CT 159
Modular test stand for single-cylinder engines, 3,0 kW

The series CT 159 offers four different internal combustion engines in the power range up to 3,0 kW: A four-stroke diesel and petrol engine, a petrol engine with adjustable compression ratio and a two-stroke petrol engine. The engines are supplied with fuel and air via a modular test stand, CT 159. The exhaust fumes are discharged to the outside via hoses.

The engines are connected to the HM 365 Universal drive and brake unit by a V-belt. HM 365 is first used to start the engines.

While the engines are running, HM 365 is operated in generator mode, thus braking the engines. The engines can be examined under full load or under partial load conditions. The characteristic diagram is determined with variable load and speed. The interaction of the brake and engine can also be examined in this context.

HM 365 Universal drive and brake unit

CT 159 Modular test stand for single-cylinder engines, 3,0 kW

HM 365 + CT 159 + test engine (CT 150 – CT 153) incl. software for data acquisition

- characteristics for full and partial load
- determination of friction loss in the engine
- comparison of diesel and petrol engines
- comparison of 2-stroke and 4-stroke engines
- 4-stroke petrol engine with variable compression

CT 150
Four-stroke petrol engine
Air-cooled, single-cylinder, 4-stroke petrol engine with external carburation

CT 151
Four-stroke diesel engine
Air-cooled, single-cylinder, 4-stroke diesel engine with direct injection

CT 152 Four-stroke petrol engine with variable compression
Air-cooled, single-cylinder, 4-stroke petrol engine:

- variable compression ratios that can be set by changing the combustion chamber geometry
- adjustable ignition point and variable carburettor jet

CT 153
Two-stroke petrol engine
Air-cooled, single-cylinder, 2-stroke petrol engine with diaphragm carburettor

Extended range of experiments

with

electronic indication including software for data acquisition with CT 159.01 + engine-specific pressure transducer with TDC sensor (CT 159.03 – CT 159.05)

CT 159.03
Pressure transducer and TDC sensor

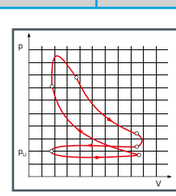
CT 159.04
Pressure transducer and TDC sensor

CT 159.03
Pressure transducer and TDC sensor

CT 159.05
Pressure transducer and TDC sensor

and/or

exhaust gas analysis with CT 159.02



CT 159.01
Electronic engine indicating system for CT 159

Pressure measurement in the cylinder chamber of an internal combustion engine

- p-V diagram
- p-t diagram
- pressure curve during gas exchange
- determination of the indicated performance
- determination of mechanical efficiency

CT 159.02
Exhaust gas analysing unit

Measurement of the composition of exhaust gases (CO, CO_2, HC, O_2), the fuel/air ratio **λ** and the oil temperature of the engine.