Subtype Thermia Legend 13

Certificate Holder	Thermia
Address	Snickaregatan 1
ZIP	
City	Arvika
Country	SE
Certification Body	RISE CERT
Subtype title	Thermia Legend 13
Registration number	012-C700139
Heat Pump Type	Brine/Water and Water/Water
Refrigerant	R452B
Mass of Refrigerant	1 kg
Certification Date	25.10.2022
Testing basis	EN 14511:2018, EN 14825:2018, EN 12102:2017.
Testing laboratory	RISE Research Institutes of Sweden

Model Thermia Legend 13 Duo 400V	
Model name	Thermia Legend 13 Duo 400V
Application	Heating (medium temp)
Units	Indoor
Climate zone (for heating)	Colder, Warmer, 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	Yes

Brine/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	12.42 kW	11.85 kW
El input	2.75 kW	3.93 kW
COP	4.52	3.01

EN 12102-1 | Average Climate

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	46 dB(A)

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	190 %	142 %
Prated	13.51 kW	14.79 kW
SCOP	4.94	3.74
Tbiv	-8 °C	-5 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	12.49 kW	11.90 kW
COP Tj = -7°C	4.64	3.22
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	12.75 kW	12.06 kW
COP Tj = +2°C	4.92	3.76
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	12.94 kW	12.17 kW
COP Tj = +7°C	5.22	4.10
Cdh Tj = +7 °C	0.996	0.997

Pdh Tj = 12°C	13.00 kW	12.40 kW
COP Tj = 12°C	5.46	4.53
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	12.47 kW	11.94 kW
COP Tj = Tbiv	4.59	3.38
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.42 kW	11.85 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.52	3.03
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	6 W	6 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	1.09 kW	2.94 kW
Annual energy consumption Qhe	5650 kWh	8167 kWh

EN 12102-1 | Colder Climate

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	46 dB(A)

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	196 %	145 %
Prated	14.56 kW	14.18 kW
SCOP	5.09	3.83
Tbiv	-17 °C	-16 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	12.83 kW	12.02 kW
COP Tj = -7°C	5.02	3.63
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	12.95 kW	12.14 kW
COP Tj = +2°C	5.25	4.02
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	12.98 kW	12.32 kW
COP Tj = +7°C	5.40	4.39
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	12.99 kW	12.49 kW
COP Tj = 12°C	5.44	4.70
Cdh Tj = +12 °C	0.996	0.996
Pdh Tj = Tbiv	12.65 kW	11.94 kW
COP Tj = Tbiv	4.81	3.37

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.42 kW	11.85 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.52	3.03
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	6 W	6 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	2.14 kW	2.33 kW
Annual energy consumption Qhe	7049 kWh	9120 kWh

EN 12102-1 | Warmer Climate

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	46 dB(A)

EN 14825 | Warmer Climate

	Low temperature	Medium temperature
ηs	192 %	143 %
Prated	14.67 kW	13.90 kW
SCOP	5.00	3.76
Tbiv	4 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.42 kW	11.85 kW
COP Tj = +2°C	4.52	3.03
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	12.73 kW	11.98 kW
COP Tj = +7°C	4.90	3.50
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	12.96 kW	12.22 kW
COP Tj = 12°C	5.31	4.22
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	12.57 kW	11.91 kW
COP Tj = Tbiv	4.73	3.26
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.42 kW	11.85 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.52	3.03
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.998
WTOL	65 °C	65 °C
Poff	6 W	6 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	2.25 kW	2.05 kW
Annual energy consumption Qhe	3922 kWh	4932 kWh

Water/Water

EN 14511-4 | Heating

Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Starting and operating test	passed

EN 14511-2 | Heating

	Low temperature	Medium temperature
Heat output	16.19 kW	15.12 kW
El input	2.81 kW	4.05 kW
COP	5.76	3.73

EN 14825 | Average Climate

	Low temperature	Medium temperature
ηs	240 %	183 %
Prated	16.92 kW	18.30 kW
SCOP	6.20	4.78
Tbiv	-9 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	16.29 kW	15.38 kW
COP Tj = -7°C	5.91	4.02
Cdh Tj = -7 °C	0.997	0.998
Pdh Tj = +2°C	16.40 kW	15.88 kW
COP Tj = +2°C	6.17	4.79
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	16.49 kW	16.11 kW
COP Tj = +7°C	6.47	5.31
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	16.50 kW	16.32 kW
COP Tj = 12°C	6.76	5.90
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	16.27 kW	15.48 kW
COP Tj = Tbiv	5.82	4.14
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.26 kW	15.12 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.78	3.73

Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	6 W	6 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	0.66 kW	3.18 kW
Annual energy consumption Qhe	5640 kWh	7910 kWh

EN 14825 | Colder Climate

	Low temperature	Medium temperature
ηs	246 %	189 %
Prated	18.25 kW	17.85 kW
SCOP	6.35	4.92
Tbiv	-18 °C	-17 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	16.44 kW	15.78 kW
COP Tj = -7°C	6.26	4.61
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	16.49 kW	16.06 kW
COP Tj = +2°C	6.51	5.19
Cdh Tj = +2 °C	0.996	0.997
Pdh Tj = +7°C	16.50 kW	16.26 kW
COP Tj = +7°C	6.69	5.71
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	16.50 kW	16.40 kW
COP Tj = 12°C	6.73	6.14
Cdh Tj = +12 °C	0.996	0.996
Pdh Tj = Tbiv	16.33 kW	15.50 kW
COP Tj = Tbiv	6.02	4.16
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.26 kW	15.12 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.78	3.73
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	6 W	6 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	1.99 kW	2.73 kW

Annual energy consumption Qhe	7088 kWh	8942 kWh

EN 14825 | Warmer Climate		
	Low temperature	Medium temperature
ηs	242 %	185 %
Prated	17.53 kW	18.01 kW
SCOP	6.25	4.82
Tbiv	3 °C	4 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	16.26 kW	15.12 kW
COP Tj = +2°C	5.78	3.73
Cdh Tj = +2 °C	0.997	0.998
Pdh Tj = +7°C	16.38 kW	15.69 kW
COP Tj = +7°C	6.12	4.44
Cdh Tj = +7 °C	0.996	0.997
Pdh Tj = 12°C	16.50 kW	16.18 kW
COP Tj = 12°C	6.58	5.50
Cdh Tj = +12 °C	0.996	0.997
Pdh Tj = Tbiv	16.28 kW	15.44 kW
COP Tj = Tbiv	5.89	4.08
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	16.26 kW	15.12 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	5.78	3.73
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.997	0.998
WTOL	65 °C	65 °C
Poff	6 W	6 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	1.27 kW	2.89 kW
Annual energy consumption Qhe	3749 kWh	4991 kWh