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#### **Login**

Summary of	Buderus Logatherm WLW-4 SP AR	Reg. No.	011-1W0538	
Certificate Holder	Certificate Holder			
Name	Bosch Thermotechnik GmbH (Buderus)	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

COP

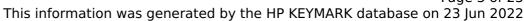
4.67

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

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
$\eta_{s}$	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





<u> </u>	
4.23 kW	4.02 kW
3.96	2.28
3.94 kW	3.71 kW
3.55	2.12
0.99	0.99
60 °C	60 °C
11 W	11 W
o w	0 W
11 W	11 W
o w	0 W
Electricity	Electricity
1.06 kW	1.29 kW
1101 kWh	1741 kWh
	3.96 3.94 kW 3.55 0.99 60 °C 11 W 0 W 11 W 0 W Electricity 1.06 kW

### 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)	





	Low temperature	Medium temperature
$\eta_{s}$	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
$COP Tj = -7^{\circ}C$	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 = $+7^{\circ}$ C	2.27 kW	1.62 kW
$COP Tj = +7^{\circ}C$	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
РТО	o w	o w
PSB	11 W	11 W
PCK	o w	o 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)	





	Low temperature	Medium temperature
$\eta_{s}$	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 = $-7^{\circ}$ C	4.36 kW	3.80 kW
$COP Tj = -7^{\circ}C$	2.96	1.92
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = $+2$ °C	2.73 kW	3.30 kW
$COP Tj = +2^{\circ}C$	4.68	3.27
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	2.34 kW	2.01 kW
$COPTj = +7^{\circ}C$	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 %	
СОР	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	



### Colder Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	100 %	
СОР	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	

# Average Climate

EN 16147		
Declared load profile	XL	
Efficiency ηDHW	125 %	
СОР	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 I	

# 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	
СОР	4.67	2.7	

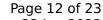
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

## 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
$\eta_{s}$	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

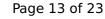




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Pdh Tj = Tbiv	4.23 kW	4.02 kW
COP Tj = Tbiv	3.96	2.28
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.94 kW	3.71 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.55	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
PTO	o w	0 W
PSB	11 W	11 W
PCK	o 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

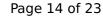
### Colder Climate

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)	





	Low temperature	Medium temperature
$\eta_{s}$	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
$COP Tj = +7^{\circ}C$	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

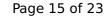




	<b>,</b> -	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.59	1.4
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	0.99
WTOL	60 °C	60 °C
Poff	11 W	11 W
РТО	o w	0 W
PSB	11 W	11 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5 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

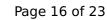
## **Average Climate**

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)	





	Low temperature	Medium temperature
$\eta_{s}$	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 = $-7^{\circ}$ C	4.36 kW	3.80 kW
$COP Tj = -7^{\circ}C$	2.96	1.92
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = $+2$ °C	2.73 kW	3.30 kW
$COP Tj = +2^{\circ}C$	4.68	3.27
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = $+7^{\circ}$ C	2.34 kW	2.01 kW
$COPTj = +7^{\circ}C$	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
РТО	o w	0 W
PSB	11 W	11 W
PCK	o 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	
СОР	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
$\eta_{S}$	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
Can ij = +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
РТО	0 W	0 W
PSB	11 W	11 W
PCK	o 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)	
Sound power level outdoor	61 dB(A)	61 dB(A)	





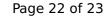
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Prated	5 kW	5 kW
SCOP	3.77	2.76
Tbiv	-12 °C	-11 °C
TOL	-20 °C	-17 °C
Pdh Tj = $-7^{\circ}$ C	3.15 kW	3.18 kW
$COP Tj = -7^{\circ}C$	3.4	2.44
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = $+2$ °C	1.9 kW	1.89 kW
COP Tj = +2°C	4.61	3.55
Cdh Tj = $+2$ °C	0.97	0.98
Pdh Tj = $+7^{\circ}$ C	2.27 kW	1.62 kW
$COP Tj = +7^{\circ}C$	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
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РТО	o 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
Pdh Tj = -15°C (if TOL<-20°C)	3.26	2.77
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Cdh Tj = -15 °C	0.99	0.99

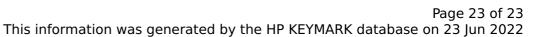
## **Average Climate**

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)	





Prated       5 k²         SCOP       4.7         Tbiv       -7 °         TOL       -10         Pdh Tj = -7 °C       4.3         COP Tj = -7 °C       2.9	kW .72 7 °C 10 °C .36 kW .96	125 %  5.6 kW  3.20  -5 °C  -10 °C  3.80 kW  1.92  0.99
SCOP       4.7         Tbiv       -7°         TOL       -10         Pdh Tj = -7°C       4.3         COP Tj = -7°C       2.9	.72 7 °C 10 °C .36 kW .96	3.20 -5 °C -10 °C 3.80 kW
Tbiv $-7^{\circ}$ TOL $-10^{\circ}$ Pdh Tj = -7°C $4.3^{\circ}$ COP Tj = -7°C $2.9^{\circ}$	7 °C 10 °C .36 kW .96	-5 °C -10 °C 3.80 kW
TOL -10 Pdh Tj = -7°C 4.3  COP Tj = -7°C 2.9	.36 kW .96	-10 °C 3.80 kW 1.92
Pdh Tj = -7°C 4.3  COP Tj = -7°C 2.9	.36 kW .96	3.80 kW 1.92
COP Tj = -7°C 2.9	.96	1.92
	.99	
Cdh Tj = -7 °C		0.99
$Pdh Tj = +2^{\circ}C$ 2.7	.73 kW	3.30 kW
$COP Tj = +2^{\circ}C$ 4.6	.68	3.27
Cdh Tj = +2 °C  0.9	.98	0.99
$Pdh Tj = +7^{\circ}C$ 2.3	.34 kW	2.01 kW
$COP Tj = +7^{\circ}C$	.07	4.24
Cdh Tj = +7 °C  0.9	.97	0.98
Pdh Tj = 12°C 2.7	.77 kW	2.51 kW
COP Tj = 12°C 8.0	.02	5.80
Cdh Tj = +12 °C  0.9	.97	0.97
Pdh Tj = Tbiv 4.3	.36 kW	4.15 kW
COP Tj = Tbiv 2.9	.96	2.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 3.9	.93 kW	2.58 kW





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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
РТО	o 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