdh Tj = +7°C	1.51 kW	2.06 kW

COP Tj = +7°C	6.40	4.41
Pdh Tj = 12°C	1.27 kW	2.45 kW
COP Tj = 12°C	7.53	5.76
Pdh Tj = Tbiv	4.76 kW	4.49 kW
COP Tj = Tbiv	2.68	1.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.76 kW	4.49 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.68	1.82
WTOL	60 °C	60 °C
Poff	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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	1975 kWh	2724 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	168 %	118 %
Prated	4.30 kW	4.00 kW
SCOP	4.27	3.03
Tbiv	-17 °C	-17 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	2.50 kW	2.29 kW
COP Tj = -7°C	3.64	2.52
Cdh Tj = -7 °C		
Pdh Tj = +2°C	1.49 kW	1.80 kW
COP Tj = +2°C	5.22	3.82
Cdh Tj = +2 °C		
Pdh Tj = +7°C	1.14 kW	2.08 kW
COP Tj = +7°C	6.44	4.68
Cdh Tj = +7 °C		
Pdh Tj = 12°C	1.24 kW	2.48 kW
COP Tj = 12°C	7.03	6.02
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	3.75 kW	3.53 kW
COP Tj = Tbiv	2.29	1.64
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.44 kW	3.39 kW



COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.11	1.56
WTOL	60 °C	60 °C
Poff	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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	2482 kWh	3252 kWh
Pdh Tj = -15°C (if TOL	3.75	3.53
COP Tj = -15°C (if TOL	2.29	1.64
Cdh Tj = -15 °C		

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	240 %	163 %
Prated	5.50 kW	5.40 kW
SCOP	6.07	4.16
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.48 kW	5.40 kW
COP Tj = +2°C	3.03	2.10
Pdh Tj = +7°C	3.81 kW	3.56 kW
COP Tj = +7°C	5.16	3.57
Pdh Tj = 12°C	1.71 kW	2.44 kW
COP Tj = 12°C	8.06	5.53
Pdh Tj = Tbiv	5.48 kW	5.40 kW
COP Tj = Tbiv	3.03	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.48 kW	5.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.03	2.10
WTOL	60 °C	60 °C
Poff	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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

1211 kWh

1736 kWh

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Model Buderus Logatherm WLW196i.2-4 ARE S+

Model name	Buderus Logatherm WLW196i.2-4 ARE S+
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	2.82 kW	1.78 kW
El input	0.56 kW	0.69 kW
COP	5.01	2.57

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	196 %	133 %
Prated	4.76 kW	4.49 kW
SCOP	4.98	3.40
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.27 kW	3.93 kW
COP Tj = -7°C	3.11	2.11
Pdh Tj = +2°C	2.51 kW	2.41 kW
COP Tj = +2°C	4.96	3.36
Pdh Tj = +7°C	1.51 kW	2.06 kW

COP Tj = +7°C	6.40	4.41
Pdh Tj = 12°C	1.27 kW	2.45 kW
COP Tj = 12°C	7.53	5.76
Pdh Tj = Tbiv	4.76 kW	4.49 kW
COP Tj = Tbiv	2.68	1.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.76 kW	4.49 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.68	1.82
WTOL	60 °C	60 °C
Poff	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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	1975 kWh	2724 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	168 %	118 %
Prated	4.30 kW	4.00 kW
SCOP	4.27	3.03
Tbiv	-17 °C	-17 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	2.50 kW	2.29 kW
COP Tj = -7°C	3.64	2.52
Cdh Tj = -7 °C		
Pdh Tj = +2°C	1.49 kW	1.80 kW
COP Tj = +2°C	5.22	3.82
Cdh Tj = +2 °C		
Pdh Tj = +7°C	1.14 kW	2.08 kW
COP Tj = +7°C	6.44	4.68
Cdh Tj = +7 °C		
Pdh Tj = 12°C	1.24 kW	2.48 kW
COP Tj = 12°C	7.03	6.02
Cdh Tj = +12 °C		
Pdh Tj = Tbiv	3.75 kW	3.53 kW
COP Tj = Tbiv	2.29	1.64
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.44 kW	3.39 kW



COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.11	1.56
WTOL	60 °C	60 °C
Poff	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.30 kW	4.00 kW
Annual energy consumption Qhe	2482 kWh	3252 kWh
Pdh Tj = -15°C (if TOL	3.75	3.53
COP Tj = -15°C (if TOL	2.29	1.64
Cdh Tj = -15 °C		

