

Gas Turbine Jet Engine Apparatus (EDC-HT-038)

EXPERIMENTAL DATA:

- Behavior during operation of a jet engine including start-up procedure.
- Study of the specific thrust.
- Study of the specific fuel consumption.
- Study of fuel-air ratio.



DESCRIPTION:

A gas turbine, also called a combustion turbine, is a type of continuous and internal combustion engine. The main elements common to all gas turbine engines are: an upstream rotating gas compressor, a combustor, a downstream turbine on the same shaft as the compressor. A jet engine is a type of reaction engine discharging a fast-moving jet that generates thrust by jet propulsion. While this broad definition can include rocket, water jet, and hybrid propulsion, the term jet engine typically refers to an internal combustion airbreathing jet engine such as a turbojet, turbofan, ramjet, or pulse jet. In general, jet engines are internal combustion engines.

SPECIFICATIONS:

- Experimentations related to the function and behavior of a jet engine.
- Gas turbine with radial compressor and axial turbine as jet engine.
- Single-shaft engine.
- Protective grating for the jet engine.
- Turbine is on a base with force sensor for thrust measurement.
- Electric starter for automatic starting.

DIMENSIONS AND WEIGHT:

- L x W x H (mm): 500 X 350 X 400 approx.
- Weight: 19 kg approx.

SCOPE OF DELIVERY:

- 1 x EDC-HT-038.
- 1 x Instructional Manual.

TECHNICAL DATA:

- Jet engine:
 - max. thrust: 80N at 120000min-1
 - speed range 35000...120000min-1
 - fuel consumption: max. 22L/h (full load)
 - exhaust gas temperature: 610°C
- Fuel: kerosene or petroleum + turbine oil
Starting system: electric starter
1 tank for fuel: 5L
- Sensors:
 - Temperature, thrust, RPM and flow(fuel).
- 230V, 50Hz, 1 phase.

