



+ FLEX SETUP

- In- and outdoor installations
- Sites with height limits
- Suitable for exhaust gas temperatures >350°C

The **Flex Setup** combines the e-box process container (containing the turbine, process equipment and all electronics) with a separate evaporator and, where needed, a table cooler.

POWER FROM HEAT

- + Converts exhaust gas waste heat into valuable electricity
- + Highly efficient technology
- + Proven track record of 1.5 million operating hours on 50+ sites
- + Easy to install, easy to operate
- + Can supply hot water to nearby heat users

Dimensions

1 e-box: ORC Process Container		2 Evaporator		3 Table Cooler (optional) see picture on back side	
Height	2.59m	Height	Project specific, up to 5m	Height	1.8m
Width	2.44m	Width	2.4m	Width	1.2m
Length	6.06m	Length	Project specific, up to 2m	Length	3.8m
Mass	~10,000kg	Mass	3,000 – 7,000 kg	Mass	~1,000kg

Codes and Standards

The Triogen ORC is CE marked, it complies with:

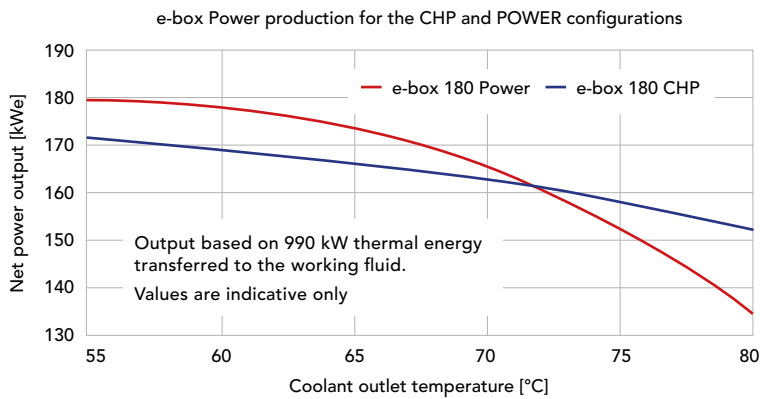
- The Pressure Equipment Directive (PED) – third party, notified body: Lloyds' Register
- The Machinery Directive (MD)

- The Low Voltage Directive (LVD)
- The Electromagnetic Compatibility directive (EMC)
- Approved by Lloyds Register for automated operation
- All containers are CSC approved



PERFORMANCE	e-box 180 Power/CHP	e-box 100 Power/CHP	e-box 50 Power/CHP
Thermal input (flue gas):			
Minimum flue gas temperature in	350°C	350°C	350°C
Flue gas temperature out	160–220 °C		
Thermal input (heat transferred to ORC):	990 kW	690 kW	480 kW
Thermal output (cooling water):			
Temperature in/out	from 40°C/55°C to 75°C/90°C		
Thermal output	770 kW	550 kW	380 kW
Electrical Performance:			
Net power*	180 kW	100 kW	50 kW
Net efficiency	up to 18.2%		

* excl. options: table cooler, cleaning system



SYSTEM CHARACTERISTICS

Heat source	Flue gas, hot air or fumes
Heat rejection	Liquid: water/glycol mixture
Turbine	Radial, single stage 18,000–28,000 rpm
Working fluid	Toluene (C ₇ H ₈)
Bearing	Roller Bearing lubricated with working fluid
Placement	Indoors or outdoors (IP55/UV protected); level floor
Operating Pressure	32 bar
Control	Sophisticated control system for unsupervised operation
Monitoring	Remote and locally controlled and monitored (SCADA system, open to interface to customer)
Generator	High speed asynchronous, variable speed
Inverter	Active front end, automatic grid synchronization
Electrical connection	400V, 50Hz, 400 A, 3 phase Grid code compliance (G59, CEI 0–16 etc.)
Exhaust gas pressure drop	ORC: under 15 mbar Max system back pressure on engine <25 mbar
Engine interaction	No implication on engine performance and maintenance intervals; Fully compatible with all major engine brands, engine warranties remain valid

