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Login

Summary of	LWD 50A	Reg. No.	041-K001-20
Certificate Holder			
Name	ait-deutschland GmbH		
Address	Industriestr. 3	Zip	95359
City	Kasendorf	Country	Germany
Certification Body	BRE Global Limited		
Subtype title	LWD 50A		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R290		
Mass of Refrigerant	0.95 kg		
Certification Date	12.05.2017		
Testing basis	HP Keymark Scheme Transition Rules		

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Model: LWD 50A-HMD

Configure model	
Model name	LWD 50A-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	7.10 kW	6.57 kW
El input	1.48 kW	1.95 kW
COP	4.80	3.37

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

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EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	57 dB(A)	57 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	164 %	125 %
Prated	6.02 kW	5.41 kW
SCOP	4.16	3.20
Tbiv	-5 °C	-5 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.70 kW	4.00 kW
COP Tj = -7°C	3.27	1.99
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	5.60 kW	5.40 kW
COP Tj = +2°C	4.20	3.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.20 kW	7.10 kW
COP Tj = +7°C	5.29	4.65
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	8.00 kW	7.90 kW

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COP Tj = 12°C	6.14	5.97
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	4.90 kW	4.30 kW
COP Tj = Tbiv	3.51	2.24
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.20 kW	3.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.96	1.74
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	62 °C	62 °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	1.82 kW	1.81 kW
Annual energy consumption Qhe	2989 kWh	3491 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	57 dB(A)	57 dB(A)

EN 14825

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	Low temperature	**Medium temperature**
η_s	198 %	160 %
Prated	7.28 kW	6.76 kW
SCOP	5.02	4.07
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.60 kW	5.20 kW
COP Tj = +2°C	3.82	2.39
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.20 kW	6.70 kW
COP Tj = +7°C	5.02	3.75
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	7.90 kW	7.80 kW
COP Tj = 12°C	5.95	5.38
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.20 kW	5.80 kW
COP Tj = Tbiv	4.38	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.60 kW	5.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.82	2.39
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90

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WTOL	62 °C	62 °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	1.68 kW	1.56 kW
Annual energy consumption Qhe	1937 kWh	2217 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	57 dB(A)	57 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	147 %	112 %
Prated	5.56 kW	4.88 kW
SCOP	3.74	2.89
Tbiv	-12 °C	-12 °C
TOL	-20 °C	-20 °C

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Pdh Tj = -7°C	4.80 kW	4.30 kW
COP Tj = -7°C	3.59	2.46
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.70 kW	5.50 kW
COP Tj = +2°C	4.48	3.61
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.30 kW	7.20 kW
COP Tj = +7°C	5.48	5.11
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	8.00 kW	8.00 kW
COP Tj = 12°C	6.10	6.31
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	4.10 kW	3.60 kW
COP Tj = Tbiv	3.11	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.00 kW	2.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.25	1.39
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	62 °C	62 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W

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PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.56 kW	4.88 kW
Annual energy consumption Qhe	3661 kWh	4169 kWh
Pdh Tj = -15°C (if TOL<-20°C)	3.70	3.20
COP Tj = -15°C (if TOL<-20°C)	2.78	1.76
Cdh Tj = -15 °C	1.00	1.00

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Model: LWD 50A-HTD

Configure model	
Model name	LWD 50A-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	7.10 kW	6.57 kW
El input	1.48 kW	1.95 kW
COP	4.80	3.37

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

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EN 12102-1		
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EN 14825		
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TOL	-10 °C	-10 °C
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COP Tj = -7°C	3.27	1.99
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Pdh Tj = +2°C	5.60 kW	5.40 kW
COP Tj = +2°C	4.20	3.18
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.20 kW	7.10 kW
COP Tj = +7°C	5.29	4.65
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	8.00 kW	7.90 kW

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COP Tj = 12°C	6.14	5.97
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	4.90 kW	4.30 kW
COP Tj = Tbiv	3.51	2.24
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.20 kW	3.60 kW
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WTOL	62 °C	62 °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	1.82 kW	1.81 kW
Annual energy consumption Qhe	2989 kWh	3491 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level outdoor	57 dB(A)	57 dB(A)

EN 14825

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TOL	2 °C	2 °C
Pdh Tj = +2°C	5.60 kW	5.20 kW
COP Tj = +2°C	3.82	2.39
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.20 kW	6.70 kW
COP Tj = +7°C	5.02	3.75
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	7.90 kW	7.80 kW
COP Tj = 12°C	5.95	5.38
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.20 kW	5.80 kW
COP Tj = Tbiv	4.38	2.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.60 kW	5.20 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.82	2.39
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90

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PTO	15 W	15 W
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Supplementary Heater: Type of energy input	Electricity	Electricity
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COP Tj = +2°C	4.48	3.61
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.30 kW	7.20 kW
COP Tj = +7°C	5.48	5.11
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	8.00 kW	8.00 kW
COP Tj = 12°C	6.10	6.31
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	4.10 kW	3.60 kW
COP Tj = Tbiv	3.11	2.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	3.00 kW	2.60 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.25	1.39
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	62 °C	62 °C
Poff	15 W	15 W
PTO	15 W	15 W
PSB	15 W	15 W

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Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.56 kW	4.88 kW
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