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Summary of	LWV 122 Inverter	Reg. No.	041-K001-25
Certificate Holder			
Name	ait-deutschland GmbH		
Address	Industriestr. 3	Zip	95359
City	Kasendorf	Country	Germany
Certification Body	BRE Energy & Communications Division		
Name of testing laboratory	WPZ		
Subtype title	LWV 122 Inverter		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R410a		
Mass Of Refrigerant	3.6 kg		
Certification Date	27.03.2019		

Model: LWCV 122R3

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.29 kW	6.30 kW
El input	1.19 kW	2.30 kW
COP	4.71	2.84
Indoor water flow rate	0.50 m³/h	0.50 m³/h

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 indoor	47 dB(A)	47 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	174 %	132 %
Prated	10.00 kW	8.80 kW
SCOP	4.41	3.37
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.46 kW	8.30 kW
COP Tj = -7°C	2.60	2.18
Pdh Tj = +2°C	5.30 kW	4.80 kW
COP Tj = +2°C	4.52	3.28
Pdh Tj = +7°C	6.30 kW	5.20 kW
COP Tj = +7°C	6.04	4.54
Pdh Tj = 12°C	6.70 kW	6.00 kW
COP Tj = 12°C	7.34	6.15
Pdh Tj = Tbiv	8.46 kW	8.30 kW
COP Tj = Tbiv	2.60	2.18

Pdh Tj = TOL	7.50 kW	6.70 kW
COP Tj = TOL	2.58	1.94
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	2.50 kW	2.10 kW
Annual energy consumption Qhe	4681 kWh	5398 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	181 %	150 %
Prated	6.50 kW	6.50 kW

SCOP	4.60	3.83
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.70 kW
COP Tj = +2°C	3.26	2.34
Pdh Tj = +7°C	4.60 kW	4.80 kW
COP Tj = +7°C	4.12	3.37
Pdh Tj = 12°C	5.60 kW	5.40 kW
COP Tj = 12°C	6.26	5.29
Pdh Tj = Tbiv	6.70 kW	6.70 kW
COP Tj = Tbiv	3.26	2.34
Pdh Tj = TOL	6.70 kW	6.70 kW
COP Tj = TOL	3.26	2.34
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 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	1887 kWh	2268 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	132 %	112 %
Prated	8.60 kW	7.00 kW
SCOP	3.37	2.88
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.80 kW	8.20 kW
COP Tj = -7°C	2.92	2.48
Pdh Tj = +2°C	5.70 kW	4.70 kW
COP Tj = +2°C	4.49	3.43
Pdh Tj = +7°C	5.50 kW	5.50 kW
COP Tj = +7°C	4.90	5.13
Pdh Tj = 12°C	5.80 kW	5.80 kW

COP Tj = 12°C	6.98	6.52
Pdh Tj = Tbiv	4.60 kW	5.30 kW
COP Tj = Tbiv	2.23	1.71
Pdh Tj = TOL	3.00 kW	2.90 kW
COP Tj = TOL	1.86	1.46
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	5.60 kW	4.10 kW
Annual energy consumption Qhe	6290 kWh	5984 kWh

Model: LWV 122R3

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.29 kW	6.30 kW
El input	1.19 kW	2.30 kW
COP	4.71	2.84
Indoor water flow rate	0.50 m³/h	0.50 m³/h

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 indoor	47 dB(A)	47 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	174 %	132 %
Prated	10.00 kW	8.80 kW
SCOP	4.41	3.37
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.46 kW	8.30 kW
COP Tj = -7°C	2.60	2.18
Pdh Tj = +2°C	5.30 kW	4.80 kW
COP Tj = +2°C	4.52	3.28
Pdh Tj = +7°C	6.30 kW	5.20 kW
COP Tj = +7°C	6.04	4.54
Pdh Tj = 12°C	6.70 kW	6.00 kW
COP Tj = 12°C	7.34	6.15
Pdh Tj = Tbiv	8.46 kW	8.30 kW
COP Tj = Tbiv	2.60	2.18

Pdh Tj = TOL	7.50 kW	6.70 kW
COP Tj = TOL	2.58	1.94
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	2.50 kW	2.10 kW
Annual energy consumption Qhe	4681 kWh	5398 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	181 %	150 %
Prated	6.50 kW	6.50 kW

SCOP	4.60	3.83
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.70 kW
COP Tj = +2°C	3.26	2.34
Pdh Tj = +7°C	4.60 kW	4.80 kW
COP Tj = +7°C	4.12	3.37
Pdh Tj = 12°C	5.60 kW	5.40 kW
COP Tj = 12°C	6.26	5.29
Pdh Tj = Tbiv	6.70 kW	6.70 kW
COP Tj = Tbiv	3.26	2.34
Pdh Tj = TOL	6.70 kW	6.70 kW
COP Tj = TOL	3.26	2.34
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 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	1887 kWh	2268 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	47 dB(A)	47 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	132 %	112 %
Prated	8.60 kW	7.00 kW
SCOP	3.37	2.88
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.80 kW	8.20 kW
COP Tj = -7°C	2.92	2.48
Pdh Tj = +2°C	5.70 kW	4.70 kW
COP Tj = +2°C	4.49	3.43
Pdh Tj = +7°C	5.50 kW	5.50 kW
COP Tj = +7°C	4.90	5.13
Pdh Tj = 12°C	5.80 kW	5.80 kW

COP Tj = 12°C	6.98	6.52
Pdh Tj = Tbiv	4.60 kW	5.30 kW
COP Tj = Tbiv	2.23	1.71
Pdh Tj = TOL	3.00 kW	2.90 kW
COP Tj = TOL	1.86	1.46
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	5.60 kW	4.10 kW
Annual energy consumption Qhe	6290 kWh	5984 kWh

