Login

Summary of	Buderus Logatherm WLW-4 SP AR	Reg. No.	011-1W0538
Certificate Holder			
Name	Bosch Thermotechnik GmbH (Buderus)		
Address	Sophienstraße 30-32	Zip	35576
City	Wetzlar	Country	Germany
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	Buderus Logatherm WLW-4 SP AR		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R32		
Mass of Refrigerant	1.1 kg		
Certification Date	10.06.2022		
Testing basis	European KEYMARK Scheme for Heat Pumps Rev. 9 (as of 2021-03)		

Model: WLW166i-4 SP AR T190

Configure model	
Model name	WLW166i-4 SP AR T190
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	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.21 kW	3.9 kW
El input	1.12 kW	1.44 kW
COP	4.67	2.7

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

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	240 %	150 %
Prated	5 kW	5 kW
SCOP	6.07	3.84
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.94 kW	3.71 kW
COP Tj = +2°C	3.55	2.12
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.3 kW	3.28 kW
COP Tj = +7°C	5.52	3.39
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	2.76 kW	2.32 kW
COP Tj = 12°C	7.7	5.03
Cdh Tj = +12 °C	0.97	0.98

Pdh Tj = Tbiv	4.23 kW	4.02 kW
COP Tj = Tbiv	3.96	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.94 kW	3.71 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.55	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
PTO	0 W	0 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.06 kW	1.29 kW
Annual energy consumption Qhe	1101 kWh	1741 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825

	Low temperature	**Medium temperature**
η_s	148 %	108 %
Prated	5 kW	5 kW
SCOP	3.77	2.76
Tbiv	-12 °C	-11 °C
TOL	-20 °C	-17 °C
Pdh Tj = -7°C	3.15 kW	3.18 kW
COP Tj = -7°C	3.4	2.44
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	1.9 kW	1.89 kW
COP Tj = +2°C	4.61	3.55
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.27 kW	1.62 kW
COP Tj = +7°C	6.12	4.27
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.09 kW	1.79 kW
COP Tj = 12°C	5.97	5.18
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	3.69 kW	3.39 kW
COP Tj = Tbiv	3	1.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.24 kW	2.45 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.59	1.4
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
PTO	0 W	0 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5 kW	5 kW
Annual energy consumption Qhe	3267 kWh	4461 kWh
Pdh Tj = -15°C (if TOL<-20°C)	3.26	2.77
COP Tj = -15°C (if TOL<-20°C)	2.43	1.59
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	40 dB(A)	40 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825

	Low temperature	**Medium temperature**
η_s	186 %	125 %
Prated	5 kW	5.6 kW
SCOP	4.72	3.20
Tbiv	-7 °C	-5 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.36 kW	3.80 kW
COP Tj = -7°C	2.96	1.92
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.73 kW	3.30 kW
COP Tj = +2°C	4.68	3.27
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.34 kW	2.01 kW
COP Tj = +7°C	6.07	4.24
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.77 kW	2.51 kW
COP Tj = 12°C	8.02	5.80
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	4.36 kW	4.15 kW
COP Tj = Tbiv	2.96	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.93 kW	2.58 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.68	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
PTO	0 W	0 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.07 kW	3.00 kW
Annual energy consumption Qhe	2186 kWh	3613 kWh

Domestic Hot Water (DHW)

Warmer Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	152 %
COP	3.68
Heating up time	02:30 h:min
Standby power input	33 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	277 l

Colder Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	100 %
COP	2.42
Heating up time	02:44 h:min
Standby power input	41 W
Reference hot water temperature	53.5 °C
Mixed water at 40°C	270 l

Average Climate

EN 16147	
Declared load profile	XL
Efficiency ηDHW	125 %
COP	3.02
Heating up time	02:34 h:min
Standby power input	38 W
Reference hot water temperature	53.7 °C
Mixed water at 40°C	279 l

Model: WLW166i-4 SP AR E

Configure model	
Model name	WLW166i-4 SP AR E
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	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.21 kW	3.9 kW
El input	1.12 kW	1.44 kW
COP	4.67	2.7

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

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	240 %	150 %
Prated	5 kW	5 kW
SCOP	6.07	3.84
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.94 kW	3.71 kW
COP Tj = +2°C	3.55	2.12
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	3.3 kW	3.28 kW
COP Tj = +7°C	5.52	3.39
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	2.76 kW	2.32 kW
COP Tj = 12°C	7.7	5.03
Cdh Tj = +12 °C	0.97	0.98

