

This information was generated by the HP KEYMARK database on 17 Dec 2020

Summary of	WWC 190 H/X	Reg. No.	041-K001-34
Certificate Holder			
Name	ait-deutschland GmbH		
Address	Industriestr. 3	Zip	95359
City	Kasendorf	Country	Germany
Certification Body	BRE Energy & Communications Division		
Name of testing laboratory	WPZ		
Subtype title	WWC 190 H/X		
Heat Pump Type	Water/Water		
Refrigerant	R407c		
Mass Of Refrigerant	4.3 kg		
Certification Date	06.09.2019		

Model: WWC 190H/X

General Data

Power supply	3x400V 50Hz
--------------	-------------

Heating

EN 14511-2

	Low temperature	Medium temperature
Heat output	18.60 kW	16.30 kW
El input	3.27 kW	4.81 kW
COP	5.60	3.20
Indoor water flow rate	3.80 m ³ /h	3.80 m ³ /h

EN 14511-4

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	53 dB(A)	53 dB(A)

This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 14825

	Low temperature	Medium temperature
η_s	234 %	179 %
Prated	18.30 kW	16.30 kW
SCOP	6.05	4.68
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	18.34 kW	16.60 kW
COP Tj = -7°C	5.66	3.63
Cdh	1.00	1.00
Pdh Tj = +2°C	18.56 kW	17.60 kW
COP Tj = +2°C	6.03	4.61
Cdh	1.00	1.00
Pdh Tj = +7°C	18.76 kW	18.20 kW
COP Tj = +7°C	6.39	5.40
Cdh	1.00	1.00
Pdh Tj = 12°C	18.96 kW	18.80 kW
COP Tj = 12°C	6.72	6.37
Cdh	1.00	1.00
Pdh Tj = Tbiv	18.30 kW	16.30 kW
COP Tj = Tbiv	5.60	3.39

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	18.30 kW	16.30 kW
COP Tj = TOL	5.60	3.39
WTOL	65 °C	65 °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	6249 kWh	7193 kWh

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	236 %	181 %
Prated	18.30 kW	16.30 kW
SCOP	6.09	4.73
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	18.30 kW	16.30 kW
COP Tj = +2°C	5.60	3.39

This information was generated by the HP KEYMARK database on 17 Dec 2020

Cdh	1.00	1.00
Pdh Tj = +7°C	18.52 kW	17.20 kW
COP Tj = +7°C	5.95	4.18
Cdh	1.00	1.00
Pdh Tj = 12°C	18.82 kW	18.40 kW
COP Tj = 12°C	6.51	5.71
Cdh	1.00	1.00
Pdh Tj = Tbiv	18.30 kW	16.30 kW
COP Tj = Tbiv	5.60	3.39
Pdh Tj = TOL	18.30 kW	16.30 kW
COP Tj = TOL	5.60	3.39
WTOL	65 °C	65 °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	4012 kWh	4604 kWh

Colder Climate

This information was generated by the HP KEYMARK database on 17 Dec 2020

EN 14825

	Low temperature	Medium temperature
η_s	241 %	186 %
Prated	18.30 kW	16.30 kW
SCOP	6.22	4.86
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	18.59 kW	17.40 kW
COP Tj = -7°C	6.09	4.39
Cdh	1.00	1.00
Pdh Tj = +2°C	18.77 kW	18.10 kW
COP Tj = +2°C	6.41	5.26
Cdh	1.00	1.00
Pdh Tj = +7°C	18.90 kW	18.60 kW
COP Tj = +7°C	6.65	6.04
Cdh	1.00	1.00
Pdh Tj = 12°C	18.94 kW	19.00 kW
COP Tj = 12°C	6.59	6.70
Cdh	1.00	1.00
Pdh Tj = Tbiv	18.30 kW	16.30 kW
COP Tj = Tbiv	5.60	3.39

This information was generated by the HP KEYMARK database on 17 Dec 2020

Pdh Tj = TOL	18.30 kW	16.30 kW
COP Tj = TOL	5.60	3.39
WTOL	65 °C	65 °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	7258 kWh	8276 kWh
Pdh Tj = -15°C (if TOL<-20°C)	0.01	0.01
COP Tj = -15°C (if TOL<-20°C)	0.01	0.01
Cdh	1.00	1.00