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### This information was generated by the HP KEYMARK database on 18 Mar 2022

#### Login

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

COP

5.02

EN 14511-2		
	Low temperature	Medium temperature
Heat output	2.81 kW	3.28 kW
El input	0.56 kW	0.87 kW

2.85

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	48 dB(A)	48 dB(A)

	EN 14825	
	Low temperature	Medium temperature
$\eta_{s}$	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
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
РТО	o w	o w
PSB	31 W	31 W
PCK	o w	o 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

## Warmer Climate

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

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	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
$COP Tj = +2^{\circ}C$	4.15	2.69
Pdh Tj = $+7$ °C	3.06 kW	3.86 kW
$COP Tj = +7^{\circ}C$	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
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
РТО	o w	0 W
PSB	31 W	31 W
PCK	o 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)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	145 %	127 %
Prated	6.50 kW	5.00 kW
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 = $+7^{\circ}$ 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	o 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
Annual energy consumption Qhe	4339 kWh	3781 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		

EN 14511-2

Low temperature

## Heating

Medium temperature

3.28 kW Heat output 2.81 kW 0.56 kW 0.87 kW El input COP 5.02 2.85

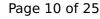
EN 14511-4		
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed	
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	

## **Average Climate**



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

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	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
COP Tj = 12°C	7.92	6.56
Pdh Tj = Tbiv	5.88 kW	5.04 kW
COP Tj = Tbiv	3.26	2.31



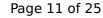


Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.11 kW	4.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
PTO	o w	0 W
PSB	31 W	31 W
PCK	o w	o w
Supplementary Heater: Type of energy input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

## Warmer Climate

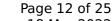
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)

EN 14825			
Low temperature Medium temperatur			
$\eta_{s}$	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
$COP Tj = +7^{\circ}C$	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
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
РТО	0 W	o w
PSB	31 W	31 W
РСК	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)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{S}$	145 %	127 %
Prated	6.50 kW	5.00 kW
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 = $+7^{\circ}$ 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
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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
РТО	0 W	0 W
PSB	31 W	31 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.77 kW	0.00 kW
Annual energy consumption Qhe	4339 kWh	3781 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

COP

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	2.81 kW	3.28 kW	
El input	0.56 kW	0.87 kW	

2.85

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**

5.02



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
$\eta_{s}$	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 = $-7^{\circ}$ 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 = $+7^{\circ}$ C	3.27 kW	3.04 kW
$COP Tj = +7^{\circ}C$	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



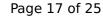


COP Tj = Tbiv	3.26	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.11 kW	4.23 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.18	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
РТО	o w	0 W
PSB	31 W	31 W
PCK	0 W	0 W
Supplementary Heater: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

## 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





This information was genera	The transfer of the second of	RK database on 18 Mar 2022
$\eta_{s}$	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
$COPTj = +2^{\circ}C$	4.15	2.69
Pdh Tj = $+7^{\circ}$ C	3.06 kW	3.86 kW
$COPTj = +7^{\circ}C$	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
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
РТО	0 W	0 W
PSB	31 W	31 W
PCK	o 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
$\eta_{S}$	145 %	127 %
Prated	6.50 kW	5.00 kW
SCOP	3.69	3.26
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = $-7^{\circ}$ 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



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dh Tj = +7°C	3.48 kW
$OP Tj = +7^{\circ}C$	5.25
dh Tj = 12°C	3.70 kW
OP Tj = 12°C	7.52
dh Tj = Tbiv	4.03 kW
OP Tj = Tbiv	1.98
dh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.58 kW
OP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.24
dh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00
TOL	60 °C
off	31 W
ГО	0 W
5B	31 W
CK	0 W
upplementary Heater: Type of energy input	Electricity
upplementary Heater: PSUP	0.00 kW
nnual energy consumption Qhe	3781 kWh
Upplementary Heater: Type of energy input Upplementary Heater: PSUP	0 W Electricity 0.00 kW



# 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	

EN 14511-2

## Heating

Low temperature	Medium temperature
2.81 kW	3.28 kW

	EN 14511-4	
СОР	5.02	2.85
El input	0.56 kW	0.87 kW
Heat output	2.81 kW	3.28 kW

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	
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	48 dB(A)	48 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	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
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	o 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

## Warmer Climate

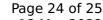
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	48 dB(A)
Sound power level outdoor	50 dB(A)	50 dB(A)

EN 14825			
	Low temperature	Medium temperature	





This information was genera	Ted by the HP KETMAN	RK database on 18 Mar 2022
$\eta_{s}$	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 = $+7^{\circ}$ C	3.06 kW	3.86 kW
$COP Tj = +7^{\circ}C$	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
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	31 W	31 W
РТО	0 W	0 W
PSB	31 W	31 W
PCK	0 W	0 W



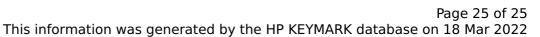


Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1009 kWh	1844 kWh

### 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
$\eta_{S}$	145 %	127 %
Prated	6.50 kW	5.00 kW
SCOP	3.69	3.26
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = $-7^{\circ}$ 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





This information was genera	ced by the Hi KETHA	TR database on 10 Mai 2022
Pdh Tj = +7°C	3.12 kW	3.48 kW
$COP Tj = +7^{\circ}C$	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
РТО	o w	o w
PSB	31 W	31 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.77 kW	0.00 kW
Annual energy consumption Qhe	4339 kWh	3781 kWh