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#### This information was generated by the HP KEYMARK database on 21 Jun 2022

#### Login

Summary of	WWC 130 H/X	Reg. No.	041-K001-32
Certificate Holder	<u> </u>	<u> </u>	'
Name	ait-deutschland Gmb	Н	
Address	Industriestr. 3	Zip	95359
City	Kasendorf	Country	Germany
Certification Body	BRE Global Limited	'	'
Subtype title	WWC 130 H/X		
Heat Pump Type	Water/Water		
Refrigerant	R407c		
Mass of Refrigerant	3.5 kg		
Certification Date	06.09.2019		

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## Model: WWC 130H/X

Configure model		
Model name	WWC 130H/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	12.90 kW	11.70 kW		
El input	2.35 kW	3.43 kW		
СОР	5.50	3.23		

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Shutting on the heat transfer medium now	passeu
Complete power supply failure	passed
Starting and operating test	passed

#### Average Climate



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EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	53 dB(A)	53 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
$\eta_{s}$	227 %	176 %	
Prated	12.90 kW	11.70 kW	
SCOP	5.88	4.60	
Tbiv	-10 °C	-10 °C	
TOL	-10 °C	-10 °C	
Pdh Tj = -7°C	12.92 kW	11.88 kW	
COP Tj = -7°C	5.55	3.63	
Cdh Tj = -7 °C	1.00	1.00	
Pdh Tj = +2°C	13.06 kW	12.48 kW	
COP Tj = +2°C	5.89	4.56	
Cdh Tj = +2 °C	1.00	1.00	
Pdh Tj = +7°C	13.18 kW	12.84 kW	
COP Tj = +7°C	6.22	5.29	
Cdh Tj = +7 °C	1.00	1.00	
Pdh Tj = 12°C	13.30 kW	13.20 kW	

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COP Tj = 12°C	6.49	6.16
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	12.90 kW	11.70 kW
COP Tj = Tbiv	5.49	3.41
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.90 kW	11.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.49	3.41
WTOL	65 °C	65 °C
Poff	10 W	10 W
РТО	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

### Warmer Climate

Annual energy consumption Qhe

EN 14825			
nperature	Medium temper	Low temperature	
	177 %	228 %	$\eta_{S}$
	11.70 kW	12.90 kW	Prated
	4.63	5.90	SCOP
	4.03	5.90	SCUP

