

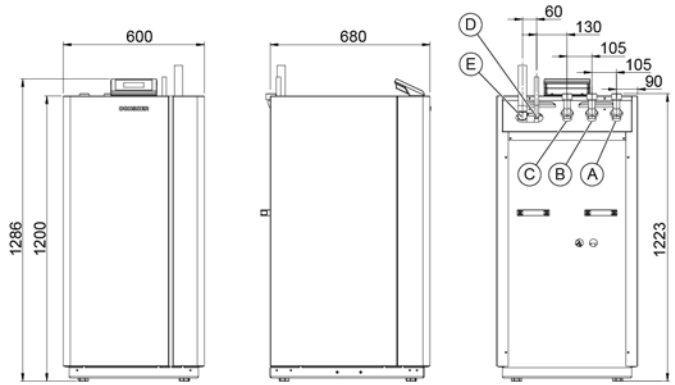
# TERRA DX 13 HCUA

## MONOVALENT HEATING SYSTEM WITH GROUND AS HEAT SOURCE

ORDER NUMBER: 277040

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]	200
Casing colour		White/anthracite

### SPECIFICATION

Phases/nominal voltage/frequency	[~]/[V]/[Hz]	3/400/50
Output factor cos φ		0,77
Fuse protection (tripping curve "C")	[A]	10
Max. operating current	[A]	9,00
Max. starting current/max. with soft start	[A]	55.00 / 27.50
Sound power level/sound pressure level (at 1 m distance)	[dBA]	54.30 / 46.30

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

#### Standard point E4/W35

Heating output	[kW]	14,20
Total power consumption / operating current	[kW]/[A]	2.80 / 5.20
COP		5,10

#### Operating point E-1/W35

Heating output	[kW]	11,30
Total power consumption / operating current	[kW]/[A]	2.70 / 5.10
COP		4,40

#### Operating point E0/W50

Heating output	[kW]	10,30
Total power consumption / operating current	[kW]/[A]	3.30 / 6.20
COP		3,10

#### Operating point E0/W60

Heating output	[kW]	10,20
Total power consumption / operating current	[kW]/[A]	4.10 / 7.70
COP		2,50

### CONDENSER

Type		Plate heat exchanger
Material		Stainless steel 1.4301
Max. refrigerant operating pressure	[bar]	30
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]	45
Heat transfer medium flow rate	[m³/h]	2,44
Internal pressure differential	[mbar]	577
Flow meter (FM)	Internal	Installed as
Circulation pump heat sink (WNA)	Internal	Yonos Para HPS 25/7.5
Residual head   WNA external	[mbar]	-151 (5K) / 344 (7K)

### REFRIGERANT CIRCUIT

Refrigerant		R407C
Refrigerant charge (from-to)	[kg]	5,6-8,8

### COMPRESSOR

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

### EVAPORATOR

Type		Tube evaporator
No. of circuits (recommended)	[pce]	(6*) 8
No. of circuits (max.)	[pce]	10
Length per circuit	[m]	75
Material		Copper / seamless PE outer casing
Max. refrigerant operating pressure	[bar]	30

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		x		x

\*Number of circuits possible for optimum soil conditions: cohesive soil/moist or better at max. 1800 h/a



**Geothermal collector:**

The geothermal collectors O-Tube Pro are filled at the factory with nitrogen and each have a leakage indicator, which enables simple leakage monitoring during routing right up to the checks prior to commissioning. A collector array may not be built on and must be laid with a minimum clearance of 1.5 m to building components and property boundaries. The minimum spacing for collector pipes is 0.5 m. A routing plan of the individual collector circuits based on the actual routing is required for commissioning. The individual collector pipe ends of the collector circuits must be labelled.