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	29 dB(A)	29 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	240 %	163 %
Prated	5.50 kW	5.40 kW
SCOP	6.07	4.16
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.48 kW	5.40 kW
COP Tj = +2°C	3.03	2.10
Pdh Tj = +7°C	3.81 kW	3.56 kW
COP Tj = +7°C	5.16	3.57
Pdh Tj = 12°C	1.71 kW	2.44 kW
COP Tj = 12°C	8.06	5.53
Pdh Tj = Tbiv	5.48 kW	5.40 kW
COP Tj = Tbiv	3.03	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.48 kW	5.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.03	2.10
WTOL	60 °C	60 °C
Poff	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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

1211 kWh

1736 kWh

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## Model Buderus Logatherm WLW196i.2-4 ART190 S+

Model name	Buderus Logatherm WLW196i.2-4 ART190 S+
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 $\eta_{DHW}$	100 %
COP	2.36
Heating up time	03:34 h:min
Standby power input	52.0 W
Reference hot water temperature	53.5 °C
Mixed water at 40°C	271 l

## EN 16147 | Colder Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	84 %
COP	1.96
Heating up time	04:11 h:min
Standby power input	66.0 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	279 l

## EN 16147 | Warmer Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	119 %
COP	2.80
Heating up time	02:49 h:min
Standby power input	47.0 W
Reference hot water temperature	53.1 °C
Mixed water at 40°C	261 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	2.82 kW	1.78 kW
El input	0.56 kW	0.69 kW
COP	5.01	2.57

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	25 dB(A)	25 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	196 %	133 %
P <sub>rated</sub>	4.76 kW	4.49 kW
SCOP	4.98	3.40
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	4.27 kW	3.93 kW
COP T <sub>j</sub> = -7°C	3.11	2.11
P <sub>dh</sub> T <sub>j</sub> = +2°C	2.51 kW	2.41 kW
COP T <sub>j</sub> = +2°C	4.96	3.36
P <sub>dh</sub> T <sub>j</sub> = +7°C	1.51 kW	2.06 kW
COP T <sub>j</sub> = +7°C	6.40	4.41
P <sub>dh</sub> T <sub>j</sub> = 12°C	1.27 kW	2.45 kW
COP T <sub>j</sub> = 12°C	7.53	5.76
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	4.76 kW	4.49 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.68	1.82
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>	4.76 kW	4.49 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.68	1.82
WTOL	60 °C	60 °C
P <sub>off</sub>	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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 <sub>he</sub>	1975 kWh	2724 kWh

## EN 12102-1 | Colder Climate



	Low temperature	Medium temperature
Sound power level indoor	25 dB(A)	25 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_S$	168 %	118 %
P <sub>rated</sub>	4.30 kW	4.00 kW
SCOP	4.27	3.03
T <sub>biv</sub>	-17 °C	-17 °C
T <sub>OL</sub>	-20 °C	-18 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	2.50 kW	2.29 kW
COP T <sub>j</sub> = -7°C	3.64	2.52
Cd <sub>h</sub> T <sub>j</sub> = -7 °C		
P <sub>dh T<sub>j</sub></sub> = +2°C	1.49 kW	1.80 kW
COP T <sub>j</sub> = +2°C	5.22	3.82
Cd <sub>h</sub> T <sub>j</sub> = +2 °C		
P <sub>dh T<sub>j</sub></sub> = +7°C	1.14 kW	2.08 kW
COP T <sub>j</sub> = +7°C	6.44	4.68
Cd <sub>h</sub> T <sub>j</sub> = +7 °C		
P <sub>dh T<sub>j</sub></sub> = 12°C	1.24 kW	2.48 kW
COP T <sub>j</sub> = 12°C	7.03	6.02
Cd <sub>h</sub> T <sub>j</sub> = +12 °C		
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	3.75 kW	3.53 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.29	1.64
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	3.44 kW	3.39 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.11	1.56
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.30 kW	4.00 kW
Annual energy consumption Q <sub>he</sub>	2482 kWh	3252 kWh
P <sub>dh T<sub>j</sub></sub> = -15°C (if T <sub>OL</sub> )	3.75	1.64
COP T <sub>j</sub> = -15°C (if T <sub>OL</sub> )	2.29	1.64
Cd <sub>h</sub> T <sub>j</sub> = -15 °C		

