

Subtype Thermia Mega M 400V 2020

Certificate Holder	Thermia
Address	Snickaregatan 1
ZIP	
City	Arvika
Country	SE
Certification Body	RISE CERT
Subtype title	Thermia Mega M 400V 2020
Registration number	012-C700285
Heat Pump Type	Brine/Water and Water/Water
Refrigerant	R410A
Mass of Refrigerant	4.4 kg
Certification Date	15.11.2024
Testing basis	EN 14511:2018, EN 14825:2016, EN 12102:2017
Testing laboratory	RISE Research Institutes of Sweden

**Model Thermia Mega M 2020**

Model name	Thermia Mega M 2020
Application	Heating (medium temp)
Units	Indoor
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

**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	26.71 kW	22.39 kW
El input	5.81 kW	7.52 kW
COP	4.60	2.98

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	218 %	168 %
Prated	38.06 kW	35.62 kW
SCOP	5.65	4.39
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	33.67 kW	31.51 kW
COP Tj = -7°C	4.56	3.21
Pdh Tj = +2°C	20.49 kW	19.18 kW
COP Tj = +2°C	5.68	4.39
Pdh Tj = +7°C	13.18 kW	12.33 kW
COP Tj = +7°C	6.28	5.16
Pdh Tj = 12°C	12.70 kW	12.57 kW
COP Tj = 12°C	6.31	5.34
Pdh Tj = Tbiv	38.06 kW	35.62 kW

COP Tj = Tbiv	4.29	2.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	38.06 kW	35.62 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.29	2.95
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	0.99
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	13917 kWh	16768 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
ηs	226 %	174 %
Prated	38.06 kW	35.62 kW
SCOP	5.86	4.55
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	23.04 kW	21.56 kW
COP Tj = -7°C	5.57	4.12
Pdh Tj = +2°C	14.02 kW	13.12 kW
COP Tj = +2°C	6.27	5.02
Pdh Tj = +7°C	12.71 kW	12.56 kW
COP Tj = +7°C	6.35	5.32
Pdh Tj = 12°C	12.70 kW	12.65 kW
COP Tj = 12°C	6.19	5.49
Pdh Tj = Tbiv	38.06 kW	35.62 kW
COP Tj = Tbiv	4.29	2.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	38.06 kW	35.62 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.29	2.95
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	0.99
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	7 W	7 W

PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	16014 kWh	19290 kWh

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)

**EN 14825 | Warmer Climate**

	Low temperature	Medium temperature
$\eta_s$	220 %	167 %
Prated	38.06 kW	35.62 kW
SCOP	5.70	4.38
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	38.06 kW	35.62 kW
COP Tj = +2°C	4.29	2.95
Pdh Tj = +7°C	24.47 kW	22.90 kW
COP Tj = +7°C	5.35	3.89
Pdh Tj = 12°C	12.71 kW	12.48 kW
COP Tj = 12°C	6.31	5.17
Pdh Tj = Tbiv	38.06 kW	35.62 kW
COP Tj = Tbiv	4.29	2.95
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	38.06 kW	35.62 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.29	2.95
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	0.99
WTOL	65 °C	65 °C
Poff	7 W	7 W
PTO	7 W	7 W
PSB	7 W	7 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	8920 kWh	10862 kWh

**Water/Water****EN 14511-4 | Heating**

Shutting off the heat transfer medium flow passed

Complete power supply failure      passed

**EN 14511-2 | Heating**

	Low temperature	Medium temperature
Heat output	30.84 kW	42.37 kW
El input	4.88 kW	11.23 kW
COP	6.31	3.77

**EN 12102-1 | Average Climate**

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)

**EN 14825 | Average Climate**

	Low temperature	Medium temperature
$\eta_s$	315 %	214 %
Prated	52.17 kW	53.25 kW
SCOP	8.08	5.54
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	46.15 kW	47.11 kW
COP Tj = -7°C	5.81	3.83
Cdh Tj = -7 °C	1.000	1.000
Pdh Tj = +2°C	28.09 kW	28.67 kW
COP Tj = +2°C	7.97	5.43
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	18.06 kW	18.43 kW
COP Tj = +7°C	9.93	6.88
Cdh Tj = +7 °C	0.990	1.000
Pdh Tj = 12°C	15.60 kW	15.43 kW
COP Tj = 12°C	10.39	7.59
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	52.17 kW	53.25 kW
COP Tj = Tbiv	4.19	3.25
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	52.17 kW	53.25 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.19	3.25
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	12 W	12 W
PSB	12 W	12 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	13342 kWh	19861 kWh

**EN 12102-1 | Colder Climate**

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)

**EN 14825 | Colder Climate**

	Low temperature	Medium temperature
$\eta_s$	334 %	225 %
P <sub>rated</sub>	52.17 kW	53.25 kW
SCOP	8.55	5.81
T <sub>biv</sub>	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	31.57 kW	32.23 kW
COP T <sub>j</sub> = -7°C	7.69	5.03
C <sub>dh</sub> T <sub>j</sub> = -7 °C	1.000	1.000
P <sub>dh</sub> T <sub>j</sub> = +2°C	19.22 kW	19.62 kW
COP T <sub>j</sub> = +2°C	9.86	6.61
C <sub>dh</sub> T <sub>j</sub> = +2 °C	0.990	1.000
P <sub>dh</sub> T <sub>j</sub> = +7°C	15.62 kW	15.45 kW
COP T <sub>j</sub> = +7°C	10.62	7.68
C <sub>dh</sub> T <sub>j</sub> = +7 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = 12°C	15.54 kW	15.47 kW
COP T <sub>j</sub> = 12°C	9.93	7.81
C <sub>dh</sub> T <sub>j</sub> = +12 °C	0.990	0.990
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	52.17 kW	53.25 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.19	3.25
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	52.17 kW	53.25 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	4.19	3.25
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	1.000	1.000
WTOL	65 °C	65 °C
P <sub>off</sub>	12 W	12 W
PTO	12 W	12 W
PSB	12 W	12 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	15035 kWh	22576 kWh
P <sub>dh</sub> T <sub>j</sub> = -15°C (if TOL)	25.16	34.57
COP T <sub>j</sub> = -15°C (if TOL)	7.15	4.59
C <sub>dh</sub> T <sub>j</sub> = -15 °C	1.00	1.00

**EN 12102-1 | Warmer Climate**

	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)
<b>EN 14825   Warmer Climate</b>		
	Low temperature	Medium temperature
ηs	327 %	220 %
Prated	52.17 kW	53.25 kW
SCOP	8.37	5.69
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	52.17 kW	53.25 kW
COP Tj = +2°C	4.19	3.25
Cdh Tj = +2 °C	1.000	1.000
Pdh Tj = +7°C	33.54 kW	34.23 kW
COP Tj = +7°C	7.30	4.71
Cdh Tj = +7 °C	1.000	1.000
Pdh Tj = 12°C	14.90 kW	15.21 kW
COP Tj = 12°C	10.66	7.43
Cdh Tj = +12 °C	0.990	0.990
Pdh Tj = Tbiv	52.17 kW	53.25 kW
COP Tj = Tbiv	4.19	3.25
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	52.17 kW	53.25 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.19	3.25
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.000	1.000
WTOL	65 °C	65 °C
Poff	12 W	12 W
PTO	12 W	12 W
PSB	12 W	12 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	8327 kWh	12498 kWh