

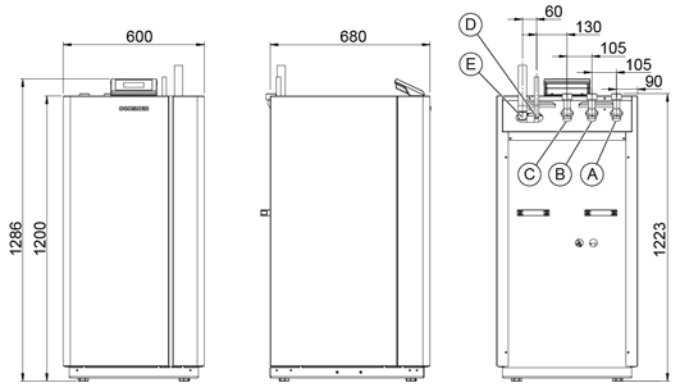
# TERRA DX 15 HCUA

## MONOVALENT HEATING SYSTEM WITH GROUND AS HEAT SOURCE

ORDER NUMBER: 277050

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]	210
Casing colour		White/anthracite

### SPECIFICATION

Phases/nominal voltage/frequency	[~]/[V]/[Hz]	3/400/50
Output factor cos φ		0,70
Fuse protection (tripping curve "C")	[A]	13
Max. operating current	[A]	11,00
Max. starting current/max. with soft start	[A]	67.00 / 33.50
Sound power level/sound pressure level (at 1 m distance)	[dBA]	55.90 / 47.90

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

#### Standard point E4/W35

Heating output	[kW]	16,00
Total power consumption / operating current	[kW]/[A]	3.15 / 6.20
COP		5,10

#### Operating point E-1/W35

Heating output	[kW]	14,00
Total power consumption / operating current	[kW]/[A]	3.15 / 6.20
COP		4,40

#### Operating point E0/W50

Heating output	[kW]	13,10
Total power consumption / operating current	[kW]/[A]	4.10 / 8.10
COP		3,20

#### Operating point E0/W60

Heating output	[kW]	12,80
Total power consumption / operating current	[kW]/[A]	5.10 / 10.10
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]	2,75
Internal pressure differential	[mbar]	382
Flow meter (FM)	Internal	Installed as
Circulation pump heat sink (WNA)	Internal	Stratos Para 25/1-8
Residual head   WNA external	[mbar]	347 (M4-1), 410 (M4-4)

### REFRIGERANT CIRCUIT

Refrigerant	R407C
Refrigerant charge (from-to)	[kg] 6,4-10,4

### COMPRESSOR

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

### EVAPORATOR

Type	Tube evaporator	
No. of circuits (recommended)	[pce]	(8*) 10
No. of circuits (max.)	[pce]	12
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.: 47 mbar Sec.: 80 mbar
3-way switching module internal	980191	-	12 mbar
3-way switching module external	290341	DN40 (1 1/2"). kvs 25	12 mbar
Electric immersion heater internal	980190	8.8 kW (2.6 / 3.0 / 3.2)	53 mbar
External electric immersion heater (heat pump buffer tank)	922509	9 kW	-
Copper geothermal collector (O-Tube Pro)	913209	75 m per unit	-

**REQUIRED**

**EXTRACTION SURFACE**

Basic cooling capacity (at E4/W35)	[kW]	12.9
Extraction surface (at 1800 h/a)	[m <sup>2</sup> ]	516
Extraction surface (at 2400 h/a)	[m <sup>2</sup> ]	645
Max. connection length to collection shaft	[lm]	20

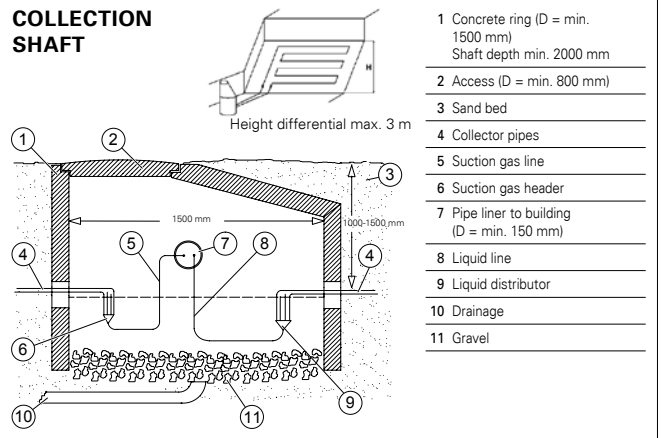
**CONDITIONS** IN ACC. WITH VDI 4640 OR ÖWAV 207

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

**PRODUCT DATA ErP: TERRA DX 15 HCUA**

		COLDER	MEAN	HOTTER
<b>LOW TEMPERATURE</b>	<b>A++</b>		<b>35°C</b>	
ηs		218	211	212
Energy consumption	[kWh]	6967	6026	3895
P rated	[kW]	16	16	16
SCOP		5,66	5,49	5,49
<b>MEDIUM TEMPERATURE</b>	<b>A++</b>		<b>55°C</b>	
ηs		152	147	147
Energy consumption	[kWh]	9017	7760	5029
P rated	[kW]	15	15	15
SCOP		3,99	3,89	3,88
<b>DHW</b>	<b>A</b>		<b>SP300</b>	
ηWH		100	100	100
Energy consumption	[kWh]	1432	1432	1432
Draw-off profile			<b>XL</b>	
Tank losses	[W]		<b>94</b>	
		indoor	outdoor	
Sound power level	[dBA]	55,9	-	
Controller class with room remote control		VII	Controller contribution [%]	3,5
Controller class without room remote control		III	Controller contribution [%]	1,5

**COLLECTION SHAFT**



**PERFORMANCE CURVES TERRA DX 15 HCUA**