Model: LWAV 122R3

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.29 kW	6.30 kW
El input	1.19 kW	2.30 kW
COP	4.71	2.84
Indoor water flow rate	0.50 m³/h	0.50 m³/h

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 indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	174 %	132 %
Prated	10.00 kW	8.80 kW
SCOP	4.41	3.37
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.46 kW	8.30 kW
COP Tj = -7°C	2.60	2.18
Pdh Tj = +2°C	5.30 kW	4.80 kW
COP Tj = +2°C	4.52	3.28
Pdh Tj = +7°C	6.30 kW	5.20 kW
COP Tj = +7°C	6.04	4.54
Pdh Tj = 12°C	6.70 kW	6.00 kW
COP Tj = 12°C	7.34	6.15
Pdh Tj = Tbiv	8.46 kW	8.30 kW

COP Tj = Tbiv	2.60	2.18
Pdh Tj = TOL	7.50 kW	6.70 kW
COP Tj = TOL	2.58	1.94
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	2.50 kW	2.10 kW
Annual energy consumption Qhe	4681 kWh	5398 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	181 %	150 %
Prated	6.50 kW	6.50 kW
SCOP	4.60	3.83
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.70 kW
COP Tj = +2°C	3.26	2.34
Pdh Tj = +7°C	4.60 kW	4.80 kW
COP Tj = +7°C	4.12	3.37
Pdh Tj = 12°C	5.60 kW	5.40 kW
COP Tj = 12°C	6.26	5.29
Pdh Tj = Tbiv	6.70 kW	6.70 kW
COP Tj = Tbiv	3.26	2.34
Pdh Tj = TOL	6.70 kW	6.70 kW
COP Tj = TOL	3.26	2.34
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 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	1887 kWh	2268 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	132 %	112 %
Prated	8.60 kW	7.00 kW
SCOP	3.37	2.88
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	7.80 kW	8.20 kW
COP Tj = -7°C	2.92	2.48
Pdh Tj = +2°C	5.70 kW	4.70 kW
COP Tj = +2°C	4.49	3.43

Pdh Tj = +7°C	5.50 kW	5.50 kW
COP Tj = +7°C	4.90	5.13
Pdh Tj = 12°C	5.80 kW	5.80 kW
COP Tj = 12°C	6.98	6.52
Pdh Tj = Tbiv	4.60 kW	5.30 kW
COP Tj = Tbiv	2.23	1.71
Pdh Tj = TOL	3.00 kW	2.90 kW
COP Tj = TOL	1.86	1.46
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	5.60 kW	4.10 kW
Annual energy consumption Qhe	6290 kWh	5984 kWh

Model: LWAV+ 122R3

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	**Medium temperature**
Heat output	5.29 kW	6.30 kW
El input	1.19 kW	2.30 kW
COP	4.71	2.84
Indoor water flow rate	0.50 m³/h	0.50 m³/h

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 indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	51 dB(A)	51 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	174 %	132 %
Prated	10.00 kW	8.80 kW
SCOP	4.41	3.37
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.46 kW	8.30 kW
COP Tj = -7°C	2.60	2.18
Pdh Tj = +2°C	5.30 kW	4.80 kW
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COP Tj = +7°C	6.04	4.54
Pdh Tj = 12°C	6.70 kW	6.00 kW
COP Tj = 12°C	7.34	6.15
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COP Tj = Tbiv	2.60	2.18
Pdh Tj = TOL	7.50 kW	6.70 kW
COP Tj = TOL	2.58	1.94
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	2.50 kW	2.10 kW
Annual energy consumption Qhe	4681 kWh	5398 kWh

Warmer Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	51 dB(A)	51 dB(A)

EN 14825		
	Low temperature	**Medium temperature**

η_s	181 %	150 %
Prated	6.50 kW	6.50 kW
SCOP	4.60	3.83
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	6.70 kW	6.70 kW
COP Tj = +2°C	3.26	2.34
Pdh Tj = +7°C	4.60 kW	4.80 kW
COP Tj = +7°C	4.12	3.37
Pdh Tj = 12°C	5.60 kW	5.40 kW
COP Tj = 12°C	6.26	5.29
Pdh Tj = Tbiv	6.70 kW	6.70 kW
COP Tj = Tbiv	3.26	2.34
Pdh Tj = TOL	6.70 kW	6.70 kW
COP Tj = TOL	3.26	2.34
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 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	1887 kWh	2268 kWh

Colder Climate

EN 12102-1		
	Low temperature	**Medium temperature**
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	51 dB(A)	51 dB(A)

EN 14825		
	Low temperature	**Medium temperature**
η_s	132 %	112 %
Prated	8.60 kW	7.00 kW
SCOP	3.37	2.88
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
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COP Tj = -7°C	2.92	2.48
Pdh Tj = +2°C	5.70 kW	4.70 kW
COP Tj = +2°C	4.49	3.43

Pdh Tj = +7°C	5.50 kW	5.50 kW
COP Tj = +7°C	4.90	5.13
Pdh Tj = 12°C	5.80 kW	5.80 kW
COP Tj = 12°C	6.98	6.52
Pdh Tj = Tbiv	4.60 kW	5.30 kW
COP Tj = Tbiv	2.23	1.71
Pdh Tj = TOL	3.00 kW	2.90 kW
COP Tj = TOL	1.86	1.46
Cdh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	electricity	electricity
Supplementary Heater: PSUP	5.60 kW	4.10 kW
Annual energy consumption Qhe	6290 kWh	5984 kWh