

Subtype LWD 50A/SX

Certificate Holder	ait-deutschland GmbH
Address	Industriestr. 3
ZIP	95359
City	Kasendorf
Country	DE
Certification Body	BRE Global Limited
Subtype title	LWD 50A/SX
Registration number	041-K001-43
Heat Pump Type	Outdoor Air/Water
Refrigerant	R290
Mass of Refrigerant	0.95 kg
Certification Date	24.11.2020
Testing basis	HP Keymark Scheme Rules Rev 08

Model LWD 50A/SX-HMD

Model name	LWD 50A/SX-HMD
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	6.85 kW	6.04 kW
El input	1.53 kW	2.01 kW
COP	4.46	3.00

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	152 %	127 %
Prated	6.37 kW	5.91 kW
SCOP	3.88	3.25
Tbiv	-4 °C	-4 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.57 kW	4.11 kW
COP Tj = -7°C	3.04	2.28
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	5.52 kW	5.36 kW
COP Tj = +2°C	3.94	3.23
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.03 kW	6.81 kW
COP Tj = +7°C	4.87	4.32

Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	7.54 kW	7.51 kW
COP Tj = 12°C	5.54	5.36
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	4.90 kW	4.55 kW
COP Tj = Tbiv	3.35	2.57
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.18 kW	3.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	2.05
WTOL	62 °C	1 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.19 kW	2.19 kW
Annual energy consumption Qhe	3388 kWh	3762 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	135 %	114 %
Prated	5.43 kW	4.98 kW
SCOP	3.44	2.93
Tbiv	-12 °C	-12 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.64 kW	4.31 kW
COP Tj = -7°C	3.19	2.58
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.55 kW	5.44 kW
COP Tj = +2°C	4.07	3.51
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.08 kW	6.97 kW
COP Tj = +7°C	4.93	4.63
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	7.54 kW	7.56 kW
COP Tj = 12°C	5.29	5.39
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	4.00 kW	3.67 kW
COP Tj = Tbiv	2.84	2.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.94 kW	2.72 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.18	1.61
WTOL	62 °C	62 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.43 kW	4.98 kW
Annual energy consumption Qhe	3888 kWh	4185 kWh
Pdh Tj = -15°C (if TOL	3.61	3.30
COP Tj = -15°C (if TOL	2.60	1.97
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	189 %	155 %
Prated	7.07 kW	6.54 kW
SCOP	4.79	3.95
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.47 kW	5.16 kW
COP Tj = +2°C	3.70	2.62
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	6.94 kW	6.40 kW
COP Tj = +7°C	4.69	3.56
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	7.51 kW	7.41 kW
COP Tj = 12°C	5.53	5.01
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.06 kW	5.60 kW
COP Tj = Tbiv	4.15	2.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.47 kW	5.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.70	2.62
WTOL	62 °C	62 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.60 kW	1.38 kW
Annual energy consumption Q _{he}	1971 kWh	2211 kWh

Model LWD 50A/SX-HTD S

Model name	LWD 50A/SX-HTD S
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	6.85 kW	6.04 kW
El input	1.53 kW	2.01 kW
COP	4.46	3.00

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	152 %	127 %
Prated	6.37 kW	5.91 kW
SCOP	3.88	3.25
Tbiv	-4 °C	-4 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	4.57 kW	4.11 kW
COP Tj = -7°C	3.04	2.28
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	5.52 kW	5.36 kW
COP Tj = +2°C	3.94	3.23
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.03 kW	6.81 kW
COP Tj = +7°C	4.87	4.32

Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	7.54 kW	7.51 kW
COP Tj = 12°C	5.54	5.36
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	4.90 kW	4.55 kW
COP Tj = Tbiv	3.35	2.57
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	4.18 kW	3.72 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.81	2.05
WTOL	62 °C	1 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.19 kW	2.19 kW
Annual energy consumption Qhe	3388 kWh	3762 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	135 %	114 %
Prated	5.43 kW	4.98 kW
SCOP	3.44	2.93
Tbiv	-12 °C	-12 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.64 kW	4.31 kW
COP Tj = -7°C	3.19	2.58
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	5.55 kW	5.44 kW
COP Tj = +2°C	4.07	3.51
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.08 kW	6.97 kW
COP Tj = +7°C	4.93	4.63
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	7.54 kW	7.56 kW
COP Tj = 12°C	5.29	5.39
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	4.00 kW	3.67 kW
COP Tj = Tbiv	2.84	2.19
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	2.94 kW	2.72 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.18	1.61
WTOL	62 °C	62 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	5.43 kW	4.98 kW
Annual energy consumption Qhe	3888 kWh	4185 kWh
Pdh Tj = -15°C (if TOL	3.61	3.30
COP Tj = -15°C (if TOL	2.60	1.97
Cdh Tj = -15 °C	1.00	1.00

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	189 %	155 %
Prated	7.07 kW	6.54 kW
SCOP	4.79	3.95
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	5.47 kW	5.16 kW
COP Tj = +2°C	3.70	2.62
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	6.94 kW	6.40 kW
COP Tj = +7°C	4.69	3.56
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	7.51 kW	7.41 kW
COP Tj = 12°C	5.53	5.01
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	6.06 kW	5.60 kW
COP Tj = Tbiv	4.15	2.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	5.47 kW	5.16 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.70	2.62
WTOL	62 °C	62 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	0 W	0 W

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.60 kW	1.38 kW
Annual energy consumption Q _{he}	1971 kWh	2211 kWh