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Summary of	LWV 82 Inverter	Reg. No.	041-K001-23
Certificate Holder			
Name	ait-deutschland GmbH		
Address	Industriestr. 3	Zip	95359
City	Kasendorf	Country	Germany
Certification Body	BRE Global Limited		
Subtype title	LWV 82 Inverter		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R410A		
Mass of Refrigerant	3 kg		
Certification Date	27.03.2019		

Model: LWCV 82R1/3

Configure model	
Model name	LWCV 82R1/3
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 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	2.81 kW	3.28 kW
El input	0.56 kW	0.87 kW
COP	5.02	2.85

Warmer Climate

This information was generated by the HP KEYMARK database on 21 Jun 2022

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	214 %	156 %
Prated	4.10 kW	5.50 kW
SCOP	5.43	3.99
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.07 kW	5.55 kW
COP Tj = +2°C	4.15	2.69
Pdh Tj = +7°C	3.06 kW	3.86 kW
COP Tj = +7°C	5.65	3.70
Pdh Tj = 12°C	3.60 kW	3.50 kW
COP Tj = 12°C	8.43	5.60
Pdh Tj = Tbiv	4.20 kW	5.55 kW
COP Tj = Tbiv	4.28	2.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.20 kW	5.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.28	2.69

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$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	0 W	0 W
PSB	31 W	31 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 Q_{he}	1009 kWh	1844 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	145 %	127 %
Prated	6.50 kW	5.00 kW
SCOP	3.69	3.26
Tbiv	-15 °C	-15 °C

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TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.60 kW	6.25 kW
COP Tj = -7°C	3.17	2.69
Pdh Tj = +2°C	4.02 kW	3.33 kW
COP Tj = +2°C	5.27	4.14
Pdh Tj = +7°C	3.12 kW	3.48 kW
COP Tj = +7°C	6.04	5.25
Pdh Tj = 12°C	4.21 kW	3.70 kW
COP Tj = 12°C	9.50	7.52
Pdh Tj = Tbiv	3.56 kW	4.03 kW
COP Tj = Tbiv	2.43	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.73 kW	5.58 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.56	2.24
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	0 W	0 W
PSB	31 W	31 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.77 kW	0.00 kW

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Annual energy consumption Q_{he}	4339 kWh	3781 kWh
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Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	180 %	135 %
Prated	6.70 kW	5.65 kW
SCOP	4.57	3.44
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.88 kW	5.04 kW
COP Tj = -7°C	3.26	2.31
Pdh Tj = +2°C	3.84 kW	3.48 kW
COP Tj = +2°C	4.70	3.43
Pdh Tj = +7°C	3.27 kW	3.04 kW
COP Tj = +7°C	5.97	4.86
Pdh Tj = 12°C	3.36 kW	3.39 kW

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COP Tj = 12°C	7.92	6.56
Pdh Tj = Tbiv	5.88 kW	5.04 kW
COP Tj = Tbiv	3.26	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.11 kW	4.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	0 W	0 W
PSB	31 W	31 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.59 kW	1.42 kW
Annual energy consumption Qhe	3029 kWh	3390 kWh

Model: LWV 82R1/3

Configure model	
Model name	LWV 82R1/3
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 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	2.81 kW	3.28 kW
El input	0.56 kW	0.87 kW
COP	5.02	2.85

Warmer Climate

This information was generated by the HP KEYMARK database on 21 Jun 2022

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	214 %	156 %
Prated	4.10 kW	5.50 kW
SCOP	5.43	3.99
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.07 kW	5.55 kW
COP Tj = +2°C	4.15	2.69
Pdh Tj = +7°C	3.06 kW	3.86 kW
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Pdh Tj = 12°C	3.60 kW	3.50 kW
COP Tj = 12°C	8.43	5.60
Pdh Tj = Tbiv	4.20 kW	5.55 kW
COP Tj = Tbiv	4.28	2.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.20 kW	5.55 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.28	2.69

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$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	0 W	0 W
PSB	31 W	31 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 Q_{he}	1009 kWh	1844 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	145 %	127 %
Prated	6.50 kW	5.00 kW
SCOP	3.69	3.26
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Pdh Tj = 12°C	4.21 kW	3.70 kW
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COP Tj = Tbiv	2.43	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.73 kW	5.58 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.56	2.24
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	0 W	0 W
PSB	31 W	31 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.77 kW	0.00 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

Annual energy consumption Q_{he}	4339 kWh	3781 kWh
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Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	180 %	135 %
Prated	6.70 kW	5.65 kW
SCOP	4.57	3.44
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	5.88 kW	5.04 kW
COP Tj = -7°C	3.26	2.31
Pdh Tj = +2°C	3.84 kW	3.48 kW
COP Tj = +2°C	4.70	3.43
Pdh Tj = +7°C	3.27 kW	3.04 kW
COP Tj = +7°C	5.97	4.86
Pdh Tj = 12°C	3.36 kW	3.39 kW

