



Test Equipment for Diesel Fuel System

The background image shows a close-up of a diesel engine, focusing on the air filter and various hoses and components. The entire image is overlaid with a semi-transparent blue filter.

PROFESSIONAL DIAGNOSTIC EQUIPMENT FOR DIESEL FUEL SYSTEMS

Test Benches - Electronic Devices - Measuring Systems - Software

ELECTRONIC MEASURING DEVICES

MEGA TESTER V 4

Device for checking the electrical parameters of piezoelectric diesel injectors.

Options:

- Measurement of piezoactuator resistance
- Measurement of piezoactuator capacitance
- Measuring of insulation resistance
- Measurement of clearance (gap) between the piezoactuator and the valve tappet
- Piezoactuator control by DC or pulse voltage
- Wireless control from PC via Bluetooth (optional)
- Battery operation in autonomous mode (battery optionally available)

This tool can be used to check the condition and function of the piezo control element and to detect possible faults in the Common Rail injectors. In addition, it allows to set the optimum gap between the piezo element and the valve tappet, which directly affects diesel injection and the balanced operation of the engine.



FLOW BOX



VALVE TESTER V1

The Valve Tester V1 is designed to diagnose and measure the operating parameters of the control solenoid valves of the fuel equipment (for example, Common Rail injectors, unit injectors and sections). The Valve Tester allows you to tune the control solenoid to ensure that it operates in the same way for all engine cylinders (to ensure smooth engine operation).

The operating parameters of the control solenoid valve are among the basic parameters (along with the hydraulic parameters of the metering device and the compression value in the cylinders) and directly affect the uniformity of fuel delivery and the uniformity of engine rotation.

The device allows you to determine the following parameters of the control solenoid valve using a control signal:

- measurement of solenoid's operating current
- measurement of solenoid's release current
- indirect measurement of the air gap of the solenoid valve
- measuring the inductance of solenoid
- measuring the resistance of solenoid



TEST BENCHES & CONTROLLER

TEST BENCH CR-IP

The CR-IP diagnostic bench is designed to test and code Common Rail injectors manufactured by Bosch, Delphi, Denso, Siemens at a system pressure of up to 2400 bar. The measurement takes place in an electronic measuring system.

A software ARMD with test plans is included. The CR-IP bench allows the simultaneous testing of up to 4 injectors, as well as monitoring the temperature of the test fluid on each injector.

The CR-IP diagnostic bench uses the CR4-Tester device which is designed to supply user-programmable control signals to Common Rail fuel injectors to check their performance (spray pattern and intensity, volumetric capacity).

Properties:

Injector opening pulse rate 60 - 1500 min-1

Injector opening pulse duration 100 - 3000 μ s

Temperature control of test liquid in the range of 0-100 \pm 1 $^{\circ}$ C

Test liquid pressure control within the range 0 - 2400 bar

Electronic pressure measurement in fuel pressure accumulator over the range 0 - 2400 bar

Polycarbonate safety glass 10 mm

Dimensions 1100 x 1700 x 670 mm

Weight 450 kg



CONTROLLER „CR-IP“

The „Diesel tester CR-IP.1-4I“ is designed to diagnose Common Rail injectors from Bosch, Denso, Delphi, Siemens VDO on the test bench. Device provides:

- simultaneous control of 1-4 injectors;
- control of electromagnetic injectors of passenger car series with voltage of 14 V;
- control of electromagnetic injectors of truck series with 28V supply voltage
- control of piezoelectric injectors;
- control of Common Rail injectors of CP1, CP3 systems;
- control of the measuring unit shutter.



FLOW METER & CODING

MEASURING SYSTEM “JET4-E”

The measuring unit „JET4-E“ is an electronic unit that controls the electrical elements of the Common Rail fuel system BOSCH, DENSO, SIEMENS, DELPHI etc., measures the injector volume delivery and the injector return flow rate.

It is used as part of the test bench equipment as well the solution for upgrade of old test benches.

Depending on the version, the measuring unit „JET4-E“ can simultaneously control and measure one or four injectors.



JET CODE

The JET-CODE complex is designed to correct injector parameters in the code and generate a new code.

Supported types of coded injectors: BOSCH, DELPHI, DENSO, SIEMENS.

The complex includes: JET-CODE program, USB-CODER (for 10000 encodings).



FOR PUMPS & PUMP INJECTORS

DT-UNI TESTER

- Controller Pump Check for PE, VE, ZEXEL
- Controls distributor- and inline-type high pressure fuel pumps electronically controlled;
- Set any possible position of the spool valve;
- Work with pumps with inductive or potentiometric position transmitters;
- Control the set control voltage to the dosing unit;
- Control the current value through the dosing unit winding;
- Control the fuel temperature value in fuel injection pump
- Monitor the feedback voltage (acknowledgement) from of the metering position sensor on the indicator;
- Control the fuel advance valve position;
- Display voltage of so-called "valve advance stroke (TPS), only for ZEXEL-COVEC;
- Start the engine (Motor) directly from the DT-UNI;
- Carry out functional testing of fuel injection pumps without removing them from the car.



UIS-TESTER

The UIS-Tester is designed to test and verify the performance of pump injectors (UIS -Unit Injector System) and individual high pressure fuel pumps with high pressure solenoid valves (UPS -Unit Pump System).

The UIS-Tester has the possibility of measuring the response time of the electric valve as well as the automatic control of the measuring unit actuator, it has the possibility of updating the firmware and adapting to different CAMBOX versions by itself.

The UIS-Tester device allows:

- Set the control signal of a high pressure solenoid valve;
- Measure the camshaft speed of the actuator;
- Set the number of cycles required;
- Preset mode, for 5 control mode of the solenoid valve;
- Set any value of the advance angle of the solenoid valve.



DEVELOPMENT

PRODUCTION

IMPLEMENTATION

OPEN SYSTEM develops and produces professional diagnostic equipment for diesel fuel systems.

The private enterprise „Open System“ exists since July 1997. There are about 20 qualified specialists employed in the company.

Our expertise:

- diagnostic equipment for various car systems
- monitoring systems for various industrial facilities
- test equipment for diesel fuel systems
- laboratory stands for education center
- non-volatile micropower controllers (battery-powered)

Open System also develops electronic equipment and software on order

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