Login

Summary of	LWDV 91-1/3	Reg. No.	041-K001-24
Certificate Holder			
Name	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

Heating

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

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	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°C	5.89 kW	6.24 kW
COP Tj = +7°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
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	1.52 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

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
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	1.91 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

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

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°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	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	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 temperature**
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°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
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	1.52 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 %	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°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	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	1.91 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
COP	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)

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°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	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°C	5.89 kW	6.24 kW
COP Tj = +7°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
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	1.52 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

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
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	1.91 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

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

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
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Pdh Tj = Tbiv	7.68 kW	7.50 kW
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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
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COP Tj = +7°C	5.99	4.07
Pdh Tj = 12°C	3.12 kW	3.24 kW
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.49	2.32
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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	1.52 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
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COP Tj = +2°C	4.82	3.57
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COP Tj = 12°C	7.39	6.91
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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
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	1.91 kW	1.44 kW
Annual energy consumption Qhe	4541 kWh	5277 kWh