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COP $T_j = 12^{\circ}\text{C}$	7.92	6.56
Pdh $T_j = T_{biv}$	5.88 kW	5.04 kW
COP $T_j = T_{biv}$	3.26	2.31
Pdh $T_j = TOL$ or Pdh $T_j = T_{designh}$ if $TOL < T_{designh}$	5.11 kW	4.23 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	3.18	2.12
Cdh $T_j = TOL$ or Pdh $T_j = T_{designh}$ if $TOL < T_{designh}$	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	0 W	0 W
PSB	31 W	31 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.59 kW	1.42 kW
Annual energy consumption Q_{he}	3029 kWh	3390 kWh

Model: LWAV 82R1/3

Configure model	
Model name	LWAV 82R1/3
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 14511-4	
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	2.81 kW	3.28 kW
El input	0.56 kW	0.87 kW
COP	5.02	2.85

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	214 %	156 %
Prated	4.10 kW	5.50 kW
SCOP	5.43	3.99
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	4.07 kW	5.55 kW
COP Tj = +2°C	4.15	2.69
Pdh Tj = +7°C	3.06 kW	3.86 kW
COP Tj = +7°C	5.65	3.70
Pdh Tj = 12°C	3.60 kW	3.50 kW
COP Tj = 12°C	8.43	5.60
Pdh Tj = Tbiv	4.20 kW	5.55 kW
COP Tj = Tbiv	4.28	2.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.20 kW	5.55 kW

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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.28	2.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	0 W	0 W
PSB	31 W	31 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	1009 kWh	1844 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	145 %	127 %
Prated	6.50 kW	5.00 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

SCOP	3.69	3.26
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.60 kW	6.25 kW
COP Tj = -7°C	3.17	2.69
Pdh Tj = +2°C	4.02 kW	3.33 kW
COP Tj = +2°C	5.27	4.14
Pdh Tj = +7°C	3.12 kW	3.48 kW
COP Tj = +7°C	6.04	5.25
Pdh Tj = 12°C	4.21 kW	3.70 kW
COP Tj = 12°C	9.50	7.52
Pdh Tj = Tbiv	3.56 kW	4.03 kW
COP Tj = Tbiv	2.43	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.73 kW	5.58 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.56	2.24
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	0 W	0 W
PSB	31 W	31 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 21 Jun 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.77 kW	0.00 kW
Annual energy consumption Q _{he}	4339 kWh	3781 kWh

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	180 %	135 %
Prated	6.70 kW	5.65 kW
SCOP	4.57	3.44
T _{biv}	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P _{dh} T _j = -7°C	5.88 kW	5.04 kW
COP T _j = -7°C	3.26	2.31
P _{dh} T _j = +2°C	3.84 kW	3.48 kW
COP T _j = +2°C	4.70	3.43

This information was generated by the HP KEYMARK database on 21 Jun 2022

Pdh Tj = +7°C	3.27 kW	3.04 kW
COP Tj = +7°C	5.97	4.86
Pdh Tj = 12°C	3.36 kW	3.39 kW
COP Tj = 12°C	7.92	6.56
Pdh Tj = Tbiv	5.88 kW	5.04 kW
COP Tj = Tbiv	3.26	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.11 kW	4.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	0 W	0 W
PSB	31 W	31 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.59 kW	1.42 kW
Annual energy consumption Qhe	3029 kWh	3390 kWh

Model: LWAV+ 82R1/3

Configure model	
Model name	LWAV+ 82R1/3
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 14511-4	
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	2.81 kW	3.28 kW
El input	0.56 kW	0.87 kW
COP	5.02	2.85

Warmer Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	214 %	156 %
Prated	4.10 kW	5.50 kW
SCOP	5.43	3.99
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
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COP Tj = +2°C	4.15	2.69
Pdh Tj = +7°C	3.06 kW	3.86 kW
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Pdh Tj = 12°C	3.60 kW	3.50 kW
COP Tj = 12°C	8.43	5.60
Pdh Tj = Tbiv	4.20 kW	5.55 kW
COP Tj = Tbiv	4.28	2.69
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.20 kW	5.55 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.28	2.69
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	0 W	0 W
PSB	31 W	31 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	1009 kWh	1844 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	145 %	127 %
Prated	6.50 kW	5.00 kW

This information was generated by the HP KEYMARK database on 21 Jun 2022

SCOP	3.69	3.26
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	5.60 kW	6.25 kW
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COP Tj = 12°C	9.50	7.52
Pdh Tj = Tbiv	3.56 kW	4.03 kW
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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.73 kW	5.58 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.56	2.24
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Poff	31 W	31 W
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PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 21 Jun 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.77 kW	0.00 kW
Annual energy consumption Q _{he}	4339 kWh	3781 kWh

Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	180 %	135 %
Prated	6.70 kW	5.65 kW
SCOP	4.57	3.44
T _{biv}	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P _{dh} T _j = -7°C	5.88 kW	5.04 kW
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Pdh Tj = Tbiv	5.88 kW	5.04 kW
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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.11 kW	4.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
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PSB	31 W	31 W
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Supplementary Heater: Type of energy input	Electricity	Electricity
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Annual energy consumption Qhe	3029 kWh	3390 kWh