This information was generated by the HP KEYMARK database on 18 Mar 2022

Login

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 Global Limited		
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

Configure model	
Model name	WWC 190H/X
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

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

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)

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 Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	18.56 kW	17.60 kW
COP Tj = +2°C	6.03	4.61
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	18.76 kW	18.20 kW
COP Tj = +7°C	6.39	5.40
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	18.96 kW	18.80 kW

COP Tj = 12°C	6.72	6.37
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	18.30 kW	16.30 kW
COP Tj = Tbiv	5.60	3.39
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	18.30 kW	16.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	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
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	18.52 kW	17.20 kW
COP Tj = +7°C	5.95	4.18
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	18.82 kW	18.40 kW
COP Tj = 12°C	6.51	5.71
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	18.30 kW	16.30 kW
COP Tj = Tbiv	5.60	3.39
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	18.30 kW	16.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	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

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 Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	18.77 kW	18.10 kW
COP Tj = +2°C	6.41	5.26
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	18.90 kW	18.60 kW
COP Tj = +7°C	6.65	6.04
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	18.94 kW	19.00 kW

COP Tj = 12°C	6.59	6.70
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	18.30 kW	16.30 kW
COP Tj = Tbiv	5.60	3.39
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	18.30 kW	16.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	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 Tj = -15 °C	1.00	1.00