Subtype Hydro 12, Hydro 16

Certificate Holder	Alpha Therm Ltd.
Address	Nepicar House, London Road
ZIP	TN15 7RS
City	Kent
Country	GB
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	Hydro 12, Hydro 16
Registration number	011-1W0591
Heat Pump Type	Outdoor Air/Water
Refrigerant	R32
Mass of Refrigerant	2.2 kg
Certification Date	14.04.2023
Testing basis	HP KEYMARK certification scheme rules V11

Model Hydro 12	
Model name	Hydro 12
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water EN 16147 | Average Climate	
Declared load profile	L
Efficiency ηDHW	110 %
COP	2.72
Heating up time	1:30 h:min
Standby power input	62.0 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	206 l

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

EN 14511-2 | Heating	Low temperature	Medium temperature
Heat output	12.00 kW	11.30 kW
El input	2.65 kW	3.73 kW
COP	4.53	3.03

EN 12102-1 | Average Climate	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	64 dB(A)	64 dB(A)

EN 14825 | Average Climate	Low temperature	Medium temperature
ηs	185 %	138 %

Prated	13.00 kW	12.00 kW
SCOP	4.69	3.51
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.50 kW	10.60 kW
COP Tj = -7°C	2.71	2.16
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	7.00 kW	6.50 kW
COP Tj = +2°C	4.48	3.45
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.60 kW	4.20 kW
COP Tj = +7°C	6.86	4.57
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	4.80 kW	4.40 kW
COP Tj = 12°C	8.95	6.12
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	11.50 kW	10.60 kW
COP Tj = Tbiv	2.71	2.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.00 kW	12.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.37	1.96
WTOL	65 °C	65 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 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	5725 kWh	7051 kWh

Model Hydro 16	
Model name	Hydro 16
Application	Heating + DHW + low temp
Units	Indoor, Outdoor
Climate zone (for heating)	n/a
Reversibility	Yes
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data	
Power supply	1x230V 50Hz
Off-peak product	n/a

Outdoor Air/Water	
EN 16147 | Average Climate	
Declared load profile	L
Efficiency ηDHW	110 %
COP	2.72
Heating up time	1:30 h:min
Standby power input	62.0 W
Reference hot water temperature	52.1 °C
Mixed water at 40°C	206 l

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

EN 14511-2 | Heating		
	Low temperature	Medium temperature
Heat output	16.00 kW	15.00 kW
El input	3.62 kW	5.18 kW
COP	4.42	2.90

EN 12102-1 | Average Climate		
	Low temperature	Medium temperature
Sound power level indoor	44 dB(A)	44 dB(A)
Sound power level outdoor	66 dB(A)	66 dB(A)

EN 14825 | Average Climate		
	Low temperature	Medium temperature
ηs	176 %	138 %

Prated	16.00 kW	16.00 kW
SCOP	4.48	3.53
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	14.15 kW	14.15 kW
COP Tj = -7°C	2.65	2.06
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	8.62 kW	8.62 kW
COP Tj = +2°C	4.11	3.31
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	5.54 kW	5.54 kW
COP Tj = +7°C	6.86	5.23
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	5.20 kW	4.49 kW
COP Tj = 12°C	8.81	6.35
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	14.15 kW	14.15 kW
COP Tj = Tbiv	2.65	2.06
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.80 kW	14.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.37	1.82
WTOL	65 °C	65 °C
Poff	22 W	22 W
PTO	22 W	22 W
PSB	22 W	22 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.20 kW	2.00 kW
Annual energy consumption Qhe	7385 kWh	9379 kWh