

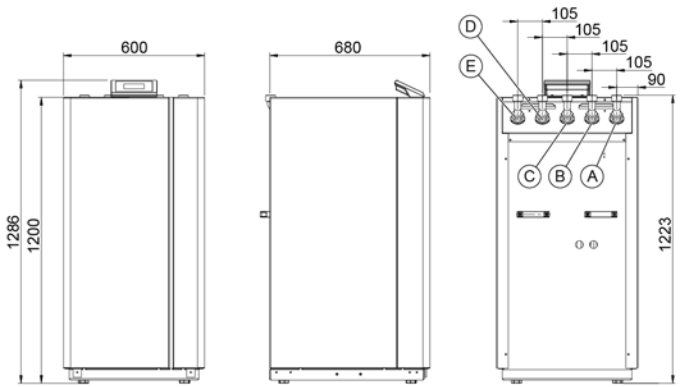
# TERRA 27 HPLA

## MONOVALENT HEATING SYSTEM WITH BRINE AS HEAT SOURCE

ORDER NUMBER: 265070

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]	250
Casing colour		White/anthracite

### SPECIFICATION

Phases/nominal voltage/frequency	[~]/[V]/[Hz]	3/400/50
Output factor cos φ		0,79
Fuse protection (tripping curve "C")	[A]	25
Max. operating current	[A]	21,00
Max. starting current/max. with soft start	[A]	125.00 / 62.50
Sound power/sound pressure level (at 1 m distance)	[dBA]	60.10 / 52.10

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

Standard point B0/W35		
Heating output	[kW]	26,10
Total power consumption / operating current	[kW]/[A]	5.80 / 10.70
COP		4,50
Operating point B0/W50		
Heating output	[kW]	23,40
Total power consumption / operating current	[kW]/[A]	7.40 / 13.60
COP		3,20
Operating point B0/W60		
Heating output	[kW]	22,20
Total power consumption / operating current	[kW]/[A]	9.30 / 17.10
COP		2,40

### 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]	65
Heat transfer medium	Water	
Test pressure	[bar]	54
Heat transfer medium flow rate	[m³/h]	4,42
Internal pressure differential	[mbar]	549
Flow meter (FM)	Internal	Installed as
Circulation pump heat sink (WNA)	Internal	Stratos Para 25/1-8
Residual head   WNA external	[mbar]	26 (M4-1), 187 (M4-4)

### REFRIGERANT CIRCUIT

Refrigerant	R410A
Refrigerant charge	[kg] 4,5

### 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]	6,38
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]	240

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. PU800	30 l/kW at B0/W35	-
DHW tank	SP750	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	-	32 mbar
3-way switching module external	290341	DN40 (1 1/2"). kvs 25	32 mbar
Electric immersion heater internal	980195	8.8 kW (2.6 / 3.0 / 3.2)	136 mbar
External electric immersion heater (heat pump buffer tank)	922509	9 kW	-
Brine collector set (shallow laying)	290734	ESK 14	80 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

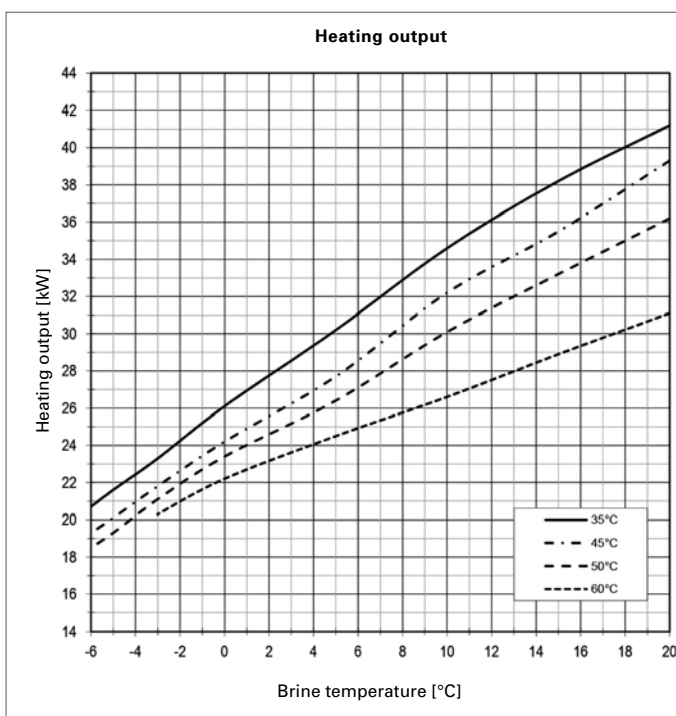
**FOR GEOTHERMAL PROBES**

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 27 HPLA**



**PRODUCT DATA ErP: TERRA 27 HPLA**

		COLDER	MEAN	HOTTER
<b>LOW TEMPERATURE</b>	<b>A+++</b>		<b>35°C</b>	
ηs		190	<b>184</b>	186
Energy consumption	[kWh]	12794	<b>11034</b>	7088
P rated	[kW]	26	<b>26</b>	26
SCOP		4,95	<b>4,81</b>	4,84
<b>MEDIUM TEMPERATURE</b>	<b>A++</b>		<b>55°C</b>	
ηs		130	<b>127</b>	128
Energy consumption	[kWh]	16235	<b>13947</b>	8995
P rated	[kW]	23	<b>23</b>	23
SCOP		3,46	<b>3,38</b>	3,39
<b>DHW</b>	<b>A</b>		<b>SP500</b>	
ηWH		84	<b>84</b>	84
Energy consumption	[kWh]	1651	<b>1651</b>	1651
Draw-off profile			<b>XL</b>	
Tank losses	[W]		<b>117</b>	
		indoor	outdoor	
Sound power level	[dBA]	60,1	-	
Controller class with room remote control		VII	Controller contribution [%]	3,5
Controller class without room remote control		III	Controller contribution [%]	1,5

