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### This information was generated by the HP KEYMARK database on 5 Mar 2021

Summary of	LW 300	Reg. No.	041-K001-42	
Certificate Holder				
Name	ait-deutschland Gmb	ait-deutschland GmbH		
Address	Industriestr. 3	Zip	95359	
City	Kasendorf	Country	Germany	
Certification Body	BRE Global Limited	BRE Global Limited		
Subtype title	LW 300	LW 300		
Heat Pump Type	Outdoor Air/Water	Outdoor Air/Water		
Refrigerant	Other			
Mass Of Refrigerant	10 kg			
Certification Date	20.07.2020	20.07.2020		
Testing basis	Scheme Rules Rev 07			

# **Model: LW 300A-LUX 2.0**

General Data		
Power supply 3x400V 50Hz		

# Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	19.78 kW	19.05 kW	
El input	4.90 kW	6.85 kW	
СОР	4.04	2.78	

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

## **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	68 dB(A)	68 dB(A)





#### EN 14825

	Low temperature	Medium temperature
$\eta_{s}$	138 %	114 %
Prated	21.95 kW	23.02 kW
SCOP	3.53	2.91
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	19.41 kW	20.36 kW
COP Tj = -7°C	2.65	1.99
Cdh	1.00	1.00
Pdh Tj = +2°C	16.37 kW	16.38 kW
COP Tj = +2°C	3.59	2.94
Cdh	0.98	0.99
Pdh Tj = +7°C	17.99 kW	18.36 kW
COP Tj = +7°C	4.05	3.51
Cdh	0.98	0.99
Pdh Tj = 12°C	23.01 kW	23.48 kW
COP Tj = 12°C	5.28	4.72
Cdh	0.98	0.99
Pdh Tj = Tbiv	21.95 kW	23.02 kW
COP Tj = Tbiv	2.45	1.78





Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	21.95 kW	23.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.45	1.78
WTOL	60 °C	60 °C
Poff	38 W	38 W
РТО	24 W	15 W
PSB	38 W	38 W
PCK	0 W	o w
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	12861 kWh	16314 kWh

## Warmer Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	166 %	133 %
Prated	16.37 kW	16.06 kW
SCOP	4.22	3.40



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2 °C	2 °C		
2 °C	2 °C		
16.37 kW	16.06 kW		
3.50	2.35		
1.00	1.00		
18.83 kW	19.35 kW		
3.98	3.11		
0.99	0.99		
23.57 kW	23.17 kW		
5.28	4.38		
0.98	0.99		
16.37 kW	16.06 kW		
3.50	2.35		
16.37 kW	16.06 kW		
3.50	2.35		
60 °C	60 °C		
38 W	38 W		
24 W	15 W		
38 W	38 W		
o w	o w		
electricity	electricity		
	2 °C  2 °C  16.37 kW  3.50  1.00  18.83 kW  3.98  0.99  23.57 kW  5.28  0.98  16.37 kW  3.50  16.37 kW  3.50  40 °C  38 W  24 W  38 W  0 W		



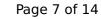


Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	5177 kWh	6306 kWh

## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	125 %	100 %
Prated	23.69 kW	24.72 kW
SCOP	3.21	2.57
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-15 °C
Pdh Tj = -7°C	14.34 kW	14.96 kW
$COP Tj = -7^{\circ}C$	2.83	2.28
Cdh	1.00	1.00
Pdh Tj = +2°C	16.68 kW	16.45 kW
$COP Tj = +2^{\circ}C$	3.81	3.18
Cdh	0.98	0.99





