

## CT 100.22

### Four-stroke diesel engine for CT 110



#### Description

##### ■ test engine for use in CT 110 test stand

In conjunction with the CT 110 test stand, which includes a drive and brake unit, the four-stroke diesel 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 four-stroke diesel engine with direct injection. The diesel engine is started and slowed down by an electric motor mounted in the CT 110 unit. The air cooling is effected by a flywheel fan. The brake unit is connected by way of an elastic claw coupling.

The engine is prepared for measurement of the cylinder pressure for indication. It includes a sensor to measure the exhaust gas temperature and a connection to measure the intake pressure. Both sensors, ignition cut-off and fuel supply are connected to the CT 110 test stand.

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

#### Learning objectives/experiments

- in conjunction with CT 110 test stand
  - ▶ familiarisation with a four-stroke diesel engine
  - ▶ plotting of torque and power curves
  - ▶ determination of specific fuel consumption
  - ▶ determination of volumetric efficiency and lambda (fuel-air ratio)
  - ▶ determination of engine friction loss

#### Specification

- [1] air-cooled single-cylinder four-stroke diesel engine for installation in the CT 110 test stand
- [2] engine mounted on base plate
- [3] force transmission to brake via elastic claw coupling
- [4] engine complete with fuel hose and exhaust gas temperature sensor
- [5] fuel hose with self-sealing quick-release coupling
- [6] engine also available as biodiesel engine CT 100.24

#### Technical data

Air-cooled single-cylinder diesel engine with direct injection

- power output: 4,5kW at 2700min<sup>-1</sup>
- compression ratio 22:1
- bore: 80mm
- stroke: 69mm

LxWxH: 470x400x480mm

Weight: approx. 43kg

#### Scope of delivery

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

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#### Required accessories

063.11000	CT 110	Test stand for single-cylinder engines, 7,5kW
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#### Optional accessories

063.15902	CT 159.02	Exhaust gas analysing unit
063.10011	CT 100.11	Exhaust gas calorimeter for CT 110
063.10013	CT 100.13	Electronic engine indicating system for CT 110
with		
063.10016	CT 100.16	Pressure transducer for CT 100.22