

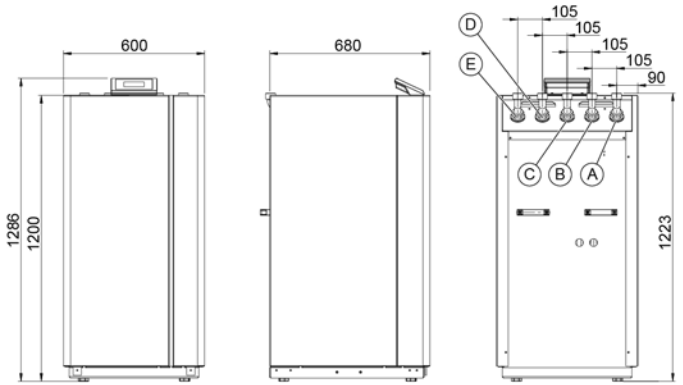
# TERRA 14 HPLA

## MONOVALENT HEATING SYSTEM WITH BRINE AS HEAT SOURCE

ORDER NUMBER: 265040

SERIES: M2

TF MAX. 65 °C



(A) FLHC (outlet) (B) FLT (outlet) (C) RTN (inlet) (D) WQA (outlet) (E) WQA (inlet)

### APPLIANCE DATA

Dimensions HxWxD	[mm]	1285x600x681
Hydraulic connection	[inch]	1 1/4"
Weight	[kg]	230
Casing colour		White/anthracite

### SPECIFICATION

Phases/nominal voltage/frequency	[~]/[V]/[Hz]	3/400/50
Output factor cos φ		0,84
Fuse protection (tripping curve "C")	[A]	16
Max. operating current	[A]	9,70
Max. starting current/max. with soft start	[A]	60.00 / 30.00
Sound power/sound pressure level (at 1 m distance)	[dBA]	50.00 / 42.00

### HEATING MODE PERFORMANCE FIGURES (to EN 14511)

Standard point B0/W35		
Heating output	[kW]	13,20
Total power consumption / operating current	[kW]/[A]	2.75 / 4.80
COP		4,80
Operating point B0/W50		
Heating output	[kW]	12,10
Total power consumption / operating current	[kW]/[A]	3.90 / 6.70
COP		3,10
Operating point B0/W60		
Heating output	[kW]	11,80
Total power consumption / operating current	[kW]/[A]	4.40 / 7.60
COP		2,70

### CONDENSER

Type		Plate heat exchanger
Material		Stainless steel 1.4301
Max. refrigerant operating pressure	[bar]	45
Max. heat transfer medium operating pressure	[bar]	6
Heat transfer medium temperature differential	[K]	5
Application range	[°C]	65
Heat transfer medium		Water
Test pressure	[bar]	54
Heat transfer medium flow rate	[m³/h]	2,27
Internal pressure differential	[mbar]	414
Flow meter (FM)	Internal	Installed as
Circulation pump heat sink (WNA)	Internal	Yonos Para HPS 25/7.5
Residual head I WNA external	[mbar]	63

### REFRIGERANT CIRCUIT

Refrigerant		R410A
Refrigerant charge	[kg]	2,3

### COMPRESSOR

Type		Scroll
Output levels		1
Speed	[rpm]	2900
Voltage/frequency	[V]/[Hz]	400/50

### EVAPORATOR

Type		Plate heat exchanger
Material		Stainless steel 1.4301
Number	[pce]	1
Max. heat transfer medium operating pressure	[bar]	6
Max. refrigerant operating pressure	[bar]	12
Heat transfer medium temperature differential	[K]	3
Application range	[°C]	-5/+20
Heat transfer medium		Brine max. 30%
Test pressure	[bar]	54
Heat transfer medium flow rate	[m³/h]	3,28
Internal pressure differential	[mbar]	-
Flow meter (FM)	Internal	Installed as
Circulation pump heat source (WQA)	Internal	Stratos Para 25/1-8
Residual head I WQA external	[mbar]	421

Hydraulic version			Electric immersion heater		3-way switching module	
			Internal	external	Internal	external
M2-1	M4-1		x		x	
M2-2	M4-2			x	x	
M2-3	M4-3		x			x
M2-4	M4-4	M6		x		x

**RECOMMENDED ACCESSORIES**

	Order no./type	Description	Pressure loss
Heat pump buffer tank	min. PU300	30 l/kW at B0/W35	-
DHW tank	min. SP300/SP350	30 l/kW at B0/W50	-
External plate heat exchanger (DHW heating)	911252 PHE 5007	Prim.: 1 1/4" Sec.: 1"	Prim.: 37 mbar Sec.: 48 mbar
3-way switching module internal	980202	-	-
3-way switching module external	290229	DN32 (1 1/4"). kvs 16	20 mbar
Electric immersion heater internal	980201	8.8 kW (2.9 / 2.9 / 2.9)	-
External electric immersion heater (heat pump buffer tank)	922509	9 kW	-
Brine collector set (shallow laying)	290170	ESK 7	49 mbar incl. brine distributor

