

This information was generated by the HP KEYMARK database on 18 Mar 2022

[Login](#)

Summary of	Mega M	Reg. No.	012-SC0835-18
Certificate Holder			
Name	Thermia		
Address	Snickaregatan 1	Zip	
City	Arvika	Country	Sweden
Certification Body	RISE CERT		
Subtype title	Mega M		
Heat Pump Type	Brine/Water and Water/Water		
Refrigerant	R410A		
Mass of Refrigerant	4.4 kg		
Certification Date	10.04.2019		

Model: Thermia Mega M 2020

Configure model	
Model name	Thermia Mega M 2020
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Brine/Water Heat Pump

Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2		
	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

Average Climate

This information was generated by the HP KEYMARK database on 18 Mar 2022

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 18 Mar 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	38.06 kW	35.62 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.29	2.95
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	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 Q_{he}	13917 kWh	16768 kWh

Warmer Climate

EN 12102-1		
	Medium temperature	Low temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	220 %	167 %
Prated	38.06 kW	35.62 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

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

This information was generated by the HP KEYMARK database on 18 Mar 2022

Annual energy consumption Q _{he}	8920 kWh	10862 kWh
---	----------	-----------

Colder Climate

EN 12102-1		
	Medium temperature	Low temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	226 %	174 %
Prated	38.06 kW	35.62 kW
SCOP	5.86	4.55
T _{biv}	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	23.04 kW	21.56 kW
COP T _j = -7°C	5.57	4.12
P _{dh} T _j = +2°C	14.02 kW	13.12 kW
COP T _j = +2°C	6.27	5.02
P _{dh} T _j = +7°C	12.71 kW	12.56 kW
COP T _j = +7°C	6.35	5.32
P _{dh} T _j = 12°C	12.70 kW	12.65 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

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

Water/Water Heat Pump

Heating

EN 14511-4

Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2

	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

Warmer Climate

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	307 %	220 %
Prated	30.84 kW	42.37 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

SCOP	7.87	5.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	30.84 kW	42.37 kW
COP Tj = +2°C	6.32	3.77
Pdh Tj = +7°C	19.83 kW	27.24 kW
COP Tj = +7°C	7.73	5.08
Pdh Tj = 12°C	16.43 kW	16.23 kW
COP Tj = 12°C	8.44	6.76
Pdh Tj = Tbiv	30.84 kW	42.37 kW
COP Tj = Tbiv	6.32	3.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	30.84 kW	42.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.32	3.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

Annual energy consumption Q_{he}	5238 kWh	9936 kWh
------------------------------------	----------	----------

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	315 %	230 %
Prated	30.84 kW	42.37 kW
SCOP	8.07	5.94
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	18.67 kW	25.65 kW
COP Tj = -7°C	7.98	5.40
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	16.42 kW	15.61 kW
COP Tj = +2°C	8.39	6.56
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	16.45 kW	16.33 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = +7°C	8.57	6.96
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	16.44 kW	16.45 kW
COP Tj = 12°C	8.51	7.22
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	30.84 kW	42.37 kW
COP Tj = Tbiv	6.32	3.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	30.84 kW	42.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.32	3.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	9416 kWh	17581 kWh
Pdh Tj = -15°C (if TOL<-20°C)	25.16	34.57
COP Tj = -15°C (if TOL<-20°C)	7.15	4.59
Cdh Tj = -15 °C	1.00	1.00

Average Climate

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	306 %	221 %
Prated	30.84 kW	42.37 kW
SCOP	7.86	5.72
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	27.28 kW	37.48 kW
COP Tj = -7°C	6.72	4.10
Pdh Tj = +2°C	16.61 kW	22.82 kW
COP Tj = +2°C	8.06	5.73
Pdh Tj = +7°C	16.41 kW	14.67 kW
COP Tj = +7°C	8.34	6.82
Pdh Tj = 12°C	16.46 kW	16.36 kW
COP Tj = 12°C	8.62	7.01
Pdh Tj = Tbiv	30.84 kW	42.37 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

