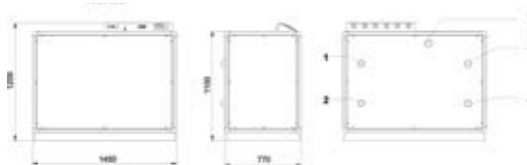


TECHNICAL DATA HGL in line with EN 14511

Grafik: www.helizo.com; Bilder: IDM, Getty Images

Type	TERRA-MAX		50	60	70	90
Heat Output (Q) with R407C	at B0/W35	kW	46,9	54,1	66,7	81,1
	at W10/W35	kW	63,1	72,6	90,0	109,2
Power consumption with R407C	at B0/W35	kW	11,7	13,5	16,7	20,2
	at W10/W35	kW	11,9	13,6	17,0	20,4
Coefficient of Performance (COP) with R407C	at B0/W35		4,0	4,0	4,0	4,0
	at W10/W35		5,3	5,3	5,3	5,4
Temperature limits						
Heating	Medium	water				
Return	min/max	°C	15/45			
Flow	min/max	°C	25/50			
Heat Source	Medium	Ground loop/brine resp.	Open Well/Water			
Inlet	min/max	°C	-5/15			
Outlet	min/max	°C	-8/12			
Dimensions						
Width/Depth/Height		mm	1450 / 790 / 1200			
Pipe Connection	Heating/Ground Loop		2"/2" I.G.			
Electric Data						
Voltage		V	3 x 400			
Frequency		Hz	50			
Voltage range		V	380-420			
Starting current without initial aid		A	87	90	118	141
Starting current with initial aid		A	43	45	59	71

Note: The Terra Max model can also be supplied using R134a gas as a medium. With this gas, the heat pump can reach temperatures of up to 65°C. However, the output of the machine is lower at high temperatures.



- 1 Heating Flow R 2" I.G.
- 2 Heating Return R 2" I.G.
- 3 Ground Water Inlet R 2" I.G.
- 4 Ground Water Outlet R 2" I.G.
- 5 Gland for Electric Cable - 50mm

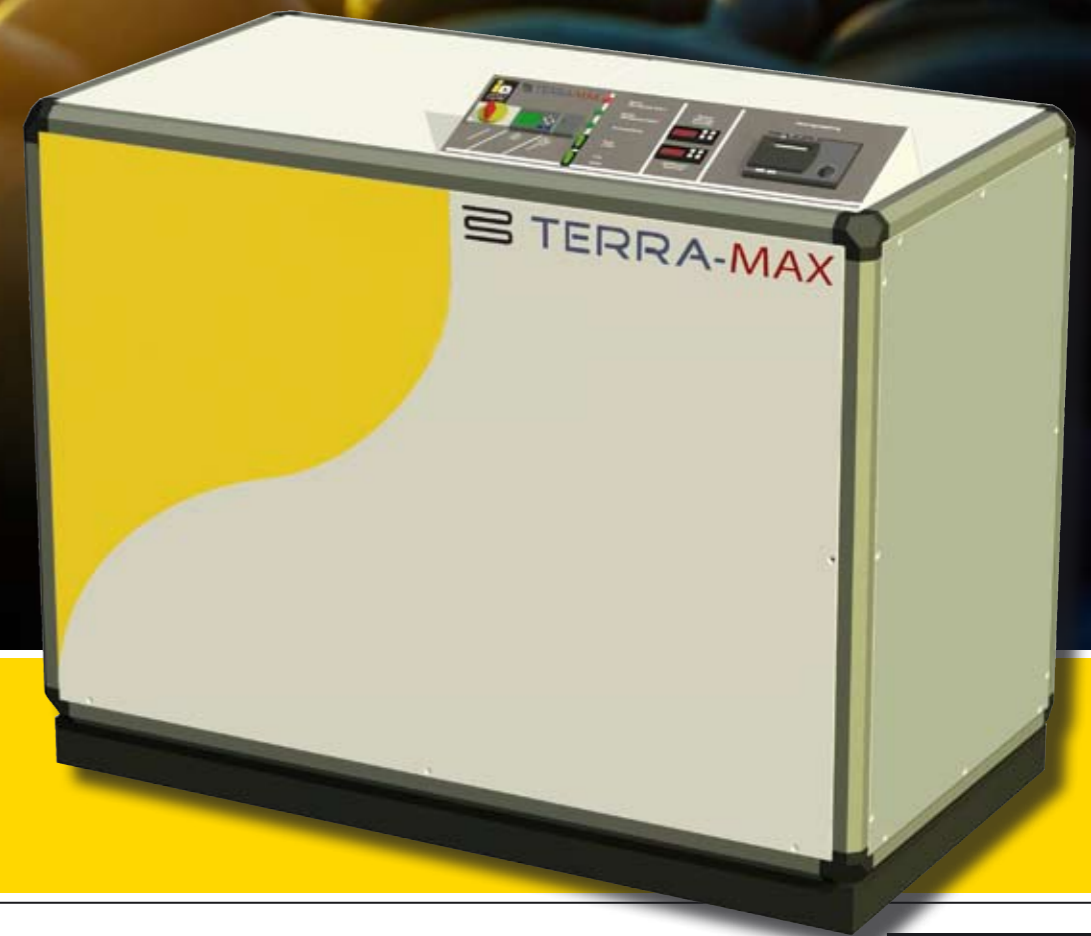
TERRA MAX IDM-heat pump up to 109 kW:

