



SINGLE CYLINDER RESEARCH ENGINE

AVL 570

SINGLE CYLINDER COMPACT TEST BED NEW GENERATION (3G)

The AVL Single Cylinder Engine Test Bed is a cost-efficient compact system for professionally operating single cylinder engines. It is the ideal solution for new single cylinder installations. The complete system is assembled wired and tested at AVL before delivery.

The single cylinder engine test bed has been developed as a flexible modular system. It can be installed as either a standard low cost solution or as an upgraded customized version, able to accept a wide range of single cylinder engine sizes and also suitable for small multi-cylinder engines and other applications requiring a drive unit, e.g. friction tests.

Its flexible but compact design allows shortest installation times even in the smallest test cell, e.g. a container. Only external supply for cooling water and electrical signals have to be provided locally to operate the test bed, all equipped with quick connectors. As the test bed base frame is mounted at four shock-absorbers the single cylinder engine test bed can be installed in common test cells as well as in containers, garages or rooms without any special demands on the ground floor regarding vibrations damping.

The test bed comprises an active powerful AC dyno including the complete converter and electronics, torque flange and an engine mounting plate – everything mounted on a common base frame with minimum space requirements.



Area of Usage

Wherever a test bed for passenger car size single cylinder, light duty truck size single cylinder or small multi-cylinder engines for R&D testing work, friction and strip-down tests or components tests is required the AVL Single Cylinder Engine Test Bed is the compact and turnkey solution.

Your Benefits at a Glance

- Compact and low space test bed solution including electrical components for dyno, no additional switch box needed
- Can be installed almost everywhere, no special isolated bedplate required
- Easy and short installation times while using quick connectors for electrical signal cables and cooling water connections
- Easy transport of the complete test bed only by a fork lift
- Modular design with several options as lube oil- and coolant conditioning unit, drive shafts, cable boom boxes, exhaust damping vessel etc.
- Installation either as a standard low cost solution or as an upgraded fully automated customized version



Technical Features

- Test bed mechanics – robust base frame design on four rubber dampers
- Water-cooled active AC-Drive and cabinet including frequency converter
- Engine mounting plate, isolated against base frame, four additional shock-absorbers
- Torque flange and intermediate bearing, both integrated into test bed drive system
- Combined water cooling for both dyno and cabinet
- Quick connectors for coolant IN and OUT - either on front or on rear side of the test bed



Technical Data

Single Cylinder Compact Test Bed

Torque:	180 Nm from 0 to 3000 rpm
Power:	60 kW from 3000 to 7950 rpm
Torque flange:	500 Nm
Supply voltage:	3 x 400 V AC, PE, 50/60 Hz
Cooling water supply:	~ 6 m ³ /h at min. 3 bar
Weight:	2.400 kg (with options, without Single Cylinder Engine)
Testing mode:	steady state testing

Option: AVL 577 Oil and Water Conditioning Unit

Oil circuit:

Temperature range:	40 ...120 °C (+/- 1 °C) p-max. 5 bar
Cooling capacity (nominal):	6 kW
Heating capacity:	4 kW

Coolant circuit:

Temperature range:	50 ...110 °C (+/- 1 °C) p-max. 1.4 bar
Cooling capacity (nominal):	40 kW
Heating capacity:	3.5 kW

Options

- Lube Oil and Coolant Conditioning Unit AVL 577
- Drive Shafts – standard or customized solutions
- Calibration lever for torque flange
- Cable boom boxes – single or double boom box
- Exhaust Back Pressure Damping Vessel
- Exhaust Back Pressure Valve
- Throttle Actuator