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	25 dB(A)	25 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	240 %	163 %
Prated	5.50 kW	5.40 kW
SCOP	6.07	4.16
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.48 kW	5.40 kW
COP Tj = +2°C	3.03	2.10
Pdh Tj = +7°C	3.81 kW	3.56 kW
COP Tj = +7°C	5.16	3.57
Pdh Tj = 12°C	1.71 kW	2.44 kW
COP Tj = 12°C	8.06	5.53
Pdh Tj = Tbiv	5.48 kW	5.40 kW
COP Tj = Tbiv	3.03	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.48 kW	5.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.03	2.10
WTOL	60 °C	60 °C
Poff	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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	1211 kWh	1736 kWh



## Model Buderus Logatherm WLW196i.2-4 ARTS185 S+

Model name	Buderus Logatherm WLW196i.2-4 ARTS185 S+
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 $\eta_{DHW}$	98 %
COP	2.31
Heating up time	03:12 h:min
Standby power input	54.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	261 l

## EN 16147 | Colder Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	80 %
COP	1.88
Heating up time	04:05 h:min
Standby power input	67.0 W
Reference hot water temperature	51.7 °C
Mixed water at 40°C	259 l

## EN 16147 | Warmer Climate

Declared load profile	L
Efficiency $\eta_{DHW}$	110 %
COP	2.58
Heating up time	02:45 h:min
Standby power input	49.0 W
Reference hot water temperature	51.7 °C
Mixed water at 40°C	247 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	2.82 kW	1.78 kW
El input	0.56 kW	0.69 kW
COP	5.01	2.57

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	25 dB(A)	25 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	196 %	133 %
P <sub>rated</sub>	4.76 kW	4.49 kW
SCOP	4.98	3.40
T <sub>biv</sub>	-10 °C	-10 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	4.27 kW	3.93 kW
COP T <sub>j</sub> = -7°C	3.11	2.11
P <sub>dh</sub> T <sub>j</sub> = +2°C	2.51 kW	2.41 kW
COP T <sub>j</sub> = +2°C	4.96	3.36
P <sub>dh</sub> T <sub>j</sub> = +7°C	1.51 kW	2.06 kW
COP T <sub>j</sub> = +7°C	6.40	4.41
P <sub>dh</sub> T <sub>j</sub> = 12°C	1.27 kW	2.45 kW
COP T <sub>j</sub> = 12°C	7.53	5.76
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	4.76 kW	4.49 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.68	1.82
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>	4.76 kW	4.49 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.68	1.82
WTOL	60 °C	60 °C
P <sub>off</sub>	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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 <sub>he</sub>	1975 kWh	2724 kWh

## EN 12102-1 | Colder Climate



	Low temperature	Medium temperature
Sound power level indoor	25 dB(A)	25 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

## EN 14825 | Colder Climate

	Low temperature	Medium temperature
$\eta_S$	168 %	118 %
P <sub>rated</sub>	4.30 kW	4.00 kW
SCOP	4.27	3.03
T <sub>biv</sub>	-17 °C	-17 °C
T <sub>OL</sub>	-20 °C	-18 °C
P <sub>dh T<sub>j</sub></sub> = -7°C	2.50 kW	2.29 kW
COP T <sub>j</sub> = -7°C	3.64	2.52
Cd <sub>h</sub> T <sub>j</sub> = -7 °C		
P <sub>dh T<sub>j</sub></sub> = +2°C	1.49 kW	1.80 kW
COP T <sub>j</sub> = +2°C	5.22	3.82
Cd <sub>h</sub> T <sub>j</sub> = +2 °C		
P <sub>dh T<sub>j</sub></sub> = +7°C	1.14 kW	2.08 kW
COP T <sub>j</sub> = +7°C	6.44	4.68
Cd <sub>h</sub> T <sub>j</sub> = +7 °C		
P <sub>dh T<sub>j</sub></sub> = 12°C	1.24 kW	2.48 kW
COP T <sub>j</sub> = 12°C	7.03	6.02
Cd <sub>h</sub> T <sub>j</sub> = +12 °C		
P <sub>dh T<sub>j</sub></sub> = T <sub>biv</sub>	3.75 kW	3.53 kW
COP T <sub>j</sub> = T <sub>biv</sub>	2.29	1.64
P <sub>dh T<sub>j</sub></sub> = T <sub>OL</sub> or P <sub>dh T<sub>j</sub></sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	3.44 kW	3.39 kW
COP T <sub>j</sub> = T <sub>OL</sub> or COP T <sub>j</sub> = T <sub>designh</sub> if T <sub>OL</sub> < T <sub>designh</sub>	2.11	1.56
WT <sub>OL</sub>	60 °C	60 °C
P <sub>off</sub>	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.30 kW	4.00 kW
Annual energy consumption Q <sub>he</sub>	2482 kWh	3252 kWh
P <sub>dh T<sub>j</sub></sub> = -15°C (if T <sub>OL</sub> )	3.75	1.64
COP T <sub>j</sub> = -15°C (if T <sub>OL</sub> )	2.29	1.64
Cd <sub>h</sub> T <sub>j</sub> = -15 °C		

## EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	25 dB(A)	25 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

## EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	240 %	163 %
Prated	5.50 kW	5.40 kW
SCOP	6.07	4.16
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.48 kW	5.40 kW
COP Tj = +2°C	3.03	2.10
Pdh Tj = +7°C	3.81 kW	3.56 kW
COP Tj = +7°C	5.16	3.57
Pdh Tj = 12°C	1.71 kW	2.44 kW
COP Tj = 12°C	8.06	5.53
Pdh Tj = Tbiv	5.48 kW	5.40 kW
COP Tj = Tbiv	3.03	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.48 kW	5.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.03	2.10
WTOL	60 °C	60 °C
Poff	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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	1211 kWh	1736 kWh

### Model Buderus Hybrid-Set WLW196i-6 A H

Model name	Buderus Hybrid-Set WLW196i-6 A H
Application	Heating (medium temp)
Units	Indoor, Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Outdoor Air
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

### General data

Power supply	1x230V 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	9.03 kW	7.41 kW
El input	2.4 kW	2.82 kW
COP	3.76	2.62

### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	24 dB(A)	24 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	169 %	133 %
P <sub>rated</sub>	5.39 kW	6.25 kW
SCOP	4.31	3.4
T <sub>biv</sub>	-10 °C	-7 °C
T <sub>OL</sub>	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	4.55 kW	5.53 kW
COP T <sub>j</sub> = -7°C	2.96	2.02
C <sub>dh</sub> T <sub>j</sub> = -7 °C	1.000	1.000
P <sub>dh</sub> T <sub>j</sub> = +2°C	2.63 kW	3.53 kW
COP T <sub>j</sub> = +2°C	4.34	3.31
C <sub>dh</sub> T <sub>j</sub> = +2 °C	1.000	1.000

Pdh Tj = +7°C	1.75 kW	2.13 kW
COP Tj = +7°C	5.24	4.55
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	1.36 kW	2.54 kW
COP Tj = 12°C	6.25	6.41
Cdh Tj = +12 °C	0.900	0.940
Pdh Tj = Tbiv	5.39 kW	5.53 kW
COP Tj = Tbiv	2.56	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.39 kW	4.61 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.56	1.93
WTOL	62 °C	62 °C
Poff	7 W	7 W
PTO	6 W	6 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0 kW	1.6 kW
Annual energy consumption Qhe	2586 kWh	3800 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	24 dB(A)	24 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	152 %	122 %
Prated	5.35 kW	5.29 kW
SCOP	3.87	3.13
Tbiv	-17 °C	-15 °C
TOL	-20 °C	-19 °C
Pdh Tj = -7°C	3.19 kW	3.21 kW
COP Tj = -7°C	3.32	2.52
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	1.18 kW	1.78 kW
COP Tj = +2°C	4.59	3.71
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	1.18 kW	2.13 kW
COP Tj = +7°C	5.00	5.01
Cdh Tj = +7 °C	1.000	0.950
Pdh Tj = 12°C	1.36 kW	2.58 kW
COP Tj = 12°C	6.19	6.89
Cdh Tj = +12 °C	0.900	0.940

Pdh Tj = Tbiv	4.39 kW	4.32 kW
COP Tj = Tbiv	2.31	1.82
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.07 kW	1.77 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.16	1.54
WTOL	62 °C	62 °C
Poff	7 W	7 W
PTO	6 W	6 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	1.28 kW	3.52 kW
Annual energy consumption Qhe	3405 kWh	4162 kWh
Pdh Tj = -15°C (if TOL)		
COP Tj = -15°C (if TOL)		
Cdh Tj = -15 °C		

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	24 dB(A)	24 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	210 %	164 %
Prated	6.54 kW	6.10 kW
SCOP	5.31	4.16
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.54 kW	6.1 kW
COP Tj = +2°C	3.04	2.33
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	4.02 kW	4.07 kW
COP Tj = +7°C	5.03	3.47
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	1.77 kW	2.49 kW
COP Tj = 12°C	6.36	5.71
Cdh Tj = +12 °C	1.000	0.950
Pdh Tj = Tbiv	6.54 kW	6.1 kW
COP Tj = Tbiv	3.04	2.33
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.54 kW	6.1 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.04	2.33
WTOL	62 °C	62 °C

