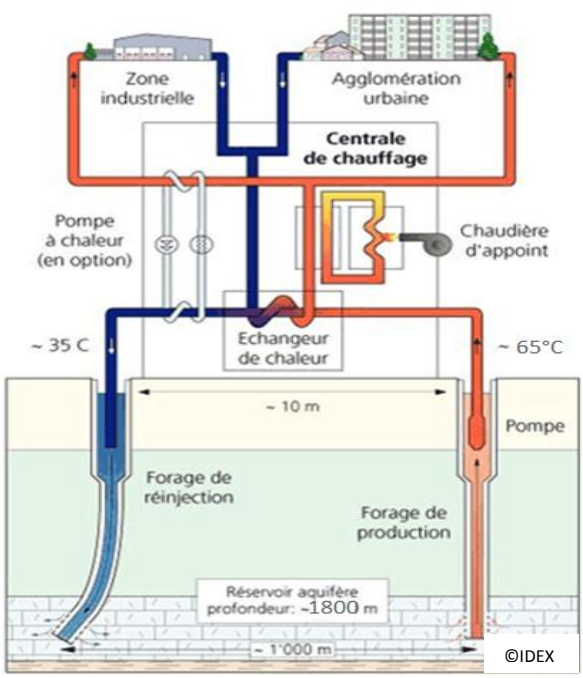


Neuilly-sur-Marne - High geothermal efficiency with a Unitop 33/22 CP

Client

IDEX
FR-92100 Boulogne-Billancourt/France

Plant location

IDEX
FR-93330 Neuilly-sur-Marne

Gradual deployment of the existing DH system

The district heating networks at Neuilly-sur-Marne exists since 1971. It depended 100% on fossil energy (oil and gas). In 2014 a thermal plant was commissioned to make use of the geothermal resources in the Ile-de-France region. In a first step, it feeds the existing network to provide geothermal heating energy to the Fauvetts area and the city centre. With the development of the eco-district of East Nocéen, Neuilly-sur-Marne, the network will be continuously increased to 13 km and will feature 108 sub-stations. The vision for 2029 is to supply geothermal energy to 11'000 housing equivalents with a total area of 830'000 m² (80% housing, 5% business and 15% public facilities). 61% of the total energy demand shall be borne by geothermal heat.

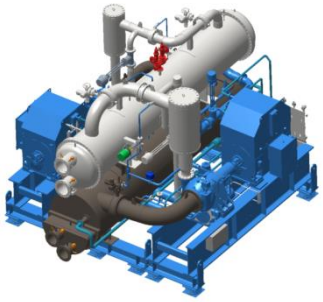
Exploiting geothermal energy from the Dogger aquifer

The principle of geothermal energy is to draw hot water from the Dogger aquifer reservoir, a geological layer that makes the Ile-de-France region one of Europe's best endowed in terms of geo-thermal energy. The heat extracted from the water at a depth of 1520 meters provides wellhead temperatures between 63 °C and 65 °C at a flow rate of 350 m³/h. The water drawn is reinjected again into the Dogger aquifer in a closed circuit.

By installation of the Unitop 33/22CP heat pump, the overall efficiency of the geothermal system is enhanced by 25% to 70%.

The Unitop 33/22 CP heat pump

The Unitop 33/22 CP unit operating at Neuilly-sur-Marne is a very versatile industrial heat pump incorporating two heavy duty centrifugal compressors of different size which work in parallel. With its unique design to meet the requirements of our client, it was completely factory mounted in the Friotherm works. The control system and the operating modes are specially adapted to comply with the client requirements regarding flexibility of operation modes, high efficiency and operational reliability. Built for decades of operational life, the service friendly design allows limiting service and maintenance work to a minimum.



Main technical data (for Dogger water return temp. 57°C)

Operating Seasons:	Autumn-winter-spring
Heating capacity:	4'610 kW - 7'650 kW
Cooling Capacity:	3'900 kW - 6'600 kW
Hot water in/out:	60,5 °C - 64 °C / 70,1 °C - 80,2 °C
Cold water in/out:	57 °C / 40,5 °C - 45 °C
COP (heating):	5,3 - 6,0

Friotherm AG
Langfeldstrasse 104
CH-8500 Frauenfeld
Switzerland

Tel. +41 (0)52 724 77 00
E-Mail info@friotherm.com
Internet www.friotherm.com

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