Modern Power+ unit produces emissionfree electricity from waste heat already from 77°C.



MODERN AND RELIABLE TECHNOLOGY FOR PRODUCING ELECTRICAL ENERGY



ORC POWER+ 4200, 4400, 6500

ORC POWER+ features patent-protected rotating twin screw expander. The rotary expander produces electricity transformed from a source of low-temperature waste heat.

Installing the POWER+ offers a potential alternative to utilization of waste heat and a very attractive payback time.

POWER+ 4200 is the smallest device generating up to 35kWe through the Organic Rankine Cycle and is ideal for utilization of lowtemperature waste heat.

POWER+ 4400 is a device almost identical with the previous type but generating up to 65kWe. **POWER+ 6500** is the most powerful device enabling an investor to utilize a higher heat potential with higher production of electricity of up to 110 kWe.

Power+ 6500 device can operate in a commbined heat and power generation (CHP) while usable heat is still available for further use of the ORC at the output.

CAPACITY PARAMETERS			4200	4400	6500
Device capacity	Output power	kWe	to 35	20 - 65	20 - 110
Conditions for waste heat	Input temperature	°C	77 - 116	77 - 116	77 - 116
	Input power	kW	300 - 500	400 - 860	330 - 1300
	Flow	l/s	3,2 - 12,6	3,8 - 12,6	6,4 - 22, I
Condensing conditions	Input temperature	°C	4 - 43	4 - 43	4 - 38
	Ambient air temperature	°C	< 38	< 38	< 38
	Condensation load	kW	280 - 430	380 - 795	320 - 1200

Performance depending on the flow rate and input temperature of hot water





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The system works on the principle of a closed Organic Rankine Cycle (ORC).

B: POWER

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TECHNICAL SPECIFICATIONS

PROCESS

- Heat enter the evaporator and heats ORC operating fluid (oil) to the boiling point and thus it is converted into steam. The hot steam creates pressure.
- 2. The steam is forced through the screw expander and spins an electric generator.
- 3. Steam is cooled with a source of cold water and condenses back to liquid form in the condenser.
- 4. Operating fluid is pumped to a higher pressure, it returns back into the evaporator and the process repeats.



CONSTRUCTION Installing refrigerant built according to standards ASME and CE Energy block patented twin screw expander Generator asynchronous Heat exchanger compact, brazed board construction Lifespan 20 years SYSTEM DESCRIPTION pentafluoropropane (nonflammable, nontoxic, not harming Operating fluid the ozone layer) hot water from 77°C to 116°C Heat source water temperature 4°C to 43°C Cooling requirements common management software / standard programable logic Control controller Remote monitoring internet Operation designed for unattended operation Sound pressure level 80 db at 1 m; optional silence; <72 db at 1 m

POSSIBLE CONFIGURATIONS OF POWER+ DEVICE

Freestanding

Dimensions: $2,4 \times 2 \times 2,3$ m Indoor and outdoor installation



Advantages of the POWER+ series

- Automated management system
- Low maintenance requirements
- Modularity and scalability
- Robust twin screw expander
- CE certification
- Zero emissions
- No secondary toxic products
- Zero consumption of fossiel fuel
- Remote monitoring

20 ft. ISO frame

Dimensions: 6, $I \times 2, 4 \times 2, 6$ m Possibility of modular wiring, easy installation without a concrete foundation, integrated mounting with a dry cooler



Utilizing the technologies

- Natural gas engine
- Petrol and diesel engines
- Biomass engines
- Biogas
- Boilers
- Heat from industrial processes
- Solar heat
- Geothermal energy

40 ft. ISO frame

Dimensions: $12 \times 2,4 \times 2,6$ m Turnkey installation including a cooling circuit, piping and pump; without a conceret foundation; plug and play



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