**EXTRACTION CAPACITY ACC. TO VDI 4640**

**FOR SHALLOW LAYING**

Soil conditions	Max. spec. extraction capacity at 1800 h/a	Max. spec. extraction capacity at 2400 h/a
Dry, non-cohesive soil	10 W/m <sup>2</sup>	8 W/m <sup>2</sup>
Cohesive soil, moist	25 W/m <sup>2</sup>	20 W/m <sup>2</sup>
Water-saturated soil with sand/gravel	40 W/m <sup>2</sup>	32 W/m <sup>2</sup>

**FOR DEEP TRENCH LAYING**

Soil conditions	Max. spec. extraction capacity at 1800 h/a
Cohesive soil, moist	100 W/m deep trench
Water-saturated soil	125 W/m deep trench

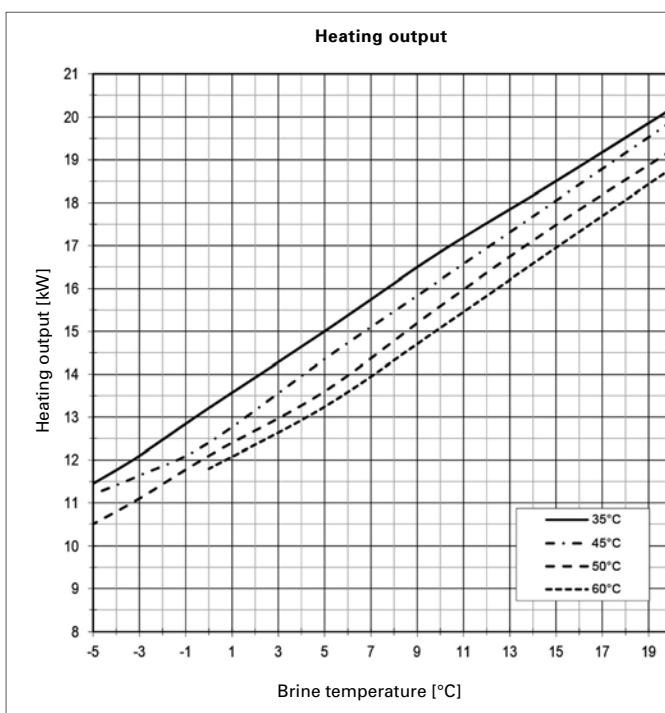
**FOR GEOTHERMAL PROBES**

Soil conditions	Spec. extraction capacity at 1800 h/a	Max. spec. extraction capacity at 2400 h/a
Dry sediment	25 W/m	20 W/m
Shale, slate	45 W/m	35 W/m
Firm rock with high thermal conductivity	84 W/m	70 W/m
Substratum with high groundwater flow	65-80 W/m	55-65 W/m

**SIZING RECOMMENDATION WITH BRINE AS HEAT SOURCE**

Pressure loss in connection line, incl. individual losses	Max. 100 mbar
Pressure loss in brine circuits or probes, incl. brine distributor	Max. 300 mbar

**PERFORMANCE CURVES TERRA 14 HPLA**



**PRODUCT DATA ErP: TERRA 14 HPLA**

		COLDER	MEAN	HOTTER
<b>LOW TEMPERATURE</b>	<b>A+++</b>		<b>35°C</b>	
ηs		217	<b>208</b>	208
Energy consumption	[kWh]	5793	<b>5053</b>	3262
P rated	[kW]	13	<b>13</b>	13
SCOP		5,62	<b>5,40</b>	5,41
<b>MEDIUM TEMPERATURE</b>	<b>A++</b>		<b>55°C</b>	
ηs		136	<b>131</b>	131
Energy consumption	[kWh]	7931	<b>6862</b>	4445
P rated	[kW]	12	<b>12</b>	12
SCOP		3,59	<b>3,48</b>	3,47
<b>DHW</b>	<b>A</b>		<b>SP300</b>	
ηWH		86	<b>86</b>	86
Energy consumption	[kWh]	1657	<b>1657</b>	1657
Draw-off profile			<b>XL</b>	
Tank losses	[W]		<b>94</b>	
		indoor	outdoor	
Sound power level	[dBA]	50,0	-	
Controller class with room remote control		VII	Controller contribution [%]	3,5
Controller class without room remote control		III	Controller contribution [%]	1,5

