

**Subtype Buderus Logatherm WSW196i-12**

Certificate Holder	Bosch Thermotechnik GmbH (Buderus)
Address	Sophienstraße 30-32
ZIP	35576
City	Wetzlar
Country	DE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	Buderus Logatherm WSW196i-12
Registration number	011-1W0151
Heat Pump Type	Brine/Water
Refrigerant	R410A
Mass of Refrigerant	2.39 kg
Certification Date	06.07.2017

**Model Buderus Logatherm WSW196i-12T 190**

Model name	Buderus Logatherm WSW196i-12T 190
Application	Heating + DHW + low temp
Units	Indoor
Climate zone (for heating)	n/a
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

**General data**

Power supply	1x230V 50Hz
Off-peak product	No

**Brine/Water****EN 16147 | Average Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	90 %
COP	2.06
Heating up time	2:35 h:min
Standby power input	86.3 W
Reference hot water temperature	53.0 °C
Mixed water at 40°C	259 l

**EN 16147 | Colder Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	90 %
COP	2.06
Heating up time	154.8 h:min
Standby power input	86.3 W
Reference hot water temperature	53 °C
Mixed water at 40°C	259 l

**EN 16147 | Warmer Climate**

Declared load profile	L
Efficiency $\eta_{DHW}$	90 %
COP	2.06
Heating up time	154.8 h:min
Standby power input	86.3 W
Reference hot water temperature	53 °C
Mixed water at 40°C	259 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	
<b>EN 14511-2   Heating</b>		
Heat output	Low temperature	Medium temperature
	11.01 kW	9.58 kW
El input	2.85 kW	3.43 kW
COP	3.86	2.79
<b>EN 12102-1   Average Climate</b>		
Sound power level indoor	Low temperature	Medium temperature
	45 dB(A)	45 dB(A)
<b>EN 14825   Average Climate</b>		
ηs	Low temperature	Medium temperature
	180 %	139 %
Prated	11.01 kW	9.58 kW
SCOP	4.69	3.68
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.78 kW	8.04 kW
COP Tj = -7°C	4.43	3.12
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.90 kW	5.06 kW
COP Tj = +2°C	5.27	3.97
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	3.97 kW	3.29 kW
COP Tj = +7°C	5.68	4.52
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	1.72 kW	2.7 kW
COP Tj = 12°C	5.30	4.66
Cdh Tj = +12 °C	0.94	0.97
Pdh Tj = Tbiv	11.01 kW	9.58 kW
COP Tj = Tbiv	3.86	2.79
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.01 kW	9.58 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.86	2.79
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	62 °C	62 °C
Poff	18 W	18 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	4850 kWh	5373 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
$\eta_s$	187 %	154 %
P <sub>rated</sub>	11.01 kW	9.58 kW
SCOP	4.87	4.05
T <sub>biv</sub>	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	6.44 kW	5.9 kW
COP T <sub>j</sub> = -7°C	5.25	3.79
C <sub>dh</sub> T <sub>j</sub> = -7 °C	0.99	0.99
P <sub>dh</sub> T <sub>j</sub> = +2°C	3.97 kW	3.75 kW
COP T <sub>j</sub> = +2°C	5.68	4.47
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.97	0.98
P <sub>dh</sub> T <sub>j</sub> = +7°C	2.87 kW	2.71 kW
COP T <sub>j</sub> = +7°C	5.89	4.74
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.96	0.97
P <sub>dh</sub> T <sub>j</sub> = 12°C	1.42 kW	2.71 kW
COP T <sub>j</sub> = 12°C	4.77	4.74
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.94	0.97
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	11.01 kW	9.58 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.86	2.79
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>	11.01 kW	9.58 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	3.86	2.79
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>	0.99	1.00
WTOL	62 °C	62 °C
P <sub>off</sub>	18 W	18 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0 kW
Annual energy consumption Qhe	5570 kWh	5825 kWh
C <sub>dh</sub> T <sub>j</sub> = -15 °C	0.99	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)
<b>EN 14825   Warmer Climate</b>		
	Low temperature	Medium temperature
ηs	159 %	136 %
Prated	11.01 kW	9.58 kW
SCOP	4.19	3.60
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.01 kW	9.58 kW
COP Tj = +2°C	3.86	2.79
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	7.23 kW	5.82 kW
COP Tj = +7°C	4.99	3.62
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	2.91 kW	2.78 kW
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WTOL	62 °C	62 °C
Poff	18 W	18 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0 kW
Annual energy consumption Qhe	3515 kWh	3554 kWh

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Supplementary Heater: Type of energy input	Electricity	Electricity

Supplementary Heater: PSUP	0 kW	0 kW
Annual energy consumption Qhe	4850 kWh	5373 kWh
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PSB	18 W	18 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0 kW
Annual energy consumption Qhe	5570 kWh	5825 kWh
Cdh Tj = -15 °C	0.99	1.00

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Sound power level indoor	45 dB(A)	45 dB(A)
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COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = Tdesignh if TOL < Tdesignh	3.86	2.79
Cdh T <sub>j</sub> = TOL or Pdh T <sub>j</sub> = Tdesignh if TOL < Tdesignh	0.99	1.00
WTOL	62 °C	62 °C
P <sub>off</sub>	18 W	18 W
PTO	18 W	18 W
PSB	18 W	18 W
PCK	11 W	11 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0 kW
Annual energy consumption Qhe	3515 kWh	3554 kWh