COP $T_j = T_{biv}$	6.32	3.77
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	30.84 kW	42.37 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	6.32	3.77
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q_{he}	8104 kWh	15309 kWh

Model: Thermia Mega M

Configure model	
Model name	Thermia Mega M
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Brine/Water Heat Pump

Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2		
	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

Average Climate

This information was generated by the HP KEYMARK database on 18 Mar 2022

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 18 Mar 2022

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

Warmer Climate

EN 12102-1		
	Medium temperature	Low temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	220 %	167 %
Prated	38.06 kW	35.62 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

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

This information was generated by the HP KEYMARK database on 18 Mar 2022

Annual energy consumption Q _{he}	8920 kWh	10862 kWh
---	----------	-----------

Colder Climate

EN 12102-1		
	Medium temperature	Low temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	226 %	174 %
Prated	38.06 kW	35.62 kW
SCOP	5.86	4.55
T _{biv}	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	23.04 kW	21.56 kW
COP T _j = -7°C	5.57	4.12
P _{dh} T _j = +2°C	14.02 kW	13.12 kW
COP T _j = +2°C	6.27	5.02
P _{dh} T _j = +7°C	12.71 kW	12.56 kW
COP T _j = +7°C	6.35	5.32
P _{dh} T _j = 12°C	12.70 kW	12.65 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

COP $T_j = 12^{\circ}\text{C}$	6.19	5.49
P _{dh} $T_j = T_{biv}$	38.06 kW	35.62 kW
COP $T_j = T_{biv}$	4.29	2.95
P _{dh} $T_j = TOL$ or P _{dh} $T_j = T_{designh}$ if $TOL < T_{designh}$	38.06 kW	35.62 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	4.29	2.95
C _{dh} $T_j = TOL$ or P _{dh} $T_j = T_{designh}$ if $TOL < T_{designh}$	1.00	0.99
WTOL	65 °C	65 °C
P _{off}	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 Q _{he}	16014 kWh	19290 kWh

Water/Water Heat Pump

Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2		
	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

Warmer Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	307 %	220 %
Prated	30.84 kW	42.37 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

SCOP	7.87	5.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	30.84 kW	42.37 kW
COP Tj = +2°C	6.32	3.77
Pdh Tj = +7°C	19.83 kW	27.24 kW
COP Tj = +7°C	7.73	5.08
Pdh Tj = 12°C	16.43 kW	16.23 kW
COP Tj = 12°C	8.44	6.76
Pdh Tj = Tbiv	30.84 kW	42.37 kW
COP Tj = Tbiv	6.32	3.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	30.84 kW	42.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.32	3.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

Annual energy consumption Q_{he}	5238 kWh	9936 kWh
------------------------------------	----------	----------

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	315 %	230 %
Prated	30.84 kW	42.37 kW
SCOP	8.07	5.94
Tbiv	-22 °C	-22 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	18.67 kW	25.65 kW
COP Tj = -7°C	7.98	5.40
Cdh Tj = -7 °C	0.99	1.00
Pdh Tj = +2°C	16.42 kW	15.61 kW
COP Tj = +2°C	8.39	6.56
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	16.45 kW	16.33 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = +7°C	8.57	6.96
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	16.44 kW	16.45 kW
COP Tj = 12°C	8.51	7.22
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	30.84 kW	42.37 kW
COP Tj = Tbiv	6.32	3.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	30.84 kW	42.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.32	3.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	9416 kWh	17581 kWh
Pdh Tj = -15°C (if TOL<-20°C)	25.16	34.57
COP Tj = -15°C (if TOL<-20°C)	7.15	4.59
Cdh Tj = -15 °C	1.00	1.00

