

## Subtype Buderus Logatherm WSW196i.2/186 -16

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.2/186 -16
Registration number	011-1W0436
Heat Pump Type	Brine/Water and Water/Water
Refrigerant	R410A
Mass of Refrigerant	2.3 kg
Certification Date	08.12.2020
Testing basis	HP KEYMARK certification scheme rules rev. 10

## Model WSW196i.2-16 T180 (+W) / 186-16 T180

Model name	WSW196i.2-16 T180 (+W) / 186-16 T180
Application	Heating + DHW + low temp
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Brine
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

### General data

Power supply	3x400V 50Hz
Off-peak product	No

### Brine/Water

#### EN 16147 | Average Climate

Declared load profile	XL
Efficiency $\eta_{DHW}$	127 %
COP	3.05
Heating up time	1:09 h:min
Standby power input	110.0 W
Reference hot water temperature	46.9 °C
Mixed water at 40°C	206 l

#### EN 16147 | Colder Climate

Declared load profile	XL
Efficiency $\eta_{DHW}$	127 %
COP	3.05
Heating up time	1:09 h:min
Standby power input	110.0 W
Reference hot water temperature	46.9 °C
Mixed water at 40°C	206 l

#### EN 16147 | Warmer Climate

Declared load profile	XL
Efficiency $\eta_{DHW}$	127 %
COP	3.05
Heating up time	1:09 h:min
Standby power input	110.0 W
Reference hot water temperature	46.9 °C
Mixed water at 40°C	206 l

### Water/Water

#### EN 16147 | Average Climate

Declared load profile	XL
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Efficiency $\eta_{DHW}$	153 %
COP	3.70
Heating up time	0:53 h:min
Standby power input	33.2 W
Reference hot water temperature	46.3 °C
Mixed water at 40°C	201 l

## Model WSW196i.2-16 (+W) / 186-16

Model name	WSW196i.2-16 (+W) / 186-16
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Heat Source	Brine
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

## General data

Power supply	3x400V 50Hz
Off-peak product	No

## Brine/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 12102-1 | Average Climate

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

### EN 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	203 %	154 %
Prated	15.53 kW	14.18 kW
SCOP	5.28	4.06
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	13.91 kW	12.81 kW
COP Tj = -7°C	4.07	2.81
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	8.93 kW	7.91 kW
COP Tj = +2°C	5.39	4.21
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	5.72 kW	5.40 kW
COP Tj = +7°C	6.04	4.72
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	4.89 kW	4.70 kW
COP Tj = 12°C	5.98	4.97
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	15.54 kW	14.19 kW
COP Tj = Tbiv	3.75	2.50

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.54 kW	14.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.75	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	71 °C	71 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 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	6074 kWh	7218 kWh

#### EN 12102-1 | Colder Climate

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

#### EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	211 %	161 %
Prated	15.53 kW	14.18 kW
SCOP	5.47	4.24
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.06 kW	8.96 kW
COP Tj = -7°C	5.18	3.86
Cdh Tj = -7 °C	0.990	1.000
Pdh Tj = +2°C	6.20 kW	5.42 kW
COP Tj = +2°C	5.97	4.74
Cdh Tj = +2 °C	0.990	0.990
Pdh Tj = +7°C	4.91 kW	4.76 kW
COP Tj = +7°C	6.07	5.09
Cdh Tj = +7 °C	0.990	0.990
Pdh Tj = 12°C	4.88 kW	4.75 kW
COP Tj = 12°C	5.89	5.19
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	15.53 kW	14.19 kW
COP Tj = Tbiv	3.75	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.54 kW	14.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.75	2.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000

WTOL	71 °C	71 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 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	6995 kWh	8251 kWh

#### EN 12102-1 | Warmer Climate

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

#### EN 14825 | Warmer Climate

	Low temperature	Medium temperature
$\eta_s$	204 %	155 %
Prated	15.53 kW	14.18 kW
SCOP	5.30	4.07
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	15.54 kW	14.19 kW
COP Tj = +2°C	3.75	2.46
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	9.99 kW	9.32 kW
COP Tj = +7°C	5.05	3.63
Cdh Tj = +7 °C	0.990	1.000
Pdh Tj = 12°C	4.89 kW	4.71 kW
COP Tj = 12°C	5.98	4.98
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	15.54 kW	14.19 kW
COP Tj = Tbiv	3.75	2.46
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	15.54 kW	14.19 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.75	2.46
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	71 °C	71 °C
Poff	11 W	11 W
PTO	11 W	11 W
PSB	11 W	11 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	3916 kWh	4658 kWh

#### Water/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 14825 | Average Climate

	Low temperature	Medium temperature
$\eta_s$	289 %	212 %
Prated	20.43 kW	17.37 kW
SCOP	7.43	5.51
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	18.35 kW	14.99 kW
COP Tj = -7°C	5.21	3.63
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	11.74 kW	9.13 kW
COP Tj = +2°C	7.34	5.58
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	7.51 kW	6.15 kW
COP Tj = +7°C	9.29	6.85
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	6.43 kW	6.23 kW
COP Tj = 12°C	9.63	7.21
Cdh Tj = +12 °C	0.980	0.990
Pdh Tj = Tbiv	20.43 kW	17.36 kW
COP Tj = Tbiv	4.73	3.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	20.43 kW	17.36 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.73	3.14
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	71 °C	71 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 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	5681 kWh	6511 kWh