

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



# 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.

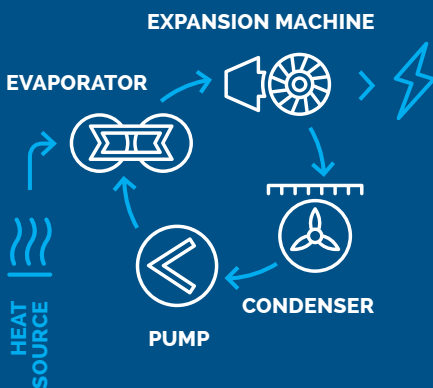
## LOW MAINTENANCE

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



## FACTS & FIGURES

Heat input & electrical output

Up to 500 kW thermal input & up to 30 kW electrical net output (at 10°C ambient temperature and including cooling, power electronics, pumps etc.)

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 <sub>th</sub> ]	217	243	270	297	326	352	290	415	500
Electrical net output [kW <sub>e</sub> ]	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

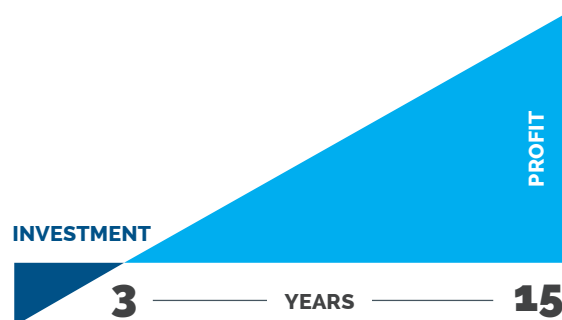
1.6 t, 1.54 m x 2.26 m x 2.57 m (W x L x H)

## CASE STUDY

- 2.5 MW thermal waste heat > 5 efficiency PACKs
  - 8,000 hrs of operation per year
- 150 kW el,net (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.

**200**  
units sold  
worldwide

**880,000**

hours of  
operation

**6,100**  
tons of  
carbon saved