Average Climate

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	306 %	221 %
Prated	30.84 kW	42.37 kW
SCOP	7.86	5.72
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	27.28 kW	37.48 kW
COP Tj = -7°C	6.72	4.10
Pdh Tj = +2°C	16.61 kW	22.82 kW
COP Tj = +2°C	8.06	5.73
Pdh Tj = +7°C	16.41 kW	14.67 kW
COP Tj = +7°C	8.34	6.82
Pdh Tj = 12°C	16.46 kW	16.36 kW
COP Tj = 12°C	8.62	7.01
Pdh Tj = Tbiv	30.84 kW	42.37 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

COP $T_j = T_{biv}$	6.32	3.77
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	30.84 kW	42.37 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	6.32	3.77
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q_{he}	8104 kWh	15309 kWh

Model: Thermia Mega M 230

Configure model	
Model name	Thermia Mega M 230
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

Brine/Water Heat Pump

Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2		
	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

Average Climate

This information was generated by the HP KEYMARK database on 18 Mar 2022

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 18 Mar 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	38.06 kW	35.62 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.29	2.95
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	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 Q_{he}	13917 kWh	16768 kWh

Warmer Climate

EN 12102-1		
	Medium temperature	Low temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	220 %	167 %
Prated	38.06 kW	35.62 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

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

This information was generated by the HP KEYMARK database on 18 Mar 2022

Annual energy consumption Q_{he}	8920 kWh	10862 kWh
------------------------------------	----------	-----------

Colder Climate

EN 12102-1		
	Medium temperature	Low temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	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

This information was generated by the HP KEYMARK database on 18 Mar 2022

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

Water/Water Heat Pump

Heating

EN 14511-4

Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2

	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

Warmer Climate

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	307 %	220 %
Prated	30.84 kW	42.37 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

SCOP	7.87	5.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	30.84 kW	42.37 kW
COP Tj = +2°C	6.32	3.77
Pdh Tj = +7°C	19.83 kW	27.24 kW
COP Tj = +7°C	7.73	5.08
Pdh Tj = 12°C	16.43 kW	16.23 kW
COP Tj = 12°C	8.44	6.76
Pdh Tj = Tbiv	30.84 kW	42.37 kW
COP Tj = Tbiv	6.32	3.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	30.84 kW	42.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.32	3.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

Annual energy consumption Q _{he}	5238 kWh	9936 kWh
---	----------	----------

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	315 %	230 %
Prated	30.84 kW	42.37 kW
SCOP	8.07	5.94
T _{biv}	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	18.67 kW	25.65 kW
COP T _j = -7°C	7.98	5.40
C _{dh} T _j = -7 °C	0.99	1.00
P _{dh} T _j = +2°C	16.42 kW	15.61 kW
COP T _j = +2°C	8.39	6.56
C _{dh} T _j = +2 °C	0.99	0.99
P _{dh} T _j = +7°C	16.45 kW	16.33 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = +7°C	8.57	6.96
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	16.44 kW	16.45 kW
COP Tj = 12°C	8.51	7.22
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	30.84 kW	42.37 kW
COP Tj = Tbiv	6.32	3.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	30.84 kW	42.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.32	3.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	9416 kWh	17581 kWh
Pdh Tj = -15°C (if TOL<-20°C)	25.16	34.57
COP Tj = -15°C (if TOL<-20°C)	7.15	4.59
Cdh Tj = -15 °C	1.00	1.00

Average Climate

EN 12102-1		
	Medium temperature	Low temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	306 %	221 %
Prated	30.84 kW	42.37 kW
SCOP	7.86	5.72
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	27.28 kW	37.48 kW
COP Tj = -7°C	6.72	4.10
Pdh Tj = +2°C	16.61 kW	22.82 kW
COP Tj = +2°C	8.06	5.73
Pdh Tj = +7°C	16.41 kW	14.67 kW
COP Tj = +7°C	8.34	6.82
Pdh Tj = 12°C	16.46 kW	16.36 kW
COP Tj = 12°C	8.62	7.01
Pdh Tj = Tbiv	30.84 kW	42.37 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

COP $T_j = T_{biv}$	6.32	3.77
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	30.84 kW	42.37 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	6.32	3.77
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q_{he}	8104 kWh	15309 kWh