**RECOMMENDED ACCESSORIES**

	Order no./type	Description	Pressure loss
Heat pump separating cylinders	min. PU500	30 l/kW at G-1/W50	-
DHW tank	min. SP300/SP350	30 l/kW at E0/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	980196	-	-
3-way switching module external	290229	DN32 (1 1/4"). kvs 16	23 mbar
Electric immersion heater internal	980197	8.8 kW (2.9 / 2.9 / 2.9)	-
External electric immersion heater (heat pump buffer tank)	922508	6 kW	-
Copper geothermal collector (O-Tube Pro)	913209	75 m per unit	-

**REQUIRED**

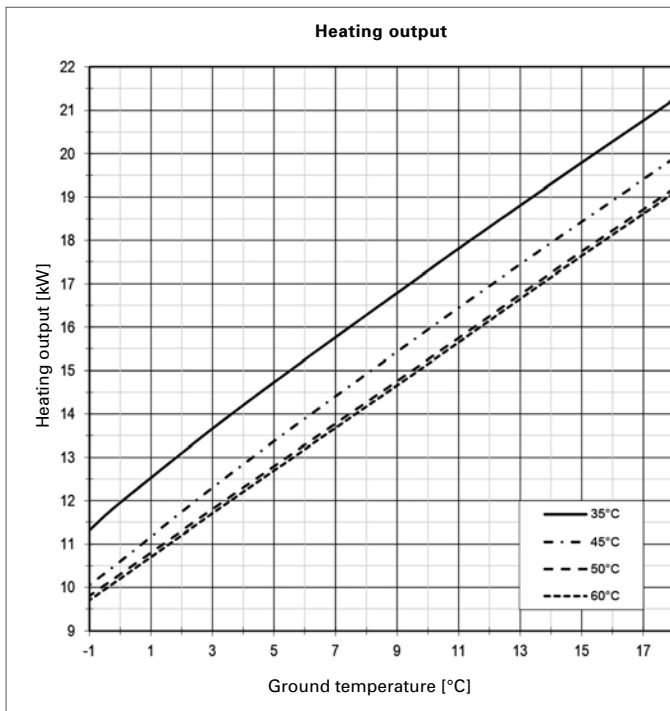
**EXTRACTION SURFACE**

Basic cooling capacity (at E4/W35)	[kW]	11.4
Extraction surface (at 1800 h/a)	[m <sup>2</sup> ]	456
Extraction surface (at 2400 h/a)	[m <sup>2</sup> ]	570
Max. connection length to collection shaft	[lm]	20

**CONDITIONS** IN ACC. WITH VDI 4640 OR ÖWAV 207

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> and 5 W/lm	8 W/m <sup>2</sup> and 4 W/lm
Cohesive soil, moist	20-30 W/m <sup>2</sup> and 15 W/lm	16-24 W/m <sup>2</sup> and 12 W/lm
Water-saturated soil, sand/gravel	40 W/m <sup>2</sup> and 20 W/lm	32 W/m <sup>2</sup> and 16 W/lm

**PERFORMANCE CURVES TERRA DX 13 HCUA**



**PRODUCT DATA ErP: TERRA DX 13 HCUA**

		COLDER	MEAN	HOTTER
<b>LOW TEMPERATURE</b>	<b>A++</b>		<b>35°C</b>	
ηs		215	<b>209</b>	208
Energy consumption	[kWh]	6276	<b>5416</b>	3512
P rated	[kW]	14	<b>14</b>	14
SCOP		5,58	<b>5,42</b>	5,40
<b>MEDIUM TEMPERATURE</b>	<b>A++</b>		<b>55°C</b>	
ηs		152	<b>147</b>	147
Energy consumption	[kWh]	7478	<b>6437</b>	4184
P rated	[kW]	12	<b>12</b>	12
SCOP		3,99	<b>3,88</b>	3,86
<b>DHW</b>	<b>A</b>		<b>SP300</b>	
ηWH		100	<b>100</b>	100
Energy consumption	[kWh]	1428	<b>1428</b>	1428
Draw-off profile			<b>XL</b>	
Tank losses	[W]		<b>94</b>	
		indoor	outdoor	
Sound power level	[dBA]	54,3	-	
Controller class with room remote control		VII	Controller contribution [%]	3,5
Controller class without room remote control		III	Controller contribution [%]	1,5