Pdh Tj = Tbiv	4.23 kW	4.02 kW
COP Tj = Tbiv	3.96	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.94 kW	3.71 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.55	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
PTO	0 W	0 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.06 kW	1.29 kW
Annual energy consumption Qhe	1101 kWh	1741 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825

	Low temperature	**Medium temperature**
η_s	148 %	108 %
Prated	5 kW	5 kW
SCOP	3.77	2.76
Tbiv	-12 °C	-11 °C
TOL	-20 °C	-17 °C
Pdh Tj = -7°C	3.15 kW	3.18 kW
COP Tj = -7°C	3.4	2.44
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	1.9 kW	1.89 kW
COP Tj = +2°C	4.61	3.55
Cdh Tj = +2 °C	0.97	0.98
Pdh Tj = +7°C	2.27 kW	1.62 kW
COP Tj = +7°C	6.12	4.27
Cdh Tj = +7 °C	0.97	0.97
Pdh Tj = 12°C	2.09 kW	1.79 kW
COP Tj = 12°C	5.97	5.18
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	3.69 kW	3.39 kW
COP Tj = Tbiv	3	1.86
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.24 kW	2.45 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.59	1.4
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
PTO	0 W	0 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5 kW	5 kW
Annual energy consumption Qhe	3267 kWh	4461 kWh
Pdh Tj = -15°C (if TOL<-20°C)	3.26	2.77
COP Tj = -15°C (if TOL<-20°C)	2.43	1.59
Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825

	Low temperature	**Medium temperature**
η_s	186 %	125 %
Prated	5 kW	5.6 kW
SCOP	4.72	3.20
Tbiv	-7 °C	-5 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.36 kW	3.80 kW
COP Tj = -7°C	2.96	1.92
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.73 kW	3.30 kW
COP Tj = +2°C	4.68	3.27
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.34 kW	2.01 kW
COP Tj = +7°C	6.07	4.24
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.77 kW	2.51 kW
COP Tj = 12°C	8.02	5.80
Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	4.36 kW	4.15 kW
COP Tj = Tbiv	2.96	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.93 kW	2.58 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.68	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
PTO	0 W	0 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.07 kW	3.00 kW
Annual energy consumption Qhe	2186 kWh	3613 kWh

Model: WLW166i-4 SP AR B

Configure model	
Model name	WLW166i-4 SP AR B
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	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.21 kW	3.9 kW
El input	1.12 kW	1.44 kW
COP	4.67	2.7

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

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	240 %	150 %
Prated	5 kW	5 kW
SCOP	6.07	3.84
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	3.94 kW	3.71 kW
COP Tj = +2°C	3.55	2.12
Cdh Tj = +2 °C	0.99	0.99
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COP Tj = +7°C	5.52	3.39
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Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
PTO	0 W	0 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	1.06 kW	1.29 kW
Annual energy consumption Qhe	1101 kWh	1741 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	45 dB(A)	45 dB(A)
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EN 14825

	Low temperature	**Medium temperature**
η_s	148 %	108 %
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Pdh Tj = +7°C	2.27 kW	1.62 kW
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Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
PTO	0 W	0 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	5 kW	5 kW
Annual energy consumption Qhe	3267 kWh	4461 kWh
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Cdh Tj = -15 °C	0.99	0.99

Average Climate

EN 12102-1		
	Low temperature	**Medium temperature**
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EN 14825

	Low temperature	**Medium temperature**
η_s	186 %	125 %
Prated	5 kW	5.6 kW
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TOL	-10 °C	-10 °C
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COP Tj = -7°C	2.96	1.92
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	2.73 kW	3.30 kW
COP Tj = +2°C	4.68	3.27
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	2.34 kW	2.01 kW
COP Tj = +7°C	6.07	4.24
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	2.77 kW	2.51 kW
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Cdh Tj = +12 °C	0.97	0.97
Pdh Tj = Tbiv	4.36 kW	4.15 kW
COP Tj = Tbiv	2.96	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.93 kW	2.58 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.68	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
PTO	0 W	0 W
PSB	11 W	11 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	1.07 kW	3.00 kW
Annual energy consumption Qhe	2186 kWh	3613 kWh