CT 300
Test stand for two-cylinder engines, 11 kW

The CT 300 test stand enables a wide range of experiments on 4-stroke internal combustion engines in the power range up to 11 kW.

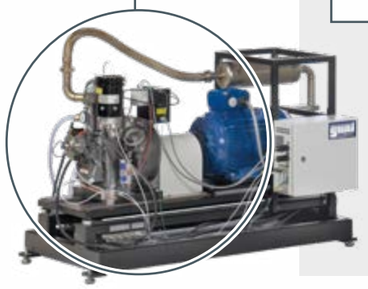
Two different engines are available, each of which is mounted on a base: an air-cooled 2-cylinder petrol engine and a water-cooled 2-cylinder diesel engine.

The test stand and the engine being studied can be operated separately from each other. The engine runs in a separate area and is operated and adjusted remotely by the test stand. This means experiments on the test stand can be carried out and demonstrated in the laboratory or in the lecture hall without disturbing noise from the engine. The test stand and engine are connected to each other via appropriate cables.

Due to the engine's own weight, a hoist is required to install the engine. Load is applied to the engines via an air-cooled asynchronous motor controlled by a frequency converter.

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.

CT 300 Engine test stand, 11kW



The engine is installed on the stable base with the brake unit of the test stand. The test stand and engine can be set up at different locations, even in completely separate rooms, and connected to each other via appropriate cables. The engine is operated from the test stand via remote control.

CT 300
+ test engine (CT 300.04 – CT 300.05) incl. software for data acquisition

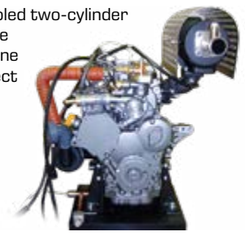
- characteristic curves at full and partial load
- determination of engine friction loss
- comparison of diesel and petrol engines

CT 300.04
Two-cylinder petrol engine for CT 300

Air-cooled two-cylinder four-stroke petrol engine with external carburation

CT 300.05
Two-cylinder diesel engine for CT 300

Water-cooled two-cylinder four-stroke diesel engine with indirect injection



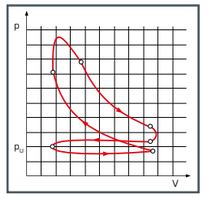
CT 300.17
Pressure transducer and TDC sensor

CT 300.18
Pressure transducer and TDC sensor

Extended range of experiments

with

electronic indication including software for data acquisition with CT 300.09 + engine-specific pressure transducer with TDC sensor (CT 300.17 – CT 300.18)



CT 300.09
Electronic engine indicating system

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

and/or

exhaust gas analysis with CT 159.02

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.

and/or

exhaust gas calorimeter (amount of heat in exhaust gas) with CT 300.01

CT 300.01
Exhaust gas calorimeter

Counterflow heat exchanger for calorimetric analysis of exhaust gases from internal combustion engines