



## DIMENSIONS

ORC process container (20' shipping container)		Triogen Evaporator		Dry Cooler (indicative, optional)	
Height	2.59 m	Height	Customer specific (up to 5 m)	Height	1.8 m
Width	2.44 m	Width	2.4 m	Width	1.2 m
Length	6.06 m	Length	Customer specific (up to 2 m)	Length	3.8 m
Weight	≈ 10000 kg	Weight	3000–7000 kg	Weight	1000 kg

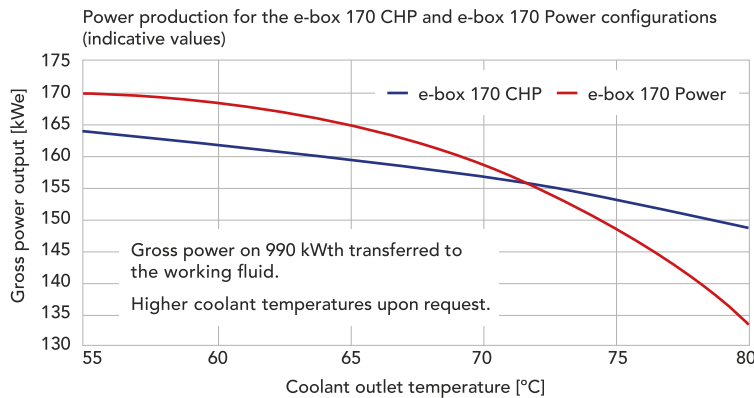
## CODES AND STANDARDS

The Triogen ORC is CE marked, it complies to:

- 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)



PERFORMANCE	e-box 170 Power	e-box 170 CHP	e-box 100 Power
Thermal input:			
Minimum flue gas temperature	> 350 °C	> 350 °C	> 350 °C
Flue gas temperature out	160–220 °C	160–220 °C	160–220 °C
Thermal input (heat transferred to ORC):	990 kW	990 kW	630 kW
Thermal output:			
Temperature in/out	40 °C/55 °C	65 °C/80 °C variable	40 °C/55 °C
Thermal output	770 kW	770 kW	450 kW
Electrical Performance:			
Gross power (P <sub>FH</sub> )	170 kW	145 kW	100 kW
Own consumption in ORC	8 kW	8 kW	8 kW
Net power	162 kW	142 kW	92 kW
Gross efficiency	17.2%	14.6%	15.9%



## 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 <sub>7</sub> H <sub>8</sub> )
Bearing	Hydrodynamically lubricated with working fluid
Placement	Indoors or outdoors (IP55/UV protected); water level floor
Operating Pressure	32 bar
Control	Sophisticated control system with redundant PLC for unsupervised operation Interacting with furnace and plant control system
Monitoring	Remote and locally controlled and monitored (SCADA system)
Generator	High speed asynchronous, variable speed
Inverter	Active front end
Electrical connection	400V, 50Hz, 400 A, 3 phase Grid code compliance (G59, CEI 0–16 etc.)
Furnace interaction	Compatible with various furnace suppliers and fuel types



June 2017