Subtype ATHENA 18 400V H

Certificate Holder	Thermia
Address	Snickaregatan 1
ZIP	
City	Arvika
Country	SE
Certification Body	DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Subtype title	ATHENA 18 400V H
Registration number	011-1W0812
Heat Pump Type	Outdoor Air/Water
Refrigerant	R410A
Mass of Refrigerant	4.7 kg
Certification Date	11.08.2016
Testing basis	HP KEYMARK certification scheme rules V14

Model ATHENA 18 400V H

Model name	ATHENA 18 400V H
Application	Heating (medium temp)
Units	Outdoor
Climate zone (for heating)	Warmer Climate, Colder Climate
Cooling mode application (optional)	n/a
Any additional heat sources	n/a

General data

Power supply	3x400V 50Hz
Off-peak product	n/a

Outdoor Air/Water

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	7.84 kW	7.36 kW
El input	1.54 kW	2.33 kW
COP	5.09	3.16

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level outdoor	55 dB(A)	55 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	182 %	141 %
Prated	15.00 kW	15.00 kW
SCOP	4.63	3.59
Tbiv	-5 °C	-5 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.80 kW	13.26 kW
COP Tj = -7°C	2.98	2.48
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	8.30 kW	8.40 kW
COP Tj = +2°C	4.72	3.51
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	8.00 kW	7.80 kW
COP Tj = +7°C	6.16	4.61

Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	9.10 kW	9.00 kW
COP Tj = 12°C	8.11	6.66
Cdh Tj = +12 °C	1.000	1.000
Pdh Tj = Tbiv	11.80 kW	12.50 kW
COP Tj = Tbiv	3.16	2.59
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.60 kW	13.40 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.87	2.28
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	65 °C	65 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.40 kW	1.60 kW
Annual energy consumption Qhe	6689 kWh	8620 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	159 %	130 %
Prated	21.00 kW	22.00 kW
SCOP	4.05	3.33
Tbiv	-10 °C	-10 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	12.60 kW	13.30 kW
COP Tj = -7°C	3.13	2.67
Cdh Tj = -7 °C	1.00	1.00
Pdh Tj = +2°C	8.30 kW	8.30 kW
COP Tj = +2°C	5.15	3.92
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	8.00 kW	7.90 kW
COP Tj = +7°C	6.57	5.12
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	9.10 kW	9.00 kW
COP Tj = 12°C	8.11	6.95
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	14.10 kW	15.20 kW
COP Tj = Tbiv	2.90	2.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.70 kW	18.30 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.66	2.37

WTOL	65 °C	65 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	20.59 kW	22.15 kW
Annual energy consumption Qhe	12796 kWh	16285 kWh
Pdh Tj = -15°C (if TOL	16.70	18.30
COP Tj = -15°C (if TOL	2.66	2.37
Cdh Tj = -15 °C	1.00	1.00

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	219 %	163 %
Prated	8.00 kW	8.00 kW
SCOP	5.54	4.14
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	8.30 kW	8.40 kW
COP Tj = +2°C	4.14	2.74
Cdh Tj = +2 °C	1.00	1.00
Pdh Tj = +7°C	7.90 kW	7.50 kW
COP Tj = +7°C	5.47	3.64
Cdh Tj = +7 °C	1.00	1.00
Pdh Tj = 12°C	9.10 kW	9.00 kW
COP Tj = 12°C	7.72	6.11
Cdh Tj = +12 °C	1.00	1.00
Pdh Tj = Tbiv	8.30 kW	8.40 kW
COP Tj = Tbiv	4.14	2.74
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.90 kW	18.80 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.61	2.31
WTOL	65 °C	65 °C
Poff	10 W	10 W
PTO	10 W	10 W
PSB	10 W	10 W
PCK	38 W	38 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	1930 kWh	2581 kWh