Pdh Tj = +7°C       18.04 kW       18.01 kW         COP Tj = +7°C       4.22       3.67         Cdh       0.98       0.99         Pdh Tj = 12°C       23.68 kW       23.53 kW         COP Tj = 12°C       5.41       4.86         Cdh       0.98       0.99         Pdh Tj = Tbiv       19.33 kW       20.16 kW         COP Tj = Tbiv       2.27       1.74         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh       1.6.77 kW       20.16 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh       1.90       1.74         WTOL       60 °C       60 °C         Poff       38 W       38 W         PFB       38 W       38 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       electricity       electricity         Supplementary Heater: PSUP       24.00 kW       25.00 kW         Annual energy consumption Qhe       18202 kWh       23747 kWh         Pdh Tj = -15°C (if TOL<-20°C)       Coh       Coh	This information was genera	acea by the in item	
Cdh       0.98       0.99         Pdh TJ = 12°C       23.68 kW       23.53 kW         COP TJ = 12°C       5.41       4.86         Cdh       0.98       0.99         Pdh TJ = Tbiv       19.33 kW       20.16 kW         COP TJ = Tbiv       2.27       1.74         Pdh TJ = TOL or Pdh TJ = Tdesignh if TOL < Tdesignh	Pdh Tj = $+7$ °C	18.04 kW	18.01 kW
Pdh Tj = 12°C       23.68 kW       23.53 kW         COP Tj = 12°C       5.41       4.86         Cdh       0.98       0.99         Pdh Tj = Tbiv       19.33 kW       20.16 kW         COP Tj = Tbiv       2.27       1.74         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	$COP Tj = +7^{\circ}C$	4.22	3.67
COP Tj = 12°C	Cdh	0.98	0.99
Cdh       0.98       0.99         Pdh Tj = Tbiv       19.33 kW       20.16 kW         COP Tj = Tbiv       2.27       1.74         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = 12°C	23.68 kW	23.53 kW
Pdh Tj = Tbiv       19.33 kW       20.16 kW         COP Tj = Tbiv       2.27       1.74         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	COP Tj = 12°C	5.41	4.86
COP Tj = Tbiv  2.27  1.74  Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh  16.77 kW  20.16 kW  COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  1.90  1.74  WTOL  60 °C  60 °C  90ff  38 W  38 W  PTO  24 W  15 W  PSB  38 W  38 W  PCK  0 W  0 W  Supplementary Heater: Type of energy input  electricity  electricity  Supplementary Heater: PSUP  24.00 kW  25.00 kW  Annual energy consumption Qhe  18202 kWh  23747 kWh  Pdh Tj = -15°C (if TOL<-20°C)  COP Tj = -15°C (if TOL<-20°C)	Cdh	0.98	0.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	19.33 kW	20.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh  1.90  1.74  WTOL  60 °C  60 °C  Poff  38 W  38 W  PTO  24 W  15 W  PSB  38 W  9CK  0 W  0 W  Supplementary Heater: Type of energy input  electricity  electricity  Supplementary Heater: PSUP  24.00 kW  25.00 kW  Annual energy consumption Qhe  18202 kWh  23747 kWh  Pdh Tj = -15°C (if TOL<-20°C)	COP Tj = Tbiv	2.27	1.74
WTOL       60 °C       60 °C         Poff       38 W       38 W         PTO       24 W       15 W         PSB       38 W       38 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       electricity       electricity         Supplementary Heater: PSUP       24.00 kW       25.00 kW         Annual energy consumption Qhe       18202 kWh       23747 kWh         Pdh Tj = -15°C (if TOL<-20°C)	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.77 kW	20.16 kW
Poff       38 W       38 W         PTO       24 W       15 W         PSB       38 W       38 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       electricity       electricity         Supplementary Heater: PSUP       24.00 kW       25.00 kW         Annual energy consumption Qhe       18202 kWh       23747 kWh         Pdh Tj = -15°C (if TOL<-20°C)	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.90	1.74
PTO  24 W  15 W  PSB  38 W  38 W  O W  Supplementary Heater: Type of energy input  electricity  electricity  supplementary Heater: PSUP  24.00 kW  25.00 kW  Annual energy consumption Qhe  18202 kWh  23747 kWh  Pdh Tj = -15°C (if TOL<-20°C)  COP Tj = -15°C (if TOL<-20°C)	WTOL	60 °C	60 °C
PSB 38 W 38 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input electricity electricity  Supplementary Heater: PSUP 24.00 kW 25.00 kW  Annual energy consumption Qhe 18202 kWh 23747 kWh  Pdh Tj = -15°C (if TOL<-20°C)  COP Tj = -15°C (if TOL<-20°C)	Poff	38 W	38 W
PCK  Supplementary Heater: Type of energy input  electricity  electricity  Supplementary Heater: PSUP  Annual energy consumption Qhe  Pdh Tj = -15°C (if TOL<-20°C)  COP Tj = -15°C (if TOL<-20°C)	РТО	24 W	15 W
Supplementary Heater: Type of energy input  electricity  electricity  24.00 kW  25.00 kW  Annual energy consumption Qhe  18202 kWh  23747 kWh  Pdh Tj = -15°C (if TOL<-20°C)  COP Tj = -15°C (if TOL<-20°C)	PSB	38 W	38 W
Supplementary Heater: PSUP  24.00 kW  25.00 kW  Annual energy consumption Qhe  18202 kWh  23747 kWh  Pdh Tj = -15°C (if TOL<-20°C)  COP Tj = -15°C (if TOL<-20°C)	PCK	o w	o w
Annual energy consumption Qhe  18202 kWh  23747 kWh  Pdh Tj = -15°C (if TOL<-20°C)  COP Tj = -15°C (if TOL<-20°C)	Supplementary Heater: Type of energy input	electricity	electricity
Pdh Tj = -15°C (if TOL<-20°C)  COP Tj = -15°C (if TOL<-20°C)	Supplementary Heater: PSUP	24.00 kW	25.00 kW
$COP Tj = -15^{\circ}C (if TOL < -20^{\circ}C)$	Annual energy consumption Qhe	18202 kWh	23747 kWh
	Pdh Tj = -15°C (if TOL<-20°C)		
Cdh	COP Tj = -15°C (if TOL<-20°C)		
	Cdh		



