

CRI 4000

Universal injector test bench with manual test sample clamping



The model CRI 4000 test bench was designed for the development and limited production test of injectors from the passenger car, commercial vehicle and large diesel area. The injector clamping is done manually and therefore can be adapted easily to changing test sample geometries.

The extremely compact test bench design with complex noise insulation encapsulation also can be operated in laboratory environments without finding the background noise disturbing. The wide opening doors give the operator an optimum accessibility to the test chamber and thus to the injector holder. The test oil supply and its conditioning is done from the hydraulic unit in the bottom rack of the test bench, where the high-pressure unit for pressure

supply of the Common-Rail-Systems with up to 2200 bar is also located.

Operation and control of the test bench is done via an industrial PC in the integrated power and instrumentation cabinet.

Depending on the customer requirements, the basic test bench can be equipped for the following testing jobs and task assignments:

- Tests of injectors with Shot-to-Shot measurement systems
- Tests of injectors with continuous measurement systems
- Flow stream inspection of injectors
- Purging of injectors

best testing – best quality

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Basic function

The CR-injector is supplied by a high-pressure accumulator mounted in the test bench, having a highly accurate adjustable high pressure.

The pressure regulation and injector control is done according to the customer's requirements via a near-series control module, a test control device or a pressure control unit integrated in the instrumentation cabinet including a test sample-specific magnet or piezo output stage.

Features

- For passenger car, commercial vehicle and heavy duty diesel injectors
- Compact design with integrated oil pan
- Good accessibility to the test sample through large, wide opening safety doors
- Integrated noise and personal protection
- Integrated test oil supply with complex filtering and highly accurate temperature control
- Integrated high-pressure unit with a maximum volume flow of 2.5 l/min
- Rail pressure control 500 to 2200 bar
- Measurement range of the preferred volume measurement systems EMI 21 with up to 10 partial injections:
 - 0.2 – 600 mm³/stroke -> EMI 21-600
 - 1 – 1500 mm³/stroke -> EMI 21-1500
 - 5 – 5000 mm³/stroke -> EMI 21-5000
- Measurement range of the optional injector leak measurement: 0.1 – 30 l/h
- Cycle synchronous injection possible
- Connection of engine control units and test control devices possible
- Solenoid power stage and piezo power stage available
- User-friendly and flexible test bench software Prisma NT for automated test processes and highly accurate data acquisition
- Good price/performance ratio



Accessibility to the test area

Technical Data

Electrical connection voltage	3 x 400 – 480 VAC / 50 – 60 Hz
Electrical power consumption	max. 25 kVA
Control voltage	24 VDC / 10 A
Compressed air supply	G1/4"; 6 bar
Cooling water supply	G1/2"; dp = 3 bar; 10 l/min; 18 °C
Drive motor of the high-pressure unit	15 kW
Engine nominal speed	3000 RPM
Pressure range	500 – 2200 bar
Maximum volume flow	2.5 l/min
Shot-to-shot measurement system	EMI 21-600, EMI 21-1500, EMI 21-5000, ...
Continuous measurement system	PLU 112B, PLU 110
Engine control module or test control device	Bosch, ETAS, Heinzmann, ...
Communication protocol	ASAP3, CAN, ...
Available test power stages	Solenoid valves, piezo valves

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