ANSALDO ENERGIA
Power together

AE-T100E

AVAILABLE VERSIONS

Power Only (P), Combined Heat & Power (CHP)

The AE-T100E is a partly-completed machine
The AE-T100E does not include any external heat exchanger, biomass boiler, solar concentrator or other plant component

GENERAL

Installation	Indoor / Outdoor - Site temperature range: (-10 - +40)°C
Size (WxHxL)	(900* x 1900 / 3300** x 2770) mm (P) – (900* x 1900 / 3300** x 3900) mm (CHP)
Weight	2250* / 2750* kg (P) – 2770* / 3100* ** kg (CHP)
Hot air flow connection kit – width (additional)	830 mm
Hot air flow connection kit – weight (additional)	200 kg
Fuel	External heat source only

(*) the values reported do not take the hot air flow connection kit into consideration
(**) indoor/outdoor layout

MICROTURBINE

Compressor type	Centrifugal, single stage
Turbine type	Radial, single stage
Number of shafts	1 (single shaft)
Rated rotational speed	70,000 RPM

EXTERNAL HEAT SOURCE

Max Turbine Inlet Temperature (TIT) = Max external heat source outlet temperature	830 °C
External heat exchanger max pressure drop	200 mbar

ELECTRICAL DATA

Frequency output	400/230 V AC, 50 Hz (60 Hz on request)
Voltage output	400 V (AC), three phases

PERFORMANCES

Max rated electrical output	< 75 kWel
Electrical efficiency	Depending on the external heat source
Rated air flow	< 0.79 kg/s
Exhaust air temperature	Depending on the external heat source
Average sound pressure	≈ 72 dB(A) @ 1 m

The above values are indicative, non-binding and subject to change without notice.

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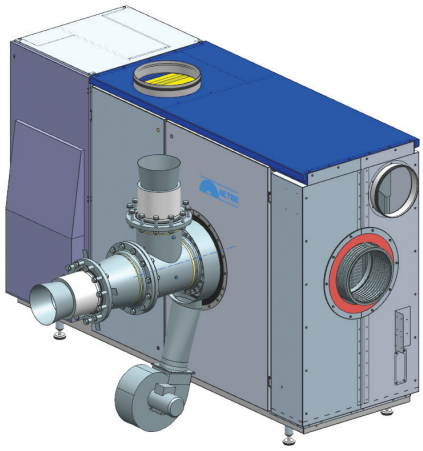
The Ansaldo Energia AE-T100E Micro Gas Turbine is a partly-completed machine for connecting to an external heat source, such as a biomass boiler or a solar concentrator.
Unlike the AE-T100NG and AE-T100B, the AE-T100E is unable to operate independently because it has no combustion chamber.
The AE-T100E must therefore be connected to the full plant, including the external heat exchanger.

The Ansaldo Energia scope of supply includes exclusively:
- the AE-T100E;
- the hot air flow connection kit; and any associated standard options available for the AE-T100NG and AE-T100B.



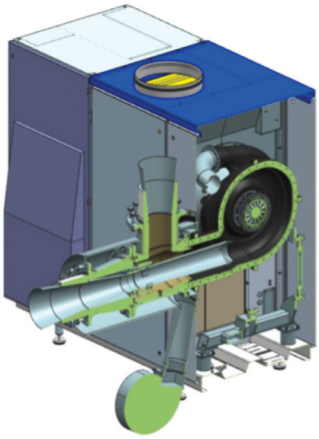
AE-T100E - outside view

Operating principle:
The turnkey plant is built by Ansaldo Energia customers and consists basically of:
- 1 external boiler/social concentrator;
- 1 high temperature heat exchanger to transfer the thermal energy from the boiler/concentrator to the AE-T100E, while keeping the airflows to heat and from the heat source separate; and
- 1 or more AE-T100Es operating in an open "Brayton" cycle, in which the increase in enthalpy is provided by the external heat exchanger rather than the traditional combustion chamber, as is the case for the AE-T100NG and AE-T100B.

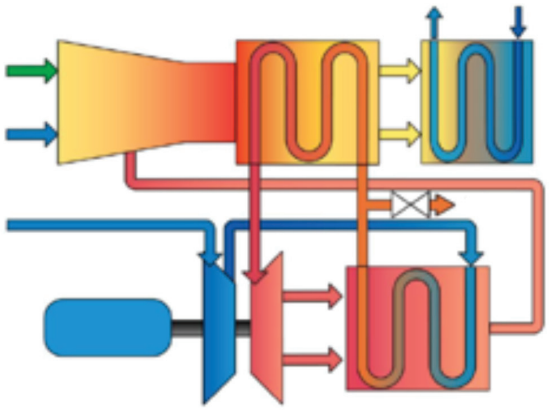
A special piping assembly provides a high temperature connection between the AE-T100E's collector and the client's complete plant.

The main types of customer for the AE-T100E are:
- Turnkey plant constructors working in the biomass (wood, forest waste, animal manure, sewage sludge, etc.) and/or solar concentration sectors
- Public and private research centers
- Energy service companies

Benefits of Ansaldo Energia AE-T100 technology:
- Remote control
- FULL SERVICE contracts stipulated directly with Ansaldo Energia and/or with authorised Partners
- Low maintenance requirements: scheduled service intervals of 6,000 operating hours
- Low acoustic emissions
- Low exhaust gas emissions without the use of reduction devices
- Designed for both indoor (technical rooms, thermal power plants) and outdoor installations.



AE-T100E - cross-section



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