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Product Name :	**Product Code :**
Regenerative Engine Test Set	TK652

Description :

Regenerative Engine Test Set

Technical Specification :

Regenerative Engine Test Set
A versatile regenerative engine test set with comprehensive controls and instrumentation. When used with one single-cylinder, engines (rated up to 10 kW), it safely and effectively enables study and demonstrations of the features and characteristics of the engine. In addition, optional ancillaries are available to extend the range of study, demonstrations and investigations even further.
The equipment is fully compatible with Versatile Data Acquisition System, available separately).
Accurate real-time data capture, monitoring and display, calculation and charting of all relevant parameters on a computer making tests quick and reliable.
The main components of the system are:
A heavy fabricated floor-mounting bed
An instrument console with instrument frame
A fuel tank support frame that supports the fuel tank and optional fuel gauge
The bed is held on anti-vibration mounts. It includes a robust trunnion-mounted D.C. machine. An electronic load cell connected to the machine measures the driving torque of the test engine. The engines (available separately) are supplied pre-mounted on a sturdy precision base plate.
When the engine is initially mounted onto the test-bed or exchanged with an alternative engine, dowels and slots locate the engine quickly, accurately and reliably.
Each engine includes a color-coded fuel tank with self-sealing couplings. The couplings ensure the engines can be connected and disconnected quickly and efficiently with loss or spillage of fuel. For convenience and safety, the fuel tank can be removed for filling or for storage in a fuel locker when not in use. Removing the fuel tank

also prevents unauthorized use of the equipment.
The control console has an electrical cabinet which houses a four-quadrant drive to start and load the engine. The motor can also be used to drive the engine while the fuel and ignition are off, so students can establish frictional losses. The control console includes an air-box and orifice plate to enable students to measure air flow. The instrumentation and display units are mounted on a sturdy frame, which is part of the control console. The control console also includes a convenient work top for use as a writing desk, or for positioning other equipment such as a computer (computer included).
Exhaust outlet:
One 2.5 m exhaust is supplied that can be connected to a suitable outlet. The local laboratory exhaust can be used (both need an outlet to atmosphere and to comply with local emission regulations)

Acoustic Silencer:
Specification dependent upon exhaust system
Electrical supply:
Three-phase 415 VAC, 50/60 Hz, 20 A o r
Three-phase 220 VAC, 50/60 Hz, 32 A
Operating Conditions
Operating environment:
Well ventilated laboratory
Storage temperature range:
–25°C to +55°C (when packed for transport)
Operating temperature range:
+5°C to +40°C
Operating relative humidity range:
80% at temperatures Instrument Console dimensions:
Width 1700 mm x depth 750 mm x height 1340 mm
Test Bed dimensions (without engine):
Width 1150 mm x depth 500 mm x height 800 mm
Weight (packed total): 600 kg
Volume (packed total): 4.25 m3
Dynamometer:
D.C. machine with four-quadrant regenerative drive
Absorption: 10 kW
Speed: 3600 rev. min–1
Speed measurement: Optical encoder and digital display
Torque measurement: Strain gauged load cell and digital display
Air consumption measurement:
Air box and orifice plate, pressure transducer and digital display.
Ambient Air Temperature and barometric pressure measurement: Thermocouple, pressure transducer and digital display
Exhaust temperature measurement:
Engine thermocouple and digital display
Fuel consumption:
Precision volumetric fuel gauges (analogue or automatic digital versions available)
Safety features:
Interlocks for mains power failure and engine overspend
Emergency stops on test bed and console.

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