

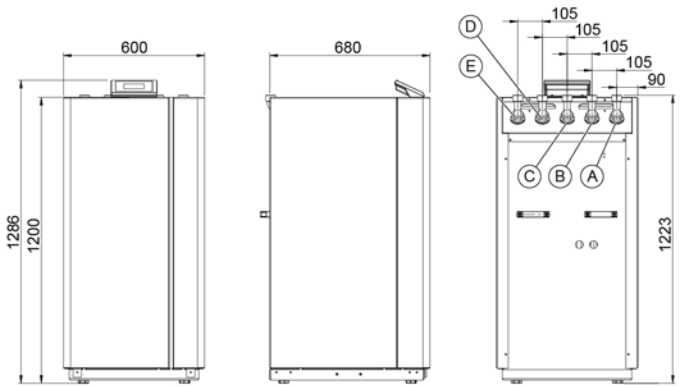
# TERRA 18 HPLA

## MONOVALENT HEATING SYSTEM WITH BRINE AS HEAT SOURCE

ORDER NUMBER: 265050

SERIES: M4

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 1/2"
Weight	[kg]	230
Casing colour		White/anthracite

### SPECIFICATION

Phases/nominal voltage/frequency	[~]/[V]/[Hz]	3/400/50
Output factor cos φ		0,75
Fuse protection (tripping curve "C")	[A]	16
Max. operating current	[A]	13,00
Max. starting current/max. with soft start	[A]	75.00 / 37.50
Sound power level/sound pressure level (at 1 m distance)	[dBA]	53.00 / 45.00

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

Standard point B0/W35		
Heating output	[kW]	17,00
Total power consumption / operating current	[kW]/[A]	3.80 / 7.30
COP		4,50
Operating point B0/W50		
Heating output	[kW]	16,10
Total power consumption / operating current	[kW]/[A]	5.10 / 8.70
COP		3,20
Operating point B0/W60		
Heating output	[kW]	15,40
Total power consumption / operating current	[kW]/[A]	5.90 / 9.60
COP		2,60

### 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]	2,92
Internal pressure differential	[mbar]	358
Flow meter (FM)	Internal	Installed as
Circulation pump heat sink (WNA)	Internal	Stratos Para 25/1-8
Residual head   WNA external	[mbar]	372 (M4-1), 443 (M4-4)

### REFRIGERANT CIRCUIT

Refrigerant	R410A
Refrigerant charge	[kg] 3,3

### 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]	4,15
Internal pressure differential	[mbar]	-
Flow meter (FM)	Internal	Installed as
Circulation pump heat source (WQA)	Internal	Stratos Para 25/1-12
Residual head   WQA external	[mbar]	737

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 separating cylinders	min. PU800	min. PU800	-
DHW tank	min. SP500/SP550	30 l/kW at B0/W50	-
External plate heat exchanger (DHW heating)	911252 PHE 5007	Prim.: 1 1/4" Sec.: 1"	Prim.: 47 mbar Sec.: 80 mbar
3-way switching module internal	980191	-	14 mbar
3-way switching module external	290341	DN40 (1 1/2"). kvs 25	14 mbar
Electric immersion heater internal	980190	8.8 kW (2.6 / 3.0 / 3.2)	59 mbar
External electric immersion heater (heat pump buffer tank)	922509	9 kW	-
Brine collector set (shallow laying)	290171	ESK 8	Pressure loss 65 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

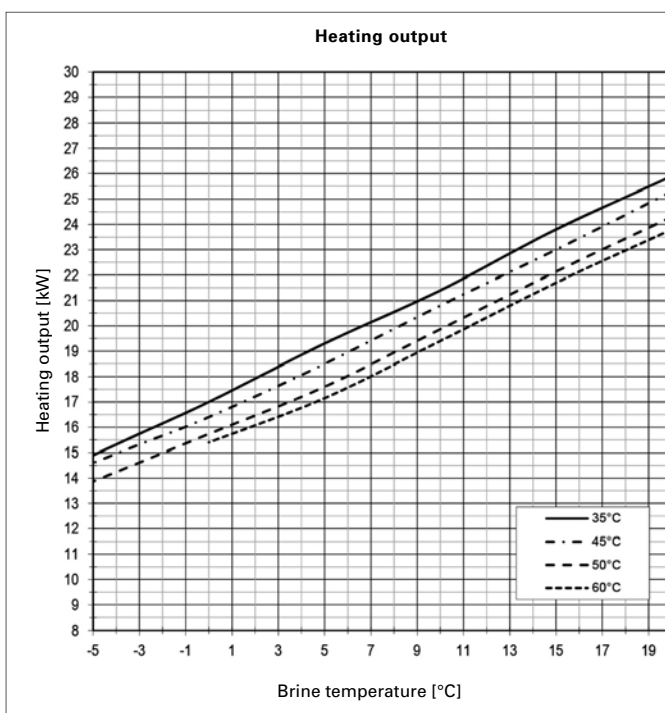
**FOR GEOTHERMAL PROBES**

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 18 HPLA**



**PRODUCT DATA ErP: TERRA 18 HPLA**

	COLDER	MEAN	HOTTER
<b>LOW TEMPERATURE</b> <b>A++</b>		<b>35°C</b>	
ηs	193	<b>187</b>	188
Energy consumption [kWh]	8345	<b>7199</b>	4647
P rated [kW]	17	<b>17</b>	17
SCOP	5,03	<b>4,88</b>	4,89
<b>MEDIUM TEMPERATURE</b> <b>A++</b>		<b>55°C</b>	
ηs	137	<b>134</b>	134
Energy consumption [kWh]	10723	<b>9210</b>	5961
P rated [kW]	16	<b>16</b>	16
SCOP	3,63	<b>3,54</b>	3,54
<b>DHW</b> <b>A</b>		<b>SP500</b>	
ηWH	88	<b>88</b>	88
Energy consumption [kWh]	1576	<b>1576</b>	1576
Draw-off profile		<b>XL</b>	
Tank losses [W]		<b>117</b>	

	indoor	outdoor
Sound power level [dBA]	53,0	-
Controller class with room remote control	VII	Controller contribution [%] 3,5
Controller class without room remote control	III	Controller contribution [%] 1,5

