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ORMAT® ENERGY CONVERTER (OEC)

Simple, Flexible, Reliable and Efficient

The ORMAT® ENERGY CONVERTER (OEC) is a power generation unit, which converts low, medium and high temperature heat into electrical energy. A single OEC may range in size from 250 kW to 20 MW.

The OECs are designed for the specific conditions of a wide variety of heat sources. Its main components include a vaporizer/preheater, turbogenerator, air-cooled or water-cooled condenser, feed pump and controls. It is designed for outdoor installations.

The OEC is a field-proven, mature commercial product used in more than 75 countries worldwide. Ormat has successfully manufactured and supplied over 2200 MW of power plants based on its proprietary technology, logging millions of hours of operating experience.

The OEC enables geothermal developers to efficiently and economically use the full range of naturally occurring geothermal resources found throughout the world - from low temperature geothermal water to high-pressure steam.

How It Works

All ORMAT ENERGY CONVERTER (OEC), units are self-contained, fully automatic and produce grid compatible power. The OEC is based on the Rankine Power Cycle but uses organic working fluid which has the advantage of being more efficient than steam when operating on low-to-moderate temperature heat sources.

The working fluid is selected to optimize the power output from the particular heat source, temperature and flow. Under production conditions, the working fluid is vaporized by the heat of the stream flowing through the vaporizer and pre-heater.

The vapor expands as it passes through the organic vapor turbine, which is coupled to the generator. The exhaust vapor is subsequently condensed in a water or air-cooled condenser and is recycled to the vaporizer by the motive fluid cycle pump.



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