Heat pump for indoor installation comprising two enclosed scroll compressors with large stainless steel copper-welded heat exchangers as evaporators and condensers; Separate refrigerant circuits for each compressor with a filter dryer, collector, inspection glass and expansion valve. Filled with refrigerant in factory, tested to verify correct function and checked for leaks. Installed on solid sub-frame with aluminium frame housing, corner brackets and sheet metal panelling to deliver noise and heat insulation. Electrical cabling including switchgear, control and safety devices and protection against low pressure with interlock circuit, minimum ground water thermostat and water pressure switch. External control system. Separate control function for each compressor.; (Power regulation: 0/50/100%)

To obtain heat output in excess of 109kW, several Terra Max heat pumps can be combined. IDM heat pumps have the heat pump quality mark which guarantees the highest safety and quality standards when it comes to technology and service.

On Life's Journey

Modern and efficient heating and cooling solutions for large buildings



TERRA-MAX
Heat Pump until 109 kW



Invisible Heating Systems
Head Office Scotland
Sustainable Energy Design Centre
Morefield Ind. Estate
Ullapool
IV26 2SR

T: 01 85 4 6 13 16 1
F: 01 85 4 6 13 16 0

E: design@invisibleheating.co.uk
www.invisibleheating.co.uk

Invisible Heating Systems (Midlands)
Cherry Orchard Farm
Longdon Green
Rugeley, Staffs
WS15 4PX

T: 01 54 3 49 27 77
F: 01 54 3 49 27 57

E: ihsengland@invisibleheating.co.uk
www.invisibleheating.co.uk

IDM-Energiesysteme GmbH
9971 Matri in Osttirol, Austria
Seblas 16-18

T: +43 (0) 48 75 / 61 72
F: +43 (0) 48 75 / 61 72-85

E: team@idm-energie.at
www.idm-energie.com

TERRA-MAX
Heat pumps up to 109 kW





Heating and Hot Water with Terra MAX

Terra Max 90kW heat pump is installed in this 2000m² historic family home with self-catering holiday apartment in Scotland. The building dates from 1907.

A borehole is drilled into a water-holding gravel layer and discharged into a lake in the garden.



Heating, Cooling and Hot Water using four Heat Pumps Terra-MAX 90

- Heated Area: 7.500 m² space 88 apartments and 12 shops
- 324 kW Heating capacity from 98 deepholes at a depth of 100m each
- Cooling facility from deep bore hole
- Instant hot water delivered from four Hygienik hot water tanks - 2000 litres each

Terra Max IDM high performance heat pump for open well, closed borehole or ground loop applications.