4535 kWh

5250 kWh



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TOL 2 °C 2 °C  Pdh Tj = +2°C 12.90 kW 11.70 kW  COP Tj = +2°C 5.49 3.41  Cdh Tj = +2 °C 1.00 1.00  Pdh Tj = +7°C 13.03 kW 12.24 kW  COP Tj = +7°C 5.82 4.15  Cdh Tj = +7 °C 1.00 1.00  Pdh Tj = 12°C 1.00 1.00  Pdh Tj = 12°C 13.22 kW 12.96 kW  COP Tj = 12°C 1.00 1.00  Pdh Tj = Tol or Pdh Tj = Tdesignh if TOL < Tdesignh 12.90 kW 11.70 kW  COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 5.49 3.41  WTOL 65 °C 65 °C  Poff 10 W 10 W	Tbiv	2 °C	2 °C
COP Tj = +2°C 5.49 3.41  Cdh Tj = +2 °C 1.00 1.00  Pdh Tj = +7°C 13.03 kW 12.24 kW  COP Tj = +7°C 5.82 4.15  Cdh Tj = +7 °C 1.00 1.00  Pdh Tj = 12°C 1.00 1.00  Pdh Tj = 12°C 6.33 5.57  Cdh Tj = +12 °C 1.00 1.00  Pdh Tj = Tbiv 12.90 kW 11.70 kW  COP Tj = Tbiv 5.49 3.41  Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 12.90 kW 11.70 kW  COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 5.49 3.41  WTOL 65 °C 65 °C  Poff 10 W 10 W	TOL	2 °C	2 °C
Cdh Tj = +2 °C       1.00       1.00         Pdh Tj = +7°C       13.03 kW       12.24 kW         COP Tj = +7°C       5.82       4.15         Cdh Tj = +7 °C       1.00       1.00         Pdh Tj = 12°C       13.22 kW       12.96 kW         COP Tj = 12°C       6.33       5.57         Cdh Tj = +12 °C       1.00       1.00         Pdh Tj = Tbiv       12.90 kW       11.70 kW         COP Tj = Tbiv       5.49       3.41         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = +2°C	12.90 kW	11.70 kW
Pdh Tj = +7°C       13.03 kW       12.24 kW         COP Tj = +7°C       5.82       4.15         Cdh Tj = +7 °C       1.00       1.00         Pdh Tj = 12°C       13.22 kW       12.96 kW         COP Tj = 12°C       6.33       5.57         Cdh Tj = +12 °C       1.00       1.00         Pdh Tj = Tbiv       12.90 kW       11.70 kW         COP Tj = Tbiv       5.49       3.41         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	COP Tj = +2°C	5.49	3.41
COP Tj = +7°C       5.82       4.15         Cdh Tj = +7 °C       1.00       1.00         Pdh Tj = 12°C       13.22 kW       12.96 kW         COP Tj = 12°C       6.33       5.57         Cdh Tj = +12 °C       1.00       1.00         Pdh Tj = Tbiv       12.90 kW       11.70 kW         COP Tj = Tbiv       5.49       3.41         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +2 °C	1.00	1.00
Cdh Tj = +7 °C       1.00       1.00         Pdh Tj = 12°C       13.22 kW       12.96 kW         COP Tj = 12°C       6.33       5.57         Cdh Tj = +12 °C       1.00       1.00         Pdh Tj = Tbiv       12.90 kW       11.70 kW         COP Tj = Tbiv       5.49       3.41         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = +7°C	13.03 kW	12.24 kW
Pdh Tj = 12°C       13.22 kW       12.96 kW         COP Tj = 12°C       6.33       5.57         Cdh Tj = +12 °C       1.00       1.00         Pdh Tj = Tbiv       12.90 kW       11.70 kW         COP Tj = Tbiv       5.49       3.41         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	$COP Tj = +7^{\circ}C$	5.82	4.15
COP Tj = 12°C  6.33  5.57  Cdh Tj = +12 °C  1.00  1.00  Pdh Tj = Tbiv  12.90 kW  11.70 kW  COP Tj = Tbiv  5.49  3.41  Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh 12.90 kW  11.70 kW  COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 5.49  3.41  WTOL  65 °C  65 °C  Poff  10 W  10 W	Cdh Tj = +7 °C	1.00	1.00
Cdh Tj = +12 °C       1.00       1.00         Pdh Tj = Tbiv       12.90 kW       11.70 kW         COP Tj = Tbiv       5.49       3.41         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = 12°C	13.22 kW	12.96 kW
Pdh Tj = Tbiv       12.90 kW       11.70 kW         COP Tj = Tbiv       5.49       3.41         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	COP Tj = 12°C	6.33	5.57
COP Tj = Tbiv       5.49       3.41         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh $12.90 \text{ kW}$ $11.70 \text{ kW}$ COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	12.90 kW	11.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh $5.49$ $3.41$ WTOL $65  ^{\circ}\text{C}$ $65  ^{\circ}\text{C}$ Poff $10  \text{W}$ $10  \text{W}$	COP Tj = Tbiv	5.49	3.41
WTOL 65 °C 65 °C  Poff 10 W 10 W	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL $<$ Tdesignh	12.90 kW	11.70 kW
Poff 10 W 10 W	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.49	3.41
	WTOL	65 °C	65 °C
PTO 10 W 10 W	Poff	10 W	10 W
	РТО	10 W	10 W
PSB 10 W 10 W	PSB	10 W	10 W
PCK 0 W 0 W	РСК	o w	o w
Supplementary Heater: Type of energy input Electricity Electricity	Supplementary Heater: Type of energy input	Electricity	Electricity

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elementary Heater: PSUP	0.00 kW	0.00 kW

Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2920 kWh	3373 kWh

#### Colder Climate

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	233 %	183 %
Prated	12.90 kW	11.70 kW
SCOP	6.04	4.77
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	13.08 kW	12.36 kW
COP Tj = -7°C	5.95	4.35
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	13.08 kW	12.78 kW
COP Tj = +2°C	6.24	5.16
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	13.26 kW	13.08 kW
COP Tj = +7°C	6.45	5.88
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	13.28 kW	13.32 kW



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COP Tj = 12°C	6.35	6.43
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	12.90 kW	11.70 kW
COP Tj = Tbiv	5.49	3.41
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.90 kW	11.70 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.49	3.41
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	5269 kWh	6049 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
The state of the s	I .	