Poff	7 W	7 W
PTO	6 W	6 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1645 kWh	1957 kWh



## Model Buderus Logatherm WLW196i-6 IRTP120

Model name	Buderus Logatherm WLW196i-6 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	2.29 kW	2.34 kW
El input	0.49 kW	0.90 kW
COP	4.69	2.59

## EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

## EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	173 %	134 %
Prated	5.17 kW	4.20 kW
SCOP	4.41	3.44
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.67 kW	3.86 kW
COP Tj = -7°C	2.87	2.21
Pdh Tj = +2°C	2.81 kW	2.38 kW
COP Tj = +2°C	5.33	3.56
Pdh Tj = +7°C	1.84 kW	2.11 kW

COP Tj = +7°C	6.40	4.26
Pdh Tj = 12°C	1.33 kW	2.56 kW
COP Tj = 12°C	7.13	5.35
Pdh Tj = Tbiv	5.18 kW	4.20 kW
COP Tj = Tbiv	2.58	1.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.18 kW	4.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.88
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 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	2421 kWh	2525 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	158 %	122 %
Prated	5.27 kW	4.82 kW
SCOP	4.03	3.14
Tbiv	-16 °C	-16 °C
TOL	-20 °C	-17 °C
Pdh Tj = -7°C	3.20 kW	2.91 kW
COP Tj = -7°C	3.07	2.66
Pdh Tj = +2°C	1.80 kW	1.91 kW
COP Tj = +2°C	5.33	4.05
Pdh Tj = +7°C	1.14 kW	2.15 kW
COP Tj = +7°C	6.53	4.79
Pdh Tj = 12°C	1.31 kW	2.61 kW
COP Tj = 12°C	7.20	6.16
Pdh Tj = Tbiv	4.45 kW	3.93 kW
COP Tj = Tbiv	2.38	1.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.50 kW	3.09 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.62
WTOL	60 °C	60 °C
Poff	22 W	22 W

PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.27 kW	4.82 kW
Annual energy consumption Qhe	3222 kWh	3787 kWh
Pdh Tj = -15°C (if TOL)	4.15	3.89
COP Tj = -15°C (if TOL)	2.38	1.94

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	36 dB(A)	36 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	237 %	156 %
Prated	5.77 kW	5.08 kW
SCOP	6.00	3.98
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.77 kW	5.08 kW
COP Tj = +2°C	2.83	2.06
Pdh Tj = +7°C	3.39 kW	3.55 kW
COP Tj = +7°C	5.39	3.53
Pdh Tj = 12°C	1.79 kW	2.42 kW
COP Tj = 12°C	7.60	5.29
Pdh Tj = Tbiv	5.77 kW	5.08 kW
COP Tj = Tbiv	2.83	2.06
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.77 kW	5.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.83	2.06
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 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	1285 kWh	1704 kWh

### Model Buderus Logatherm WLW196i-6 ARTP120

Model name	Buderus Logatherm WLW196i-6 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	2.28 kW	2.40 kW
El input	0.46 kW	0.90 kW
COP	4.96	2.68

#### EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	49 dB(A)	49 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

#### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	189 %	137 %
Prated	5.43 kW	4.56 kW
SCOP	4.81	3.50
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.90 kW	4.26 kW
COP Tj = -7°C	2.99	2.21
Pdh Tj = +2°C	2.92 kW	2.57 kW
COP Tj = +2°C	4.74	3.55
Pdh Tj = +7°C	1.84 kW	2.11 kW

COP Tj = +7°C	6.41	4.47
Pdh Tj = 12°C	1.33 kW	2.56 kW
COP Tj = 12°C	7.37	5.82
Pdh Tj = Tbiv	5.43 kW	4.56 kW
COP Tj = Tbiv	2.58	1.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.43 kW	4.56 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.87
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2335 kWh	2689 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	49 dB(A)	49 dB(A)
Sound power level outdoor	47 dB(A)	47 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	167 %	125 %
Prated	5.11 kW	4.82 kW
SCOP	4.26	3.20
Tbiv	-17 °C	-17 °C
TOL	-20 °C	-19 °C
Pdh Tj = -7°C	3.20 kW	3.01 kW
COP Tj = -7°C	3.49	2.66
Pdh Tj = +2°C	1.80 kW	1.91 kW
COP Tj = +2°C	5.32	4.05
Pdh Tj = +7°C	1.19 kW	2.15 kW
COP Tj = +7°C	6.54	4.78
Pdh Tj = 12°C	1.31 kW	2.61 kW
COP Tj = 12°C	7.19	6.16
Pdh Tj = Tbiv	4.45 kW	4.20 kW
COP Tj = Tbiv	2.38	1.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.07 kW	3.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	1.62
WTOL	60 °C	60 °C
Poff	22 W	22 W

PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.11 kW	4.82 kW
Annual energy consumption Qhe	2956 kWh	3715 kWh
Pdh Tj = -15°C (if TOL)	4.15	3.89
COP Tj = -15°C (if TOL)	2.62	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	47 dB(A)	47 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	241 %	167 %
Prated	6.27 kW	5.60 kW
SCOP	6.11	4.25
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.27 kW	5.60 kW
COP Tj = +2°C	2.95	2.16
Pdh Tj = +7°C	4.09 kW	3.77 kW
COP Tj = +7°C	5.41	3.76
Pdh Tj = 12°C	1.79 kW	2.54 kW
COP Tj = 12°C	7.85	5.64
Pdh Tj = Tbiv	6.27 kW	5.60 kW
COP Tj = Tbiv	2.95	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.27 kW	5.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.95	2.16
WTOL	60 °C	60 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	4 W	4 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1371 kWh	1762 kWh

**Model Buderus Logatherm WLW196i.2-4 ARTP120 S+**

Model name	Buderus Logatherm WLW196i.2-4 ARTP120 S+
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	2.82 kW	1.78 kW
El input	0.59 kW	0.71 kW
COP	4.76	2.49

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	49 dB(A)	49 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	183 %	127 %
Prated	4.76 kW	4.49 kW
SCOP	4.66	3.26
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.27 kW	3.94 kW
COP Tj = -7°C	3.02	2.08
Pdh Tj = +2°C	2.51 kW	2.41 kW
COP Tj = +2°C	4.70	3.26
Pdh Tj = +7°C	1.51 kW	2.06 kW

COP Tj = +7°C	5.85	4.21
Pdh Tj = 12°C	1.27 kW	2.45 kW
COP Tj = 12°C	6.67	5.47
Pdh Tj = Tbiv	4.76 kW	4.49 kW
COP Tj = Tbiv	2.62	1.80
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.76 kW	4.49 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.62	1.80
WTOL	60 °C	60 °C
Poff	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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	2112 kWh	2843 kWh

#### EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	49 dB(A)	49 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	157 %	113 %
Prated	4.30 kW	4.00 kW
SCOP	4.00	2.90
Tbiv	-17 °C	-17 °C
TOL	-20 °C	-18 °C
Pdh Tj = -7°C	2.50 kW	2.29 kW
COP Tj = -7°C	3.50	2.46
Pdh Tj = +2°C	1.49 kW	1.80 kW
COP Tj = +2°C	4.84	3.65
Pdh Tj = +7°C	1.14 kW	2.08 kW
COP Tj = +7°C	5.73	4.46
Pdh Tj = 12°C	1.24 kW	2.48 kW
COP Tj = 12°C	6.26	5.71
Pdh Tj = Tbiv	3.75 kW	3.53 kW
COP Tj = Tbiv	2.24	1.62
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.44 kW	3.39 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.07	1.54
WTOL	60 °C	60 °C
Poff	17 W	17 W

PTO	22 W	22 W
PSB	17 W	17 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.30 kW	4.00 kW
Annual energy consumption Qhe	2650 kWh	3405 kWh
Pdh Tj = -15°C (if TOL)	3.75	3.53
COP Tj = -15°C (if TOL)	2.24	1.62

#### EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	49 dB(A)	49 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	223 %	158 %
Prated	5.50 kW	5.40 kW
SCOP	5.65	4.01
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.48 kW	5.40 kW
COP Tj = +2°C	2.93	2.07
Pdh Tj = +7°C	3.81 kW	3.56 kW
COP Tj = +7°C	4.91	3.48
Pdh Tj = 12°C	1.71 kW	2.44 kW
COP Tj = 12°C	7.26	5.26
Pdh Tj = Tbiv	5.48 kW	5.40 kW
COP Tj = Tbiv	2.93	2.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.48 kW	5.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.93	2.07
WTOL	60 °C	60 °C
Poff	17 W	17 W
PTO	22 W	22 W
PSB	17 W	17 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	1301 kWh	1797 kWh