

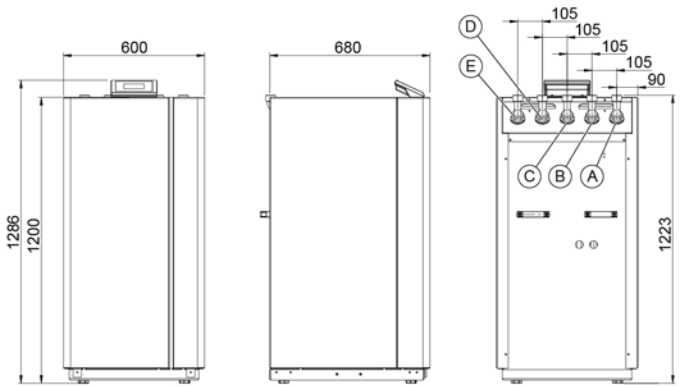
# TERRA 22 HPLA

## MONOVALENT HEATING SYSTEM WITH BRINE AS HEAT SOURCE

ORDER NUMBER: 265060

SERIES: M4

TF MAX. 68 °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]	250
Casing colour		White/anthracite

### SPECIFICATION

Phases/nominal voltage/frequency	[~]/[V]/[Hz]	3/400/50
Output factor cos φ		0,80
Fuse protection (tripping curve "C")	[A]	25
Max. operating current	[A]	18,00
Max. starting current/max. with soft start	[A]	125.00 / 62.50
Sound power level/sound pressure level (at 1 m distance)	[dBA]	59.30 / 51.30

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

Standard point B0/W35		
Heating output	[kW]	22,70
Total power consumption / operating current	[kW]/[A]	4.80 / 8.70
COP		4,70
Operating point B0/W50		
Heating output	[kW]	21,20
Total power consumption / operating current	[kW]/[A]	6.40 / 11.60
COP		3,30
Operating point B0/W60		
Heating output	[kW]	20,20
Total power consumption / operating current	[kW]/[A]	8.00 / 14.50
COP		2,50

### CONDENSER

Type	Plate heat exchanger	
Material	Stainless steel 1.4401	
Max. refrigerant operating pressure	[bar]	45
Max. heat transfer medium operating pressure	[bar]	6
Heat transfer medium temperature differential	[K]	5
Application range	[°C]	68
Heat transfer medium	Water	
Test pressure	[bar]	54
Heat transfer medium flow rate	[m³/h]	3,80
Internal pressure differential	[mbar]	497
Flow meter (FM)	Internal	Installed as
Circulation pump heat sink (WNA)	Internal	Stratos Para 25/1-8
Residual head   WNA external	[mbar]	145 (M4-1), 250 (M4-4)

### REFRIGERANT CIRCUIT

Refrigerant	R410A
Refrigerant charge	[kg] 4,3

### COMPRESSOR

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

### EVAPORATOR

Type	Plate heat exchanger	
Material	Stainless steel 1.4401	
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]	-6/+20
Heat transfer medium	Brine max. 30%	
Test pressure	[bar]	54
Heat transfer medium flow rate	[m³/h]	5,62
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]	462

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. PU500	min. PU500	-
DHW tank	SP500/SP550	30 l/kW at B0/W50	-
External plate heat exchanger (DHW heating)	911252 PHE 5007	Prim.: 1 1/4" Sec.: 1"	Prim.: 65 mbar Sec.: 90 mbar
3-way switching module internal	980191	-	23 mbar
3-way switching module external	290341	DN40 (1 1/2"). kvs 25	23 mbar
Electric immersion heater internal	980190	8.8 kW (2.6 / 3.0 / 3.2)	101 mbar
External electric immersion heater (heat pump buffer tank)	922509	9 kW	-
Brine collector set (shallow laying)	290504	ESK 10	Pressure loss 89 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

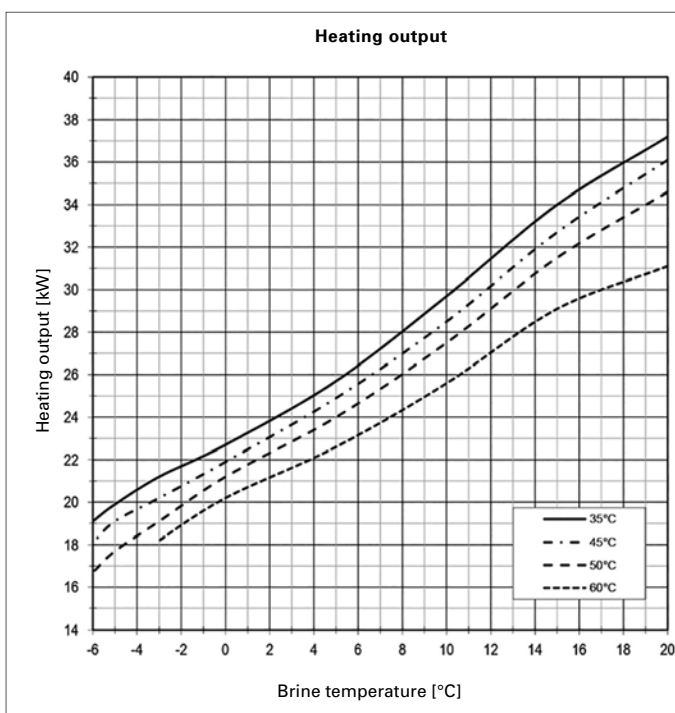
#### FOR GEOTHERMAL PROBES

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 22 HPLA



### PRODUCT DATA ErP: TERRA 22 HPLA

		COLDER	MEAN	HOTTER
<b>LOW TEMPERATURE</b>	<b>A++</b>		<b>35°C</b>	
ηs		205	<b>199</b>	200
Energy consumption	[kWh]	10497	<b>9079</b>	5835
P rated	[kW]	23	<b>23</b>	23
SCOP		5,33	<b>5,17</b>	5,20
<b>MEDIUM TEMPERATURE</b>	<b>A++</b>		<b>55°C</b>	
ηs		139	<b>135</b>	135
Energy consumption	[kWh]	13918	<b>11972</b>	7725
P rated	[kW]	21	<b>21</b>	21
SCOP		3,67	<b>3,57</b>	3,58
<b>DHW</b>	<b>A</b>		<b>SP500</b>	
ηWH		89	<b>89</b>	89
Energy consumption	[kWh]	1565	<b>1565</b>	1565
Draw-off profile			<b>XL</b>	
Tank losses	[W]		<b>117</b>	
		indoor	outdoor	
Sound power level	[dBA]	59,3	-	
Controller class with room remote control		VII	Controller contribution [%]	3,5
Controller class without room remote control		III	Controller contribution [%]	1,5

