

Subtype LW 310

Certificate Holder	ait-deutschland GmbH
Address	Industriestr. 3
ZIP	95359
City	Kasendorf
Country	DE
Certification Body	BRE Global Limited
Subtype title	LW 310
Registration number	041-K001-41
Heat Pump Type	Outdoor Air/Water
Refrigerant	R404A
Mass of Refrigerant	10 kg
Certification Date	08.10.2019

Model LW 310 (L)		
Model name	LW 310 (L)	
Application	Heating (medium temp)	
Units	Indoor	
Climate zone (for heating)	Warmer Climate, Colder Climate	
Cooling mode application (optional)	n/a	
Any additional heat sources	n/a	
General data		
Power supply	3x400V 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	
Starting and operating test	passed	
EN 12102-1 Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	68 dB(A)	68 dB(A)
EN 14825 Average Climate		
	Low temperature	Medium temperature
ηs	151 %	122 %
Prated	28.28 kW	26.86 kW
SCOP	3.86	3.11
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	25.02 kW	23.76 kW
COP Tj = -7°C	2.92	2.03
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	31.12 kW	30.53 kW
COP Tj = +2°C	3.67	3.02
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	19.40 kW	19.05 kW
COP Tj = +7°C	4.86	4.05
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	21.20 kW	21.11 kW
COP Tj = 12°C	5.26	4.92
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	25.02 kW	23.76 kW
COP Tj = Tbiv	2.92	2.03
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	22.93 kW	21.51 kW

COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.63	1.76
WTOL	58 °C	58 °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	5.35 kW	5.35 kW
Annual energy consumption Qhe	15151 kWh	17816 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	131 %	107 %
Prated	29.62 kW	28.06 kW
SCOP	3.36	2.76
Tbiv	-12 °C	-12 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	25.20 kW	24.32 kW
COP Tj = -7°C	3.10	2.35
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	31.26 kW	30.87 kW
COP Tj = +2°C	3.85	3.36
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	19.47 kW	19.25 kW
COP Tj = +7°C	5.05	4.47
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	21.19 kW	21.17 kW
COP Tj = 12°C	5.21	5.15
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	21.83 kW	20.68 kW
COP Tj = Tbiv	2.68	1.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.26 kW	14.82 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.90	1.26
WTOL	58 °C	58 °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	29.62 kW	28.06 kW
Annual energy consumption Qhe	21723 kWh	25057 kWh
Pdh Tj = -15°C (if TOL	19.75	18.50

COP Tj = -15°C (if TOL	2.38	1.65
Cdh Tj = -15 °C	1.00	1.00

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η_s	186 %	145 %
Prated	31.00 kW	29.67 kW
SCOP	4.73	3.70
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	31.00 kW	29.67 kW
COP Tj = +2°C	3.52	2.38
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	19.30 kW	18.56 kW
COP Tj = +7°C	4.62	3.26
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	21.16 kW	20.98 kW
COP Tj = 12°C	5.15	4.51
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	26.34 kW	25.26 kW
COP Tj = Tbiv	3.83	2.64
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	31.00 kW	29.67 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.52	2.38
WTOL	58 °C	58 °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	0.00 kW	0.00 kW
Annual energy consumption Qhe	8750 kWh	10714 kWh

Model LW 310A

Model name	LW 310A
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	3x400V 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
Starting and operating test	passed

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	68 dB(A)	68 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
η_s	151 %	122 %
Prated	28.28 kW	26.86 kW
SCOP	3.86	3.11
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	25.02 kW	23.76 kW
COP Tj = -7°C	2.92	2.03
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	31.12 kW	30.53 kW
COP Tj = +2°C	3.67	3.02
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	19.40 kW	19.05 kW
COP Tj = +7°C	4.86	4.05
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	21.20 kW	21.11 kW
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Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	25.02 kW	23.76 kW
COP Tj = Tbiv	2.92	2.03

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	22.93 kW	21.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.63	1.76
WTOL	58 °C	58 °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	5.35 kW	5.35 kW
Annual energy consumption Qhe	15151 kWh	17816 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
η_s	131 %	107 %
Prated	29.62 kW	28.06 kW
SCOP	3.36	2.76
Tbiv	-12 °C	-12 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	25.20 kW	24.32 kW
COP Tj = -7°C	3.10	2.35
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	31.26 kW	30.87 kW
COP Tj = +2°C	3.85	3.36
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	19.47 kW	19.25 kW
COP Tj = +7°C	5.05	4.47
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Pdh Tj = 12°C	21.19 kW	21.17 kW
COP Tj = 12°C	5.21	5.15
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	21.83 kW	20.68 kW
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Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.26 kW	14.82 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.90	1.26
WTOL	58 °C	58 °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	29.62 kW	28.06 kW

Annual energy consumption Q _{he}	21723 kWh	25057 kWh
P _{dh} T _j = -15 °C (if TOL	19.75	18.50
COP T _j = -15 °C (if TOL	2.38	1.65
C _{dh} T _j = -15 °C	1.00	1.00

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
η _s	186 %	145 %
Prated	31.00 kW	29.67 kW
SCOP	4.73	3.70
T _{biv}	4 °C	4 °C
TOL	2 °C	2 °C
P _{dh} T _j = +2 °C	31.00 kW	29.67 kW
COP T _j = +2 °C	3.52	2.38
C _{dh} T _j = +2 °C	1.00	1.00
P _{dh} T _j = +7 °C	19.30 kW	18.56 kW
COP T _j = +7 °C	4.62	3.26
C _{dh} T _j = +7 °C	1.00	1.00
P _{dh} T _j = 12 °C	21.16 kW	20.98 kW
COP T _j = 12 °C	5.15	4.51
C _{dh} T _j = +12 °C	1.00	1.00
P _{dh} T _j = T _{biv}	26.34 kW	25.26 kW
COP T _j = T _{biv}	3.83	2.64
P _{dh} T _j = TOL or P _{dh} T _j = T _{designh} if TOL < T _{designh}	31.00 kW	29.67 kW
COP T _j = TOL or COP T _j = T _{designh} if TOL < T _{designh}	3.52	2.38
WTOL	58 °C	58 °C
P _{off}	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	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	8750 kWh	10714 kWh