

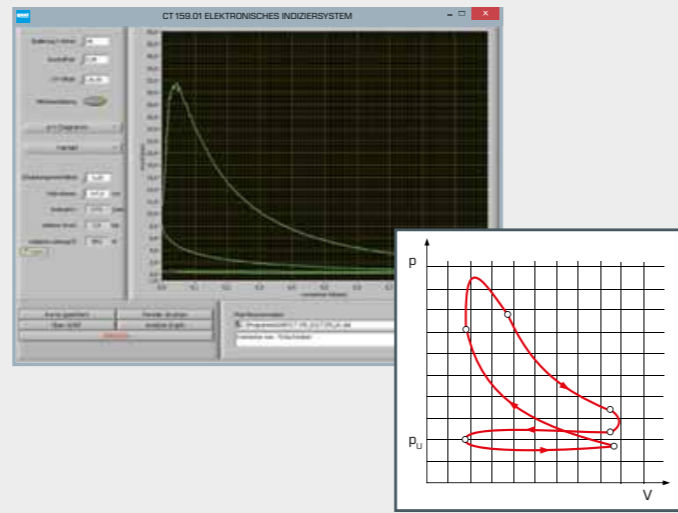
## Test stands for internal combustion engines

GUNT offers four different test stands for internal combustion engines in the **2,2 kW to 75 kW** power range. The engines include four-stroke diesel and petrol engines, petrol engines with variable compression ratios and two-stroke petrol engines.

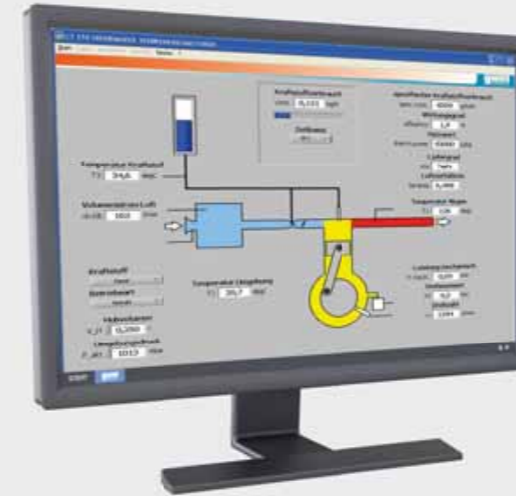
The engines are supplied with fuel and air via the test stands. The exhaust gases can be studied using an exhaust gas analyser.

The **electronic indicating system** is a good way to gain an in-depth understanding of how an engine works. Special pressure sensors record the pressure in the cylinder chamber. These data provide important information on the combustion process in the engine. In industrial applications, indicating systems are used to optimise the combustion process. The data are used to create the **indicator diagram**.

The indicating system helps identify the individual strokes of the engine. The process of **ignition** or an **ignition attempt**, and the **gas exchange** can be examined. Cranking without ignition can be simulated while examining the processes inside the cylinder chamber. The **idling behaviour** of diesel and petrol engines can be compared. The indicating system can be used to carry out a thermodynamic analysis of the engine.



Indicator diagram of a 4-stroke engine



Modern GUNT software for Windows with comprehensive visualisation functions:

- process schematic for all engines with real-time display of all measured and calculated variables
- display of up to four characteristics at the same time
- representation of characteristics: select any assignment for the axes of the diagram
- storage of measuring data
- selection between four preset languages
- easy connection to a PC via USB
- calculated variables
  - ▶ specific fuel consumption
  - ▶ intake air volumetric flow rate
  - ▶ mechanical power
  - ▶ efficiency
  - ▶ volumetric efficiency
  - ▶ fuel-air ratio  $\lambda$

**CT 159**  
Modular test stand for single-cylinder engines, 2,2 kW



2,2 kW

**CT 110**  
Test stand for single-cylinder engines, 7,5 kW



7,5 kW

**CT 300**  
Engine test stand, 11 kW



11 kW

**CT 400**  
Load unit, 75 kW, for four-cylinder engines



75 kW