# Model: LW 300(L)

General Data	
Power supply	3x400V 50Hz

# Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	19.78 kW	19.05 kW	
El input	4.90 kW	6.85 kW	
СОР	4.04	2.78	

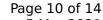
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

## **Average Climate**



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	68 dB(A)	68 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	138 %	114 %
Prated	21.95 kW	23.02 kW
SCOP	3.53	2.91
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	19.41 kW	20.36 kW
COP Tj = -7°C	2.65	1.99
Cdh	1.00	1.00
Pdh Tj = $+2^{\circ}$ C	16.37 kW	16.38 kW
COP Tj = +2°C	3.59	2.94
Cdh	0.98	0.99
Pdh Tj = +7°C	17.99 kW	18.36 kW
COP Tj = +7°C	4.05	3.51
Cdh	0.98	0.99

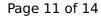




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Pdh Tj = 12°C	23.01 kW	23.48 kW
COP Tj = 12°C	5.28	4.72
Cdh	0.98	0.99
Pdh Tj = Tbiv	21.95 kW	23.02 kW
COP Tj = Tbiv	2.45	1.78
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	21.95 kW	23.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.45	1.78
WTOL	60 °C	60 °C
Poff	38 W	38 W
РТО	24 W	15 W
PSB	38 W	38 W
PCK	o w	o w
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	12861 kWh	16314 kWh

# Warmer Climate

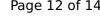
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	68 dB(A)	68 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)





## EN 14825

	Low temperature	Medium temperature
$\eta_{S}$	166 %	133 %
Prated	16.37 kW	16.06 kW
SCOP	4.22	3.40
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = $+2$ °C	16.37 kW	16.06 kW
COP Tj = +2°C	3.50	2.35
Cdh	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	18.83 kW	19.35 kW
$COPTj = +7^{\circ}C$	3.98	3.11
Cdh	0.99	0.99
Pdh Tj = 12°C	23.57 kW	23.17 kW
COP Tj = 12°C	5.28	4.38
Cdh	0.98	0.99
Pdh Tj = Tbiv	16.37 kW	16.06 kW
COP Tj = Tbiv	3.50	2.35
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL $<$ Tdesignh	16.37 kW	16.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.50	2.35
WTOL	60 °C	60 °C





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Poff	38 W	38 W
РТО	24 W	15 W
PSB	38 W	38 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	5177 kWh	6306 kWh

## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	68 dB(A)	68 dB(A)
Sound power level outdoor	68 dB(A)	68 dB(A)

EN 14825			
	Low temperature	Medium temperature	
$\eta_{s}$	125 %	100 %	
Prated	23.69 kW	24.72 kW	
SCOP	3.21	2.57	
Tbiv	-15 °C	-15 °C	
TOL	-20 °C	-15 °C	



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Pdh Tj = -7°C	14.34 kW	14.96 kW		
COP Tj = -7°C	2.83	2.28		
Cdh	1.00	1.00		
Pdh Tj = +2°C	16.68 kW	16.45 kW		
COP Tj = +2°C	3.81	3.18		
Cdh	0.98	0.99		
Pdh Tj = +7°C	18.04 kW	18.01 kW		
$COP Tj = +7^{\circ}C$	4.22	3.67		
Cdh	0.98	0.99		
Pdh Tj = 12°C	23.68 kW	23.53 kW		
COP Tj = 12°C	5.41	4.86		
Cdh	0.98	0.99		
Pdh Tj = Tbiv	19.33 kW	20.16 kW		
COP Tj = Tbiv	2.27	1.74		
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.77 kW	20.16 kW		
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.90	1.74		
WTOL	60 °C	60 °C		
Poff	38 W	38 W		
РТО	24 W	15 W		
PSB	38 W	38 W		
PCK	0 W	0 W		



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Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	24.00 kW	25.00 kW
Annual energy consumption Qhe	18202 kWh	23747 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh		