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Login

Summary of	LWDV 91-1/3	Reg. No.	041-K001-24	
Certificate Holder				
Name	ait-deutschland Gmb	ait-deutschland GmbH		
Address	Industriestr. 3	Zip	95359	
City	Kasendorf	Country	Germany	
Certification Body	BRE Global Limited	·	·	
Subtype title	LWDV 91-1/3			
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R290			
Mass of Refrigerant	1.05 kg			
Certification Date	27.08.2019			



Model: LWDV 91-1/3-HDV 12-3

Configure model		
Model name	LWDV 91-1/3-HDV 12-3	
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

Heat output

El input

COP

0.52 kW

5.41

Low temperature	Medium temperature
2.77 kW	4.23 kW

1.26 kW

3.35

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 outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	187 %	147 %
Prated	9.50 kW	8.90 kW
SCOP	4.75	3.75
Tbiv	-5 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.28 kW	7.07 kW
COP Tj = -7°C	2.96	2.19
Pdh Tj = $+2$ °C	5.43 kW	4.86 kW
COP Tj = +2°C	5.17	4.86
Pdh Tj = +7°C	3.37 kW	3.18 kW
COP Tj = +7°C	6.90	5.36
Pdh Tj = 12°C	3.28 kW	3.18 kW
COP Tj = 12°C	8.22	6.77
Pdh Tj = Tbiv	7.68 kW	7.50 kW
COP Tj = Tbiv	3.11	2.35





Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.63 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.05	2.07
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	o w	0 W
РТО	22 W	22 W
PSB	22 W	22 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.87 kW	2.11 kW
Annual energy consumption Qhe	4135 kWh	4904 kWh

Warmer Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	218 %	171 %
Prated	9.50 kW	9.50 kW





This information was genera	ited by the Hi KETMAI	tik database on 10 Mai 2022
SCOP	5.53	4.36
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.98 kW	8.10 kW
$COPTj = +2^{\circ}C$	3.49	2.32
Pdh Tj = $+7^{\circ}$ C	5.89 kW	6.24 kW
$COPTj = +7^{\circ}C$	5.99	4.07
Pdh Tj = 12°C	3.12 kW	3.24 kW
COP Tj = 12°C	7.47	6.53
Pdh Tj = Tbiv	8.15 kW	8.06 kW
COP Tj = Tbiv	3.81	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.98 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.49	2.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	0 W	0 W
РТО	22 W	22 W
PSB	22 W	22 W
РСК	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.52 kW	1.40 kW



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Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	160 %	119 %
Prated	7.50 kW	6.50 kW
SCOP	4.07	3.04
Tbiv	-17 °C	-17 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.50 kW	3.87 kW
COP Tj = -7°C	3.49	2.57
Pdh Tj = +2°C	2.87 kW	2.35 kW
COP Tj = +2°C	4.82	3.57
Pdh Tj = +7°C	2.97 kW	2.88 kW
COP Tj = +7°C	7.17	5.76
Pdh Tj = 12°C	3.05 kW	3.17 kW





COP Tj = 12°C	7.39	6.91
Pdh Tj = Tbiv	6.43 kW	5.70 kW
COP Tj = Tbiv	2.50	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.59 kW	5.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.14	1.53
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	o w	o w
РТО	22 W	22 W
PSB	22 W	22 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.91 kW	1.44 kW
Annual energy consumption Qhe	4541 kWh	5277 kWh



Model: LWDV 91-1/3-HDV 9-1/3

Configure model		
Model name	LWDV 91-1/3-HDV 9-1/3	
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

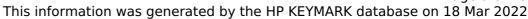
5.41

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	2.77 kW	4.23 kW	
El input	0.52 kW	1.26 kW	

3.35

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	

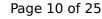
Average Climate





EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825				
Low temperature Medium tem				
η_{s}	187 %	147 %		
Prated	9.50 kW	8.90 kW		
SCOP	4.90	3.85		
Tbiv	-5 °C	-6 °C		
TOL	-10 °C	-10 °C		
Pdh Tj = -7°C	7.28 kW	7.07 kW		
COP Tj = -7°C	2.96	2.19		
Pdh Tj = +2°C	5.43 kW	4.86 kW		
COP Tj = +2°C	5.17	4.86		
Pdh Tj = +7°C	3.37 kW	3.18 kW		
$COP Tj = +7^{\circ}C$	6.90	5.36		
Pdh Tj = 12°C	3.28 kW	3.18 kW		
COP Tj = 12°C	8.22	6.77		
Pdh Tj = Tbiv	7.68 kW	7.50 kW		
COP Tj = Tbiv	3.11	2.35		





Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.63 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.05	2.07
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	o w	o w
РТО	22 W	22 W
PSB	22 W	22 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.87 kW	1.87 kW
Annual energy consumption Qhe	4135 kWh	4904 kWh

Warmer Climate

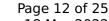
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825			
Low temperature Medium temperatur			
η_{S}	218 %	172 %	
Prated	9.50 kW	9.50 kW	





SCOP	5.53	4.36
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.98 kW	8.10 kW
COP Tj = +2°C	3.49	2.32
Pdh Tj = +7°C	5.89 kW	6.24 kW
$COP Tj = +7^{\circ}C$	5.99	4.07
Pdh Tj = 12°C	3.12 kW	3.24 kW
COP Tj = 12°C	7.47	6.53
Pdh Tj = Tbiv	8.15 kW	8.06 kW
COP Tj = Tbiv	3.81	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.98 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.49	2.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	0 W	o w
РТО	22 W	22 W
PSB	22 W	22 W
РСК	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.52 kW	1.40 kW





gy consumption Qhe	2295 kWh 2910 kWh
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Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	160 %	118 %
Prated	7.50 kW	6.50 kW
SCOP	4.07	3.04
Tbiv	-17 °C	-17 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.50 kW	3.87 kW
COP Tj = -7°C	3.49	2.57
Pdh Tj = $+2$ °C	2.87 kW	2.35 kW
COP Tj = +2°C	4.82	3.57
Pdh Tj = $+7^{\circ}$ C	2.97 kW	2.88 kW
COP Tj = +7°C	7.17	5.76
Pdh Tj = 12°C	3.05 kW	3.17 kW



COP Tj = 12°C	7.39	6.91
Pdh Tj = Tbiv	6.43 kW	5.70 kW
COP Tj = Tbiv	2.50	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.59 kW	5.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.14	1.53
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	o w	0 W
РТО	22 W	22 W
PSB	22 W	22 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.91 kW	1.44 kW
Annual energy consumption Qhe	4541 kWh	5277 kWh



Model: LWDV 91-1/3-HSDV 12M3

Configure model		
Model name	LWDV 91-1/3-HSDV 12M3	
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	No	
Cooling mode application (optional)	n/a	

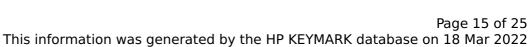
General Data		
Power supply	1x230V 50Hz	

Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	2.77 kW	4.23 kW	
El input	0.52 kW	1.26 kW	
СОР	5.41	3.35	

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	

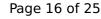
Average Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	54 dB(A)	54 dB(A)

CEN heat pump KEYMARK

EN 14825		
	Low temperature	Medium temperature
η_{s}	187 %	147 %
Prated	9.50 kW	8.90 kW
SCOP	4.90	3.85
Tbiv	-5 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.28 kW	7.07 kW
COP Tj = -7°C	2.96	2.19
Pdh Tj = +2°C	5.43 kW	4.86 kW
COP Tj = +2°C	5.17	4.86
Pdh Tj = $+7^{\circ}$ C	3.37 kW	3.18 kW
$COP Tj = +7^{\circ}C$	6.90	5.36
Pdh Tj = 12°C	3.28 kW	3.18 kW
COP Tj = 12°C	8.22	6.77
Pdh Tj = Tbiv	7.68 kW	7.50 kW
COP Tj = Tbiv	3.11	2.35





Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.63 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.05	2.07
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	o w	o w
РТО	22 W	22 W
PSB	22 W	22 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.87 kW	2.11 kW
Annual energy consumption Qhe	4135 kWh	4904 kWh

Warmer Climate

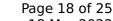
EN 12102-1			
Low temperature Medium temperature			
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825			
Low temperature Medium temperature			
η_{S}	218 %	171 %	
Prated	9.50 kW	9.50 kW	





SCOP	5.53	4.36
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.98 kW	8.10 kW
COP Tj = +2°C	3.49	2.32
Pdh Tj = $+7^{\circ}$ C	5.89 kW	6.24 kW
$COPTj = +7^{\circ}C$	5.99	4.07
Pdh Tj = 12°C	3.12 kW	3.24 kW
COP Tj = 12°C	7.47	6.53
Pdh Tj = Tbiv	8.15 kW	8.06 kW
COP Tj = Tbiv	3.81	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.98 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.49	2.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	0 W	0 W
РТО	22 W	22 W
PSB	22 W	22 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.52 kW	1.40 kW