Model: Thermia Mega M 3-230 2020

Configure model	
Model name	Thermia Mega M 3-230 2020
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

Brine/Water Heat Pump

Heating

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2		
	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

Average Climate

This information was generated by the HP KEYMARK database on 18 Mar 2022

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_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

This information was generated by the HP KEYMARK database on 18 Mar 2022

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

Warmer Climate

EN 12102-1		
	Medium temperature	Low temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	220 %	167 %
Prated	38.06 kW	35.62 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

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

This information was generated by the HP KEYMARK database on 18 Mar 2022

Annual energy consumption Q_{he}	8920 kWh	10862 kWh
------------------------------------	----------	-----------

Colder Climate

EN 12102-1		
	Medium temperature	Low temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	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

This information was generated by the HP KEYMARK database on 18 Mar 2022

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

Water/Water Heat Pump

Heating

EN 14511-4

Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

EN 14511-2

	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

Warmer Climate

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	307 %	220 %
Prated	30.84 kW	42.37 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

SCOP	7.87	5.70
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	30.84 kW	42.37 kW
COP Tj = +2°C	6.32	3.77
Pdh Tj = +7°C	19.83 kW	27.24 kW
COP Tj = +7°C	7.73	5.08
Pdh Tj = 12°C	16.43 kW	16.23 kW
COP Tj = 12°C	8.44	6.76
Pdh Tj = Tbiv	30.84 kW	42.37 kW
COP Tj = Tbiv	6.32	3.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	30.84 kW	42.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.32	3.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

Annual energy consumption Q _{he}	5238 kWh	9936 kWh
---	----------	----------

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	48 dB(A)	50 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	315 %	230 %
Prated	30.84 kW	42.37 kW
SCOP	8.07	5.94
T _{biv}	-22 °C	-22 °C
TOL	-22 °C	-22 °C
P _{dh} T _j = -7°C	18.67 kW	25.65 kW
COP T _j = -7°C	7.98	5.40
C _{dh} T _j = -7 °C	0.99	1.00
P _{dh} T _j = +2°C	16.42 kW	15.61 kW
COP T _j = +2°C	8.39	6.56
C _{dh} T _j = +2 °C	0.99	0.99
P _{dh} T _j = +7°C	16.45 kW	16.33 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

COP Tj = +7°C	8.57	6.96
Cdh Tj = +7 °C	0.99	0.99
Pdh Tj = 12°C	16.44 kW	16.45 kW
COP Tj = 12°C	8.51	7.22
Cdh Tj = +12 °C	0.99	0.99
Pdh Tj = Tbiv	30.84 kW	42.37 kW
COP Tj = Tbiv	6.32	3.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	30.84 kW	42.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	6.32	3.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	9416 kWh	17581 kWh
Pdh Tj = -15°C (if TOL<-20°C)	25.16	34.57
COP Tj = -15°C (if TOL<-20°C)	7.15	4.59
Cdh Tj = -15 °C	1.00	1.00

Average Climate

EN 12102-1

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

EN 14825

	Low temperature	Medium temperature
η_s	306 %	221 %
Prated	30.84 kW	42.37 kW
SCOP	7.86	5.72
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	27.28 kW	37.48 kW
COP Tj = -7°C	6.72	4.10
Pdh Tj = +2°C	16.61 kW	22.82 kW
COP Tj = +2°C	8.06	5.73
Pdh Tj = +7°C	16.41 kW	14.67 kW
COP Tj = +7°C	8.34	6.82
Pdh Tj = 12°C	16.46 kW	16.36 kW
COP Tj = 12°C	8.62	7.01
Pdh Tj = Tbiv	30.84 kW	42.37 kW

This information was generated by the HP KEYMARK database on 18 Mar 2022

COP $T_j = T_{biv}$	6.32	3.77
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	30.84 kW	42.37 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	6.32	3.77
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	1.00	1.00
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	n/a	n/a
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q_{he}	8104 kWh	15309 kWh