ENGINEERING LAB EQUIPMENTS

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Product Name :	**Product Code :**
Turbo Jet Engine Test Bench	ENGLABINGCAG3400001

Description :

Turbo Jet Engine Test Bench

Technical Specification :

The Turbo Jet Engine Test Bench experimental test stand trainer investigates the behavior during operation of a jet engine.
Includes the following components: jet engine (with compressor, annular combustion chamber, turbine, and propelling nozzle), fuel system, starter and ignition system, and measurement and control equipment.
The gas turbine works as an open cyclic process, with the ambient air being drawn out and fed back in.
In the jet engine, the ambient air drawn in is first brought to a higher pressure in the single-stage radial compressor.
In the downstream combustion chamber, fuel is added to the compressed air and the resulting mixture is ignited.
The temperature and flow velocity of the gas increase.
The gas flows out of the combustion chamber into the single-stage axial turbine and discharges a portion of its energy to the turbine.
This turbine drives the compressor.
In the propelling nozzle, the partially expanded and cooled gas expands to ambient atmospheric pressure and the gas accelerates to almost the speed of sound.
The high-speed gas outflow generates the thrust.
In order to reduce the outlet temperature, the exhaust gas stream is mixed with the ambient air in a mixing pipe.
The gas turbine is started fully automatically with the aid of an electric starter.
The speed, temperatures, and mass flow rates of the air and fuel is recorded using sensors.
The measured values can be read on digital displays.

At the same time, the measured values can also be transmitted directly to a PC via USB.
The data acquisition software is included.

Behavior during operation of a jet engine including start-up procedure
Determination of the specific thrust
Determination of the specific fuel consumption
Determination of lambda (fuel-air ratio)