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Colder Climate

EN 12102-1			
Low temperature Medium temperature			
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	160 %	119 %
Prated	7.50 kW	6.50 kW
SCOP	4.07	3.04
Tbiv	-17 °C	-17 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	4.50 kW	3.87 kW
COP Tj = -7° C	3.49	2.57
Pdh Tj = $+2$ °C	2.87 kW	2.35 kW
COP Tj = +2°C	4.82	3.57
Pdh Tj = $+7^{\circ}$ C	2.97 kW	2.88 kW
COP Tj = +7°C	7.17	5.76
Pdh Tj = 12°C	3.05 kW	3.17 kW



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COP Tj = 12°C	7.39	6.91
Pdh Tj = Tbiv	6.43 kW	5.70 kW
COP Tj = Tbiv	2.50	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.59 kW	5.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.14	1.53
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	0 W	0 W
РТО	22 W	22 W
PSB	22 W	22 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.91 kW	1.44 kW
Annual energy consumption Qhe	4541 kWh	5277 kWh



Model: LWDV91-1/3-HSDV 9M-1/3

Configure model		
Model name LWDV91-1/3-HSDV 9M-1/3		
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	2.77 kW	4.23 kW	
El input	0.52 kW	1.26 kW	

3.35

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

5.41

EN 12102-1			
Low temperature Medium temperature			
Sound power level outdoor	54 dB(A)	54 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
η_{s}	187 %	147 %	
Prated	9.50 kW	8.90 kW	
SCOP	4.75	3.75	
Tbiv	-5 °C	-6 °C	
TOL	-10 °C	-10 °C	
Pdh Tj = -7°C	7.28 kW	7.07 kW	
COP Tj = -7°C	2.96	2.19	
Pdh Tj = +2°C	5.43 kW	4.86 kW	
COP Tj = +2°C	5.17	4.86	
Pdh Tj = +7°C	3.37 kW	3.18 kW	
$COP Tj = +7^{\circ}C$	6.90	5.36	
Pdh Tj = 12°C	3.28 kW	3.18 kW	
COP Tj = 12°C	8.22	6.77	
Pdh Tj = Tbiv	7.68 kW	7.50 kW	
COP Tj = Tbiv	3.11	2.35	



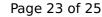


Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.63 kW	6.79 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.05	2.07
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	0 W	0 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.87 kW	2.11 kW
Annual energy consumption Qhe	4135 kWh	4904 kWh

Warmer Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{S}	218 %	171 %
Prated	9.50 kW	9.50 kW
	'	





SCOP	5.53	4.36
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	7.98 kW	8.10 kW
COP Tj = +2°C	3.49	2.32
Pdh Tj = $+7^{\circ}$ C	5.89 kW	6.24 kW
$COPTj = +7^{\circ}C$	5.99	4.07
Pdh Tj = 12°C	3.12 kW	3.24 kW
COP Tj = 12°C	7.47	6.53
Pdh Tj = Tbiv	8.15 kW	8.06 kW
COP Tj = Tbiv	3.81	2.70
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.98 kW	8.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.49	2.32
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	0 W	0 W
РТО	22 W	22 W
PSB	22 W	22 W
РСК	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.52 kW	1.40 kW



Annual energy consumption Qhe	2295 kWh	2910 kWh	

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	54 dB(A)	54 dB(A)

EN 14825			
	Low temperature	Medium temperature	
η_{s}	160 %	119 %	
Prated	7.50 kW	6.50 kW	
SCOP	4.07	3.04	
Tbiv	-17 °C	-17 °C	
TOL	-22 °C	-22 °C	
Pdh Tj = -7°C	4.50 kW	3.87 kW	
COP Tj = -7°C	3.49	2.57	
Pdh Tj = +2°C	2.87 kW	2.35 kW	
COP Tj = +2°C	4.82	3.57	
Pdh Tj = +7°C	2.97 kW	2.88 kW	
COP Tj = +7°C	7.17	5.76	
Pdh Tj = 12°C	3.05 kW	3.17 kW	
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COP Tj = 12°C	7.39	6.91
Pdh Tj = Tbiv	6.43 kW	5.70 kW
COP Tj = Tbiv	2.50	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.59 kW	5.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.14	1.53
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
WTOL	60 °C	60 °C
Poff	0 W	0 W
РТО	22 W	22 W
PSB	22 W	22 W
PCK	30 W	30 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.91 kW	1.44 kW
Annual energy consumption Qhe	4541 kWh	5277 kWh