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Login

Summary of	LWD 90A	Reg. No.	041-K001-22
Certificate Holder			
Name	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 14511-2		
	Low temperature	**Medium temperature**
Heat output	10.10 kW	9.40 kW
El input	2.50 kW	3.13 kW
COP	4.12	3.00

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

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°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°C	10.30 kW	10.10 kW
COP Tj = +7°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
Poff	15 W	15 W
PTO	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

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
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.05 kW	1.81 kW
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 %
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
COP Tj = -7°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°C	10.30 kW	10.20 kW
COP Tj = +7°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
PTO	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

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

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

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Pdh Tj = +7°C	10.30 kW	10.10 kW
COP Tj = +7°C	4.69	4.03
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EN 14825

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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
Supplementary Heater: Type of energy input	Electricity	Electricity
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