Join us in making the world a better place. Today.

HEAT TO CLEAN ELECTRICITY
compact – modular – profitable

efficiency PACK
eP 05.15 / 20.30

Plug & Play
Waste heat recovery solution

Any sector, any waste heat
from 80 °C to over 800 °C

Profitable efficiency measure
e.g. for ISO 50001

ISO 50001
PLUG & PLAY EFFICIENCY UPGRADE

SAVE COSTS
Our waste heat recovery solutions turn waste heat from all kinds of sources – liquid and gaseous - into clean electricity. Customers benefit from an improvement in energy efficiency and additional electricity savings, e.g. at the coolers. This saves energy costs and carbon emissions.

LOW MAINTENANCE
Only one day of maintenance is required per year, which results in low maintenance costs. Thereby the efficiency PACK is prepared for at least 15 years of operation. Orcan’s systems have been sold to customers worldwide and have proven their reliability in almost 1 million operating hours.

FLEXIBLE & MODULAR
The efficiency PACKs operate independently and automatically. Thanks to its outstanding part load capacity and the modular design, it adapts quickly to the heat source to maximize power output. The use of only high-quality standard components ensure a robust and reliable operation under all conditions.

HOW IT WORKS
![Diagram showing the components of an ORC system: Evaporator, Condenser, Expansion Machine, Heat Source, Pump.]

FACTS & FIGURES

<table>
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<tr>
<th>Heat input &amp; electrical output</th>
<th>Up to 500 kW thermal input &amp; up to 30 kW electrical net output (at 10°C ambient temperature and including cooling, power electronics, pumps etc.)</th>
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| Possible interfaces           | - Gaseous: 150 °C to over 800 °C (through a heat exchanger)  
- Liquid: 80–145 °C (directly, DN50, 11–14 m³/h): |
| Liquid inlet temperature [°C] | 80  85  90  95  100  105  120  140  145 |
| Liquid outlet temperature [°C]| 66  69  73  76  79  82  102  114  116 |
| Heat input [kW]               | 217  243  270  297  326  352  290  415  500 |
| Electrical net output [kW]    | 5.5  7.4  9.0  10.7  12.1  13.5  14.0  26.0  30.0 |
| Working fluid                 | Standard refrigerant (non-flammable, non-toxic, non-ozone-depleting) |
| Weight & Dimensions           | 1.6 t, 1.54 m x 2.26 m x 2.57 m (W x L x H) |

CASE STUDY
- 2.5 MW thermal waste heat > 5 efficiency PACKs
- 8,000 hrs of operation per year
- 150 kW eNet (all internal consumers e.g. cooler already deducted)

Annual savings
- 144,000 € per year at 12 Ct/kWh
- 180,000 € at 15 Ct/kWh
- 1,200 MWh electrical savings

ORCAN ENERGY – AT A GLANCE
Orcan Energy AG is a leading European CleanTech company offering efficient energy solutions based on Organic Rankine Cycle (ORC) technology for the conversion of waste heat into electricity. Orcan Energy AG was founded in 2008, employs 60 people and is headquartered in Munich, Germany.

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