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Summary of	ADAPT 0416	Reg. No.	011-1W0517
Certificate Holder			
Name	KRONOTERM d.o.o.		
Address	Trnava 5e	Zip	3303
City	Gomilsko	Country	Slovenia
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH		
Subtype title	ADAPT 0416		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R452B		
Mass of Refrigerant	4.2 kg		
Certification Date	18.01.2022		
Testing basis	HP KEYMARK certification scheme rules rev. 9		

Model: ADAPT 0416-K3 HT / HK 1F

Configure model	
Model name	ADAPT 0416-K3 HT / HK 1F
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

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

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.48 kW	7.78 kW
El input	1.54 kW	2.44 kW
COP	5.60	3.20

Average Climate

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EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	46 dB(A)	46 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	197 %	144 %
Prated	11.10 kW	10.40 kW
SCOP	5.12	3.75
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	10.02 kW	9.23 kW
COP Tj = -7°C	3.30	2.41
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	6.29 kW	6.03 kW
COP Tj = +2°C	5.16	3.83
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	4.11 kW	3.72 kW
COP Tj = +7°C	6.51	4.47
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.93 kW	3.94 kW

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COP Tj = 12°C	7.43	5.62
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.12 kW	10.61 kW
COP Tj = Tbiv	2.99	1.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.12 kW	10.61 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.99	1.99
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	67 °C	67 °C
Poff	15 W	15 W
PTO	14 W	14 W
PSB	15 W	15 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	4475 kWh	5734 kWh

Model: ADAPT 0416-K3 HT / HK 1F + HYDRO C

Configure model	
Model name	ADAPT 0416-K3 HT / HK 1F + HYDRO C
Application	Heating + DHW
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

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

EN 14511-2	
	Medium temperature
Heat output	7.78 kW
El input	2.44 kW
COP	3.20

Average Climate

This information was generated by the HP KEYMARK database on 13 Apr 2022

EN 12102-1

	Medium temperature
Sound power level indoor	0 dB(A)
Sound power level outdoor	46 dB(A)

EN 14825

	Medium temperature
η_s	144 %
Prated	10.40 kW
SCOP	3.75
Tbiv	-10 °C
TOL	-10 °C
Pdh Tj = -7°C	9.23 kW
COP Tj = -7°C	2.41
Cdh Tj = -7 °C	0.900
Pdh Tj = +2°C	6.03 kW
COP Tj = +2°C	3.83
Cdh Tj = +2 °C	0.900
Pdh Tj = +7°C	3.72 kW
COP Tj = +7°C	4.47
Cdh Tj = +7 °C	0.900

This information was generated by the HP KEYMARK database on 13 Apr 2022

Pdh Tj = 12°C	3.94 kW
COP Tj = 12°C	5.62
Cdh Tj = +12 °C	0.900
Pdh Tj = Tbiv	10.61 kW
COP Tj = Tbiv	1.99
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.61 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.99
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900
WTOL	67 °C
Poff	15 W
PTO	14 W
PSB	15 W
PCK	14 W
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	0.00 kW
Annual energy consumption Qhe	5734 kWh

Domestic Hot Water (DHW)

Average Climate

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EN 16147	
Declared load profile	XL
Efficiency η_{DHW}	127 %
COP	3.02
Heating up time	1:24 h:min
Standby power input	54.4 W
Reference hot water temperature	52.3 °C
Mixed water at 40°C	236 l

Model: ADAPT 0416-K3 HT / HK 3F

Configure model	
Model name	ADAPT 0416-K3 HT / HK 3F
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.50 kW	7.81 kW
El input	1.53 kW	2.40 kW
COP	5.55	3.26

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

Average Climate

This information was generated by the HP KEYMARK database on 13 Apr 2022

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	46 dB(A)	46 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	201 %	142 %
Prated	11.00 kW	10.30 kW
SCOP	5.21	3.67
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.78 kW	9.07 kW
COP Tj = -7°C	3.39	2.46
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	6.22 kW	5.82 kW
COP Tj = +2°C	5.17	3.71
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	3.90 kW	3.57 kW
COP Tj = +7°C	6.65	4.50
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.91 kW	3.73 kW

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COP Tj = 12°C	7.71	5.29
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	10.99 kW	10.29 kW
COP Tj = Tbiv	3.11	2.04
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.99 kW	10.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.11	2.04
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.900	0.900
WTOL	67 °C	67 °C
Poff	12 W	12 W
PTO	12 W	12 W
PSB	12 W	12 W
PCK	12 W	12 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.01 kW	0.01 kW
Annual energy consumption Qhe	4365 kWh	5801 kWh

Model: ADAPT 0416-K3 HT / HK 3F + HYDRO C

Configure model	
Model name	ADAPT 0416-K3 HT / HK 3F + HYDRO C
Application	Heating + DHW
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2	
	Medium temperature
Heat output	7.81 kW
El input	2.40 kW
COP	3.26

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

Average Climate

This information was generated by the HP KEYMARK database on 13 Apr 2022

EN 14825

	Medium temperature
η_s	142 %
Prated	10.30 kW
SCOP	3.67
Tbiv	-10 °C
TOL	-10 °C
Pdh Tj = -7°C	9.07 kW
COP Tj = -7°C	2.46
Cdh Tj = -7 °C	0.900
Pdh Tj = +2°C	5.82 kW
COP Tj = +2°C	3.71
Cdh Tj = +2 °C	0.900
Pdh Tj = +7°C	3.57 kW
COP Tj = +7°C	4.50
Cdh Tj = +7 °C	0.900
Pdh Tj = 12°C	3.73 kW
COP Tj = 12°C	5.29
Cdh Tj = +12 °C	0.900
Pdh Tj = Tbiv	10.29 kW
COP Tj = Tbiv	2.04

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$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	10.29 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	2.04
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.900
WTOL	67 °C
Poff	12 W
PTO	12 W
PSB	12 W
PCK	12 W
Supplementary Heater: Type of energy input	Electricity
Supplementary Heater: PSUP	0.01 kW
Annual energy consumption Q_{he}	5801 kWh

EN 12102-1	
	Medium temperature
Sound power level indoor	0 dB(A)
Sound power level outdoor	46 dB(A)

Domestic Hot Water (DHW)

Average Climate

This information was generated by the HP KEYMARK database on 13 Apr 2022

EN 16147	
Declared load profile	XL
Efficiency η_{DHW}	131 %
COP	3.12
Heating up time	1:24 h:min
Standby power input	51.2 W
Reference hot water temperature	52.2 °C
Mixed water at 40°C	238 l