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PRODUCT CATALOG

ORC waste heat power generators

Electricity from 80–135 °C hot water or low-pressure steam, 40–1000 kW.



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ORC waste heat power generators

Organic Rankine Cycle (ORC) units generate electricity from low- and medium-temperature waste heat: hot water 80–135 °C, low-pressure steam 1–7 barG or thermal oil. The working fluid circulates in a closed loop, so the system stays clean and needs little maintenance. Screw-expander units cover 40–300 kW, turbine-expander units 300–1000 kW. Each system is designed for your heat source and cooling conditions to give the maximum annual power output. Economic service life is 20 years or more.

Key specifications

Electric output	40–1000 kW per unit
Heat source	Hot water 80–135 °C, steam 1–7 barG, thermal oil
Cooling water	15–40 °C
Working fluid	R134a or R245fa
Expander	Semi-hermetic oil-injected twin-screw (40–300 kW) or semi-hermetic turbine (300–1000 kW)
Generator	Induction (asynchronous), 380 V / 3 ph / 50 Hz, 3000–3100 rpm, IP54
Operating range	20–110 % of rated output
Heat exchangers	Shell-and-tube flooded evaporator and condenser, 1.0 MPa water side
Controls	Modbus RTU, RS-485, cloud platform
Service life	⩾ 20 years

Features

- Customised design for each heat source and cooling condition
- Semi-hermetic expander-generator: no shaft seal, no working-fluid leakage, isentropic efficiency above 80 %
- Optimised evaporator lowers the heat-source outlet temperature and raises power output
- Big-data cloud platform: real-time monitoring, early fault warning, remote diagnostics
- Smart protection system: power supply, expander, generator, water temperatures, levels and pressures, grid connection
- Wide operating range 20–110 % — more operating hours per year
- Automatic tracking of heat-source changes for maximum output
- Working-fluid pump keeps running during maintenance to cool the heat source and protect your process

Model range

Screw-expander units

Model	Dimensions L × W × H, mm	Weight, kg	Output, R134a, hot water 95 °C, kW	Output, R245fa, hot water 130 °C, kW	Output, R245fa, steam 2 barG, kW	Power range, kW
ORC-S40	2200 × 1500 × 1800	3 000	49	54	44	10–60
ORC-S80	2500 × 1800 × 2000	5 000	79	76	79	15–90
ORC-S160	4000 × 2500 × 3000	10 000	159	157	160	40–200
ORC-S300	6000 × 2800 × 3500	15 000	298	279	295	60–320

Turbine-expander units (R245fa)

Model	Dimensions L × W × H, mm	Weight, kg	Output, hot water 120 °C, kW	Hot water flow, m^3/h	Power range, kW
ORC-T700	7000 × 4000 × 6000	65 000	648	200	120–700
ORC-T1000	8000 × 4500 × 6800	90 000	964	300	200–1000

Typical data. Final selection and parameters are confirmed in the quotation for your project. Equipment is made by our partner factories in China.

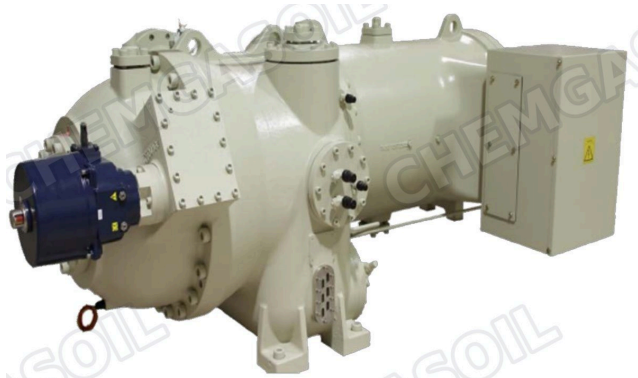
Photos



ORC power generation unit



Semi-hermetic twin-screw expander (cutaway)



Semi-hermetic turbine expander

Applications

Steel, cement, glass and ceramics plants; chemical, petrochemical and refinery waste heat; oil and gas field associated heat; biomass and gas engine jacket water; geothermal and solar thermal sources; food, paper and textile process heat.

HOW TO ORDER

Send us your requirements — duty, quantity and delivery country — and we will reply with a technical and commercial offer.

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