LAB ENGINEERING

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Product Name :	**Product Code :**
Axial Flow Turbine Test Bed	THEM0001

Description :

Axial Flow Turbine Test Bed

Technical Specification :

The Axial Flow Turbine Test Bed experimental axial flow engine-start turbine comprising a single-stage radial compressor, an annular combustion chamber and a low mass, high-performance axial flow turbine.
The engine has been integrated into a sturdy metal frame that holds it firmly, while enabling accurate measurement of the thrust produced by the engine.
The engine inlet has been replaced with a custom fabricated frontal duct, to enable the air mass flow rate to be accurately measured.
A tough, transparent polycarbonate screen is fitted in order to make the apparatus completely safe, but still provides excellent visibility of the engine when in use.
An electronic preprogrammed controller constantly supervises the engine, ensuring safe operating conditions at all times.
The engine is easy to start and stop from the software interface, and automatic, optimal start-up and power-down sequences are already set to assure minimum mechanical stresses.
There is no requirement for compressed air supply or propane gas to start the engine.
The screen is removable, enabling full access to the engine and instrumentation.
The engine software runs on a personal computer, requiring only a single USB interface between the electronic console and the PC.
This enables simple installation into a test cell or soundproof enclosure.
FEATURES:
Complete aeronautical axial flow gas turbine engine
Full instrumentation and sensors

Easy installation into a test cell (single USB interface)
High-performance centrifugal compressor
Simple ignition system, based on a common Rossi R8 glow plug
Data acquisition and educational software included
Small-scale equipment minimizes laboratory space needed
Fully tested for high performance and safety
High maximum RPM
Fast response to speed changes
Single point pivot on engine mounting enables accurate thrust measurement
No need for external lubrication system; the lubricant is mixed with the fuel
No need for external battery and charger
Can be fuelled with common paraffin or kerosene – no need for difficult-to-find aviation fuel
Tough, transparent polycarbonate safety screen
An optional floor-standing frame is available to house the unit together with its fuel tank and electronic console
SPECIFICATIONS:
Thrust: 200N typical
Exhaust gas temperature: 800°C typical
Mass flow: 450 g/s
Ignition system: Glow plug
Compressor type: Single-stage radial
Turbine type: Single-stage, low-mass axial flow
Engine rpm: 105,000rpm typical
Engine mount: Single pivot point