

# CT 153

## Two-stroke petrol engine for CT 159



### Learning objectives/experiments

- in conjunction with CT 159 test stand and HM 365 load unit
  - ▶ familiarisation with a four-stroke petrol engine
  - ▶ plotting of torque and power curves
  - ▶ determination of specific fuel consumption
  - ▶ determination of volumetric efficiency and lambda (fuel-air ratio)

### Specification

- [1] air-cooled single-cylinder two-stroke petrol engine for installation in CT 159 test stand
- [2] engine mounted on a base plate with vibration dampers
- [3] force transmission to brake via pulley, gear transmission 2:1
- [4] engine completely equipped with fuel line, throttle cable and exhaust gas temperature sensor
- [5] fuel hose with self-sealing quick-release coupling

### Technical data

- Air-cooled single-cylinder petrol engine
- power output: 1,32kW at 6500min<sup>-1</sup>
  - bore: 42,5mm
  - stroke: 32mm

V-belt: Ø 63mm

LxWxH: 430x355x310mm

Weight: approx. 8kg

### Required for operation

exhaust gas routing, ventilation

### Scope of delivery

- 1 engine, complete with all connections and supply lines
- 1 manual

### Description

- engine for installation in the CT 159 test stand
- part of the GUNT-FEMLine

In conjunction with the CT 159 test stand and the HM 365 load unit, the two-stroke petrol engine is highly suitable for use in teaching the fundamentals of engine functioning and measurement.

The engine used here is an air-cooled single-cylinder two-stroke petrol engine with a membrane carburettor. The engine is started by an electric motor mounted in the HM 365 unit. The air cooling is effected by a flywheel fan. The engine output is dissipated via a centrifugal clutch. The HM 365 load unit is coupled by way of a covered V-belt drive. Because of the high speed this engine is provided with a smaller pulley than other engines in the series.

The engine includes a sensor to measure the exhaust gas temperature. The sensor, ignition cut-off as well as air and fuel supply are connected to the CT 159 test stand.

The full load and partial load characteristic curves of the engine are plotted in experiments.

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#### Required accessories

|           |        |   |
|-----------|--------|---|
| 063.15900 | CT 159 | Modular test stand for single-cylinder engines, 2,2kW |
|-----------|--------|---|

#### Optional accessories

|           |           |  |
|-----------|-----------|--|
| 063.15902 | CT 159.02 | Exhaust gas analysing unit                     |
| 063.15901 | CT 159.01 | Electronic engine indicating system for CT 159 |
| with      |           |  |
| 063.15905 | CT 159.05 | Pressure transducer and TDC sensor for CT 153  |