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AE-T100B MICROTURBINE

Available Versions

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

The AE-T100B does not include the biogas compression-treatment device

Microturbine

Compressor type	Centrifugal, single stage
Turbine type	Radial, single stage
Type/Number of combustion chambers	1 chamber, CAN type
Pressure in combustion chamber	4.5 bar(a)
Turbine Inlet Temperature (TIT)	950°C
Number of shafts	1 (single shaft)
Rated rotational speed	70,000 RPM

Fuel requirements

Required pressure*	(6 - 8) bar(g)
Required temperature	(0 - 40)°C
CH4 min	> 40%
Wobbe Index**	(18 - 25) MJ/Nm^3
Consumption***	333 kW ≈ (34 - 85) Nm^3/h
H2S max (hydrogen sulfide)****	< 2280 mg/Nm^3 ≈ 1500 ppm(v)
Siloxanes max****	< 150 mg/Nm^3

(*): AE-T100B without biogas compression-treatment device
(**): as defined in technical description
(***): depending on fuel LHV
(****): with an appropriate biogas treatment system, operation is possible in all cases

General

Installation	Indoor / Outdoor – Site temperature range: (-10 - +40)°C
Size (WxHxL)	(1100 x 1900 / 3300* x 2770) mm (P) – (1100 x 1900 / 3300* x 3900) mm (CHP)
Weight	2250 / 2750* kg (P) - 2770 / 3100* kg (CHP)
Fuel	Biogas

(*) indoor / outdoor layout

Electrical data

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

Performances

Electrical output	(105 ± 3) kWel
Electrical efficiency	(30 ± 2)%
Exhaust gas flow	≈ 0.79 kg/s
Exhaust gas temperature	≈ 270°C
Average sound pressure	≈ 72 dB(A) @ 1 m

(*): biogas compressor consumption not included

Emissions***

NO_x	≤ 15 ppm(v) ≈ 31 mg/Nm^3
CO	≤ 15 ppm(v) ≈ 19 mg/Nm^3

(*): @ full load - (105 ± 3) kW, biogas compressor consumption not included - 15% O2
(**): depending on biogas composition

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

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The AE-T100B Micro Gas Turbine is a high efficiency energy system suitable for cogeneration (CHP) and trigeneration (CCHP) plants fired with biogas produced by:

- Civil and industrial sewage and wastewater treatment plants
- Landfill gas collection systems
- Anaerobic digestion processes

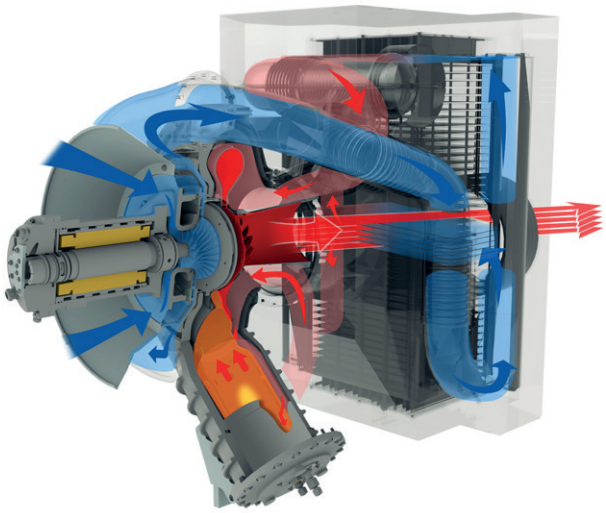
The main clients for the AE-T100B are therefore:

- Multi-utilities
- Industries with wastewater purification/treatment systems

Benefits of Ansaldo Green Tech AE-T100 technology:

- High tolerance of biogas components
- Remote monitoring, control and operation
- FULL SERVICE contracts stipulated directly with Ansaldo Green Tech 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
- Operation possible in a wide range of partial load conditions
- Modular
- Designed for both indoor (technical rooms, thermal power plants) and outdoor installations

AE-T100B



Power Train - operating principle

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