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

#### **Login**

Summary of	LWV 122 Inverter	Reg. No.	041-K001-25	
Certificate Holder		'		
Name	ait-deutschland GmbH	ait-deutschland GmbH		
Address	Industriestr. 3	Zip	95359	
City	Kasendorf	Country	Germany	
Certification Body	BRE Global Limited			
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**

Configure model		
Model name LWCV 122R3		
Application	Heating (medium temp)	
Units	Indoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

General Data		
Power supply	3x400V 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	5.29 kW	6.30 kW
El input	1.19 kW	2.30 kW
СОР	4.71	2.84

### 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	
$\eta_{s}$	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	
$COPTj = +2^{\circ}C$	3.26	2.34	
Pdh Tj = $+7^{\circ}$ C	4.60 kW	4.80 kW	
$COPTj = +7^{\circ}C$	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 or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.70 kW	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.34	





Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	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		
132 %	112 %		
8.60 kW	7.00 kW		
3.37	2.88		
-15 °C	-15 °C		
	Low temperature  132 %  8.60 kW  3.37		





This information was generated by the HF KLIMARK database on 21 Juli 2022					
TOL	-22 °C	-22 °C			
Pdh Tj = -7°C	7.80 kW	8.20 kW			
COP Tj = $-7^{\circ}$ 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 = $+7^{\circ}$ C	5.50 kW	5.50 kW			
$COPTj = +7^{\circ}C$	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 or Pdh Tj = Tdesignh if TOL < Tdesignh	3.00 kW	2.90 kW			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.86	1.46			
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00			
WTOL	60 °C	60 °C			
Poff	20 W	20 W			
РТО	20 W	20 W			
PSB	20 W	20 W			
РСК	0 W	o w			
Supplementary Heater: Type of energy input	Electricity	Electricity			
Supplementary Heater: PSUP	5.60 kW	4.10 kW			
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## 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
$\eta_{s}$	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 = $+7^{\circ}$ 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





	<u> </u>	
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 or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	6.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.94
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	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	o w	o 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



# Model: LWV 122R3

Configure model	
Model name	LWV 122R3
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data		
Power supply	3x400V 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

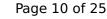
EN 14511-2		
	Low temperature	Medium temperature
Heat output	5.29 kW	6.30 kW
El input	1.19 kW	2.30 kW
СОР	4.71	2.84

### 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
$\eta_{s}$	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
$COPTj = +7^{\circ}C$	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 or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.34



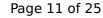


Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
РТО	20 W	20 W
PSB	20 W	20 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1887 kWh	2268 kWh

### 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
$\eta_{s}$	132 %	112 %
Prated	8.60 kW	7.00 kW
SCOP	3.37	2.88
Tbiv	-15 °C	-15 °C





Inis information was generated by the HP KEYMARK database on 21 jun 202				
TOL	-22 °C	-22 °C		
Pdh Tj = -7°C	7.80 kW	8.20 kW		
$COP Tj = -7^{\circ}C$	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		
$COP Tj = +7^{\circ}C$	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 or Pdh Tj = Tdesignh if TOL < Tdesignh	3.00 kW	2.90 kW		
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.86	1.46		
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00		
WTOL	60 °C	60 °C		
Poff	20 W	20 W		
РТО	20 W	20 W		
PSB	20 W	20 W		
РСК	0 W	0 W		
Supplementary Heater: Type of energy input	Electricity	Electricity		
Supplementary Heater: PSUP	5.60 kW	4.10 kW		
	-	•		

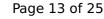


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## Average Climate

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

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	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 = $+7^{\circ}$ 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 or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	6.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.94
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	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	o 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



# **Model: LWAV 122R3**

Configure model		
Model name	LWAV 122R3	
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 14511-4		
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	5.29 kW	6.30 kW	
El input	1.19 kW	2.30 kW	
СОР	4.71	2.84	

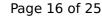
### Warmer Climate





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
$\eta_{S}$	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
$COP Tj = +2^{\circ}C$	3.26	2.34
Pdh Tj = $+7^{\circ}$ C	4.60 kW	4.80 kW
$COP Tj = +7^{\circ}C$	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 or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.70 kW





COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.34
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	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)

Low temperature	Medium temperature
132 %	112 %
8.60 kW	7.00 kW
	132 %





	<u> </u>	The database on 21 juli 2022
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
$COP Tj = -7^{\circ}C$	2.92	2.48
Pdh Tj = $+2$ °C	5.70 kW	4.70 kW
COP Tj = +2°C	4.49	3.43
Pdh Tj = $+7^{\circ}$ C	5.50 kW	5.50 kW
$COP Tj = +7^{\circ}C$	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 or Pdh Tj = Tdesignh if TOL < Tdesignh	3.00 kW	2.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.86	1.46
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
РСК	o w	o 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

# 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
$\eta_{S}$	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
$COP Tj = +2^{\circ}C$	4.52	3.28





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

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Pdh Tj = $+7$ °C	6.30 kW	5.20 kW
$COP Tj = +7^{\circ}C$	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 or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	6.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.94
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
РТО	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



# Model: LWAV+ 122R3

Configure model		
Model name	LWAV+ 122R3	
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 14511-4		
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	

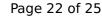
EN 14511-2		
	Low temperature	Medium temperature
Heat output	5.29 kW	6.30 kW
El input	1.19 kW	2.30 kW
СОР	4.71	2.84

### 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
$\eta_{s}$	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
$COP Tj = +7^{\circ}C$	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 or Pdh Tj = Tdesignh if TOL < Tdesignh	6.70 kW	6.70 kW



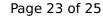


COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.34
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
РТО	20 W	20 W
PSB	20 W	20 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1887 kWh	2268 kWh

### Colder Climate

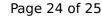
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	47 dB(A)	47 dB(A)
Sound power level outdoor	51 dB(A)	51 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{S}$	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
$COP Tj = -7^{\circ}C$	2.92	2.48
Pdh Tj = $+2$ °C	5.70 kW	4.70 kW
COP Tj = +2°C	4.49	3.43
Pdh Tj = $+7^{\circ}$ C	5.50 kW	5.50 kW
$COP Tj = +7^{\circ}C$	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 or Pdh Tj = Tdesignh if TOL $<$ Tdesignh	3.00 kW	2.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.86	1.46
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL $<$ Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
РСК	0 W	0 W



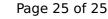


Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.60 kW	4.10 kW
Annual energy consumption Qhe	6290 kWh	5984 kWh

## **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
$\eta_{S}$	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





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Pdh Tj = $+7^{\circ}$ C	6.30 kW	5.20 kW
$COP Tj = +7^{\circ}C$	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 or Pdh Tj = Tdesignh if TOL < Tdesignh	7.50 kW	6.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.94
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	20 W	20 W
РТО	20 W	20 W
PSB	20 W	20 W
PCK	o w	o 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