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Login

Summary of	LWD 90A	Reg. No.	041-K001-22		
Certificate Holder	Certificate Holder				
Name	ait-deutschland GmbH	ait-deutschland GmbH			
Address	Industriestr. 3	Zip	95359		
City	Kasendorf	Country	Germany		
Certification Body	BRE Global Limited				
Subtype title	LWD 90A				
Heat Pump Type	Outdoor Air/Water				
Refrigerant	R290				
Mass of Refrigerant	1.17 kg				
Certification Date	12.05.2017				
Testing basis	HP Keymark Scheme Transition Rules				



Model: LWD 90A-HMD

Configure model		
Model name	LWD 90A-HMD	
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	10.10 kW	9.40 kW	
El input	2.50 kW	3.13 kW	
СОР	4.12	3.00	

Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	62 dB(A)	62 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	179 %	146 %
Prated	11.05 kW	10.71 kW
SCOP	4.56	3.72
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	9.00 kW	8.90 kW
COP Tj = +2°C	3.61	2.66
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	10.20 kW	9.70 kW
COP Tj = +7°C	4.41	3.19
Cdh Tj = +7 °C	0.99	1.00
Pdh Tj = 12°C	12.00 kW	11.90 kW
COP Tj = 12°C	5.25	4.80
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.50 kW	9.20 kW





COP Tj = Tbiv 3.95 2.82 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 9.00 kW 8.90 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 3.61 2.66 Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 0.90 0.90 WTOL 70 °C 70 °C Poff 15 W 15 W PTO 15 W 15 W PSB 15 W 15 W PCK 0 W 0 W			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	3.95	2.82
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.00 kW	8.90 kW
WTOL 70 °C 70 °C Poff 15 W 15 W PTO 15 W 15 W PSB 15 W 15 W	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.61	2.66
Poff 15 W 15 W PTO 15 W 15 W PSB 15 W 15 W	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
PTO 15 W 15 W PSB 15 W 15 W	WTOL	70 °C	70 °C
PSB 15 W 15 W	Poff	15 W	15 W
	РТО	15 W	15 W
PCK 0 W 0 W	PSB	15 W	15 W
	PCK	0 W	0 W
Supplementary Heater: Type of energy input Electricity Electricity	Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP 2.05 kW 1.81 kW	Supplementary Heater: PSUP	2.05 kW	1.81 kW
Annual energy consumption Qhe 3237 kWh 3852 kWh	Annual energy consumption Qhe	3237 kWh	3852 kWh

Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	62 dB(A)	62 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{S}	139 %	117 %





	<u>, </u>	The database on 21 juli 202.
Prated	7.66 kW	7.03 kW
SCOP	3.55	3.00
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	7.60 kW	7.30 kW
$COPTj = -7^{\circ}C$	3.33	2.67
Cdh Tj = -7 °C	0.99	0.10
Pdh Tj = $+2$ °C	9.10 kW	9.00 kW
COP Tj = +2°C	3.95	3.49
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = $+7^{\circ}$ C	10.30 kW	10.20 kW
$COPTj = +7^{\circ}C$	4.84	4.47
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	12.00 kW	12.00 kW
COP Tj = 12°C	5.36	5.58
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.20 kW	5.70 kW
COP Tj = Tbiv	2.72	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.40 kW	4.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.31	1.64
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90





WTOL	70 °C	70 °C
Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.66 kW	7.03 kW
Annual energy consumption Qhe	5325 kWh	5770 kWh
Pdh Tj = -15°C (if TOL<-20°C)	6.20	5.70
COP Tj = -15°C (if TOL $<$ -20°C)	2.72	2.02
Cdh Tj = -15 °C	1.00	1.00

Average Climate

EN 12102-1			
Low temperature Medium temperature			
Sound power level outdoor	62 dB(A)	62 dB(A)	

EN 14825		
Low temperature Medium temperature		
η_{S}	150 %	126 %
Prated	10.45 kW	10.21 kW





SCOP	3.84	3.22
Tbiv	-4 °C	-4 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.50 kW	7.20 kW
$COP Tj = -7^{\circ}C$	3.18	2.35
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	9.00 kW	9.00 kW
COP Tj = +2°C	3.83	3.21
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = $+7^{\circ}$ C	10.30 kW	10.10 kW
$COPTj = +7^{\circ}C$	4.69	4.03
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	12.00 kW	12.00 kW
COP Tj = 12°C	5.42	5.30
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	8.10 kW	7.80 kW
COP Tj = Tbiv	3.43	2.63
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.00 kW	6.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.93	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	70 °C	70 °C



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Poff	15 W	15 W
РТО	15 W	15 W
PSB	15 W	15 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	3.45 kW	3.61 kW
Annual energy consumption Qhe	5628 kWh	6557 kWh



Model: LWD 90A-HTD

Configure model		
Model name	LWD 90A-HTD	
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 50Hz	

Heating

EN 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
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Complete power supply failure	passed	
Defrost test	passed	

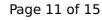
EN 14511-2			
Low temperature Medium temperature			
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Warmer Climate



EN 12102-1			
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COP Tj = 12°C	5.25	4.80
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	9.50 kW	9.20 kW





3.95	2.82
9.00 kW	8.90 kW
3.61	2.66
0.90	0.90
70 °C	70 °C
15 W	15 W
15 W	15 W
15 W	15 W
0 W	o w
Electricity	Electricity
2.05 kW	1.81 kW
3237 kWh	3852 kWh
	9.00 kW 3.61 0.90 70 °C 15 W 15 W 0 W Electricity 2.05 kW

Colder Climate

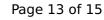
EN 12102-1			
Low temperature Medium temperature			
Sound power level outdoor	62 dB(A)	62 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{S}	139 %	117 %





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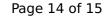


WTOL	70 °C	70 °C
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Average Climate

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10.45 kW	10.21 kW	
	150 %	





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