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Summary of	LWD 70A/SX	Reg. No.	041-K001-44	
Certificate Holder		<u> </u>		
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	LWD 70A/SX	LWD 70A/SX		
Heat Pump Type	Outdoor Air/Water	Outdoor Air/Water		
Refrigerant	R290	R290		
Mass of Refrigerant	1.1 kg	1.1 kg		
Certification Date	24.11.2020	24.11.2020		
Testing basis	HP Keymark Scheme	HP Keymark Scheme Rules Rev 08		

Model: LWD 70A/SX-HMD

Configure model		
Model name	LWD 70A/SX-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	1x230V 50Hz	

Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	9.33 kW	8.49 kW	
El input	2.20 kW	2.85 kW	
COP	4 24	2 97	

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	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	144 %	121 %
Prated	8.84 kW	8.13 kW
SCOP	3.67	3.09
Tbiv	-10 °C	-10 °C
TOL	-4 °C	-4 °C
Pdh Tj = -7°C	6.18 kW	5.81 kW
COP Tj = -7°C	2.74	2.15
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	7.55 kW	7.22 kW
COP Tj = +2°C	3.76	3.05
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	9.52 kW	9.29 kW
COP Tj = +7°C	4.59	4.12
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	10.97 kW	10.91 kW

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COP Tj = 12 °C	4.84 1.00 6.25 kW
Pdh Tj = Tbiv 6.64 kW COP Tj = Tbiv 3.07 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 5.78 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.54	6.25 kW
COP Tj = Tbiv 3.07 Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 5.78 kW COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.54	
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 2.54	2.40
	5.38 kW
WTOL 62 °C	1.97
	62 °C
Poff 10 W	10 W
PTO 10 W	10 W
PSB 10 W	10 W
PCK 0 W	o w
Supplementary Heater: Type of energy input Electricity	Electricity
Supplementary Heater: PSUP 2.86 kW	
Annual energy consumption Qhe 4867 kWh	2.75 kW

Warmer Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature





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η_{s}	175 %	148 %
Prated	9.63 kW	8.87 kW
SCOP	4.44	3.76
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = $+2$ °C	7.44 kW	6.80 kW
$COP Tj = +2^{\circ}C$	3.51	2.42
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	9.43 kW	8.87 kW
$COP Tj = +7^{\circ}C$	4.42	3.46
Cdh Tj = $+7$ °C	1.00	1.00
Pdh Tj = 12°C	10.89 kW	10.64 kW
COP Tj = 12°C	4.91	4.59
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	8.25 kW	7.61 kW
COP Tj = Tbiv	3.93	2.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.44 kW	6.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.51	2.42
WTOL	62 °C	62 °C
Poff	10 W	10 W





PTO	10 W	10 W
PSB	10 W	10 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.19 kW	2.07 kW
Annual energy consumption Qhe	2896 kWh	3152 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	128 %	110 %
Prated	5.99 kW	5.61 kW
SCOP	3.28	2.83
Tbiv	-20 °C	-20 °C
TOL	-16 °C	-16 °C
Pdh Tj = -7°C	6.24 kW	5.97 kW
COP Tj = -7°C	2.84	2.38





	<u> </u>	
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	7.60 kW	7.37 kW
$COP Tj = +2^{\circ}C$	3.86	3.33
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = $+7^{\circ}$ C	9.57 kW	9.46 kW
$COP Tj = +7^{\circ}C$	4.61	4.37
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	10.95 kW	11.05 kW
COP Tj = 12°C	4.70	4.80
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	5.18 kW	4.73 kW
COP Tj = Tbiv	2.33	1.85
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.05 kW	4.18 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.27	1.64
WTOL	62 °C	62 °C
Poff	10 W	10 W
РТО	10 W	10 W
PSB	10 W	10 W
РСК	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.99 kW	5.61 kW



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Annual energy consumption Qhe	4508 kWh	4893 kWh
Pdh Tj = -15°C (if TOL<-20°C)	5.18	4.86
COP Tj = -15°C (if TOL $<$ -20°C)	2.33	1.91
Cdh Tj = -15 °C	1.00	1.00



Model: LWD 70A/SX-HTD S

Configure model		
Model name	LWD 70A/SX-HTD S	
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	1x230V 50Hz	

Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	9.33 kW	8.49 kW	
El input	2.20 kW	2.85 kW	
СОР	4.24	2.97	

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
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Average Climate



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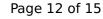


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Supplementary Heater: Type of energy input Electricity	Electricity
Supplementary Heater: PSUP 2.86 kW	
Annual energy consumption Qhe 4867 kWh	2.75 kW

Warmer Climate

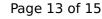
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature





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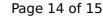


РТО	10 W	10 W
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Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.19 kW	2.07 kW
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