The Terra Max is a compact high performance heat pump suitable for indoor installation.

Comprising two highly efficient enclosed scroll compressors with large stainless steel copper-welded plate heat exchangers as evaporator and condenser, the Terra Max

uses separate refrigerant circuits for each compressor. The heat pumps are separately mounted on a solid sub-frame with aluminium-frame casing. The sheet metal panelling with insulation offers effective noise and heat protection. The Terra Max is supplied with all main internal electrical connections installed and can be set up and operated easily.

Hot Water with TERRA-MAX

Besides heating and cooling the TERRA-MAX model also delivers hot water in a highly efficient manner.

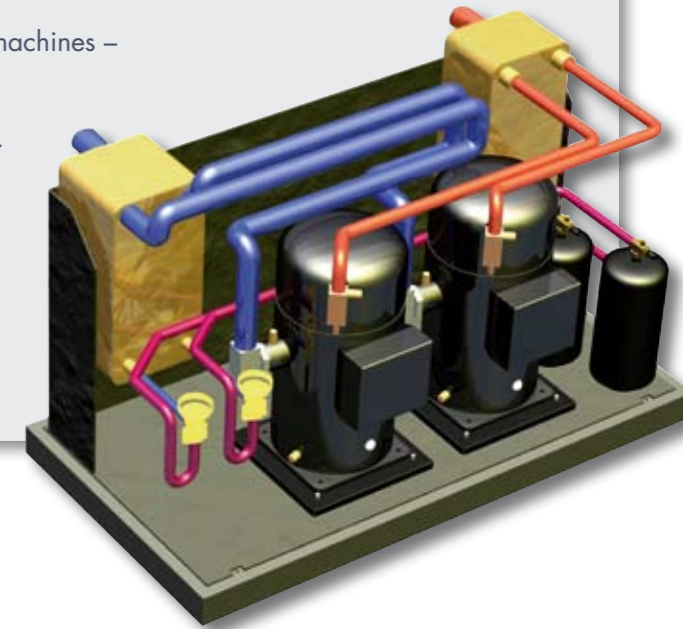
Taking advantage of the approved IDM HGL (hot gas loading) technology, the Hygienik Tank will deliver fresh, hot, Legionella-free water.



 HYGIENIK

TERRA-MAX-Advantages

- Integrated heat pump containing two fully independent refrigerant circuit, providing fail sohe back-up. Purchase and installation costs are lower than two separate machines – maintenance costs are also lower.
- Machine runs in two stages less starts and stops at low loads. This increases its lifespan.
- Operates very quietly as each compressor is separately installed on rubber mounts.
- Machine can supply temperatures up to 65°C for hot water production which also makes it ideal for installation for older buildings



Heating and Cooling Collection Methods

Open Well System

At a depth of 20 meters or more, the ground temperature approximately 10°C, with little seasonal fluctuation. This constant temperature means that ground water is an ideal temperature for heating in the winter and cooling in the summer. Ground water is pumped out of a well to allow the free extraction of heat and is then fed back into the ground through an injection well. A heat output of 10kW requires 1800 litres/hr of ground water.

Closed Loop Borehole

Plastic pipe with a U-bend is lowered into a borehole of sufficient depth and back-filled. Free heat is absorbed by the water/glycol mix flowing through this pipe. Depending on ground conditions, a heat output of 8 kW requires a minimum borehole depth of 100 meters.

Closed Loop – Horizontal Trenches

100 meter lengths of plastic collector pipe is laid into a series of trenches at a depth of 1.2 meters. Each pipe will produce 1.5-2kW per loop depending on ground circumstances.

CO₂ reduction

A heat pump with a Coefficient of Performance (COP) power value of just 2,6 is already neutral in terms of CO₂ emissions compared with oil heating. The Terra Max can achieve a minimum COP of 4,0 and more and thereby minimises the CO₂-emissions.

Compared operating costs of heating and cooling combined

