Common-Rail Diagnostic Set Portable tester for the function control of Common-Rail high pressure injectors in the circulation mode

Common Rail injectors reach their peak effect, the optimum ato- mization through **high pressure** (up to 2100 bar) and **finest in- jection openings**. These conditions can only be fulfilled by a **perfectly working injector** in all temperature- and rpm-areas of the engine.

Slightest discrepancies between the set values (such as inter- nal leakages of the injectors) change the injection conduct and lead to malfunctions, such as start and rotation difficulties, with the result of a decrease in productivity, increase of fuel con-sumption or increased pollutant emission, and thus leads to a higher environmental impact.

The values that can be fetched from the CPU give only indica- tions concerning the malfunction of the injection systems. Only a **combination of engine tester** and precise, sometimes long lasting **measurements of recycle-flow amount of injector within the circulation mode**, can give sound information about the possible defaults within the system.

Having knowledge about these technical conditions, we have developed our system in such a way, that it is **closely integrated within the circulation of the recycle-flow-system**.

The tester for the **function check of Common Rail high pressure injectors, where-fore we are shortly receiving the patent rights**, calculates the absolute as well as the relative recy- cle-flow amount and additionally allows **long-term-measurings of diverse rpms and engine temperatures**.

Therefore also some changing measurements can be specifically controlled. As the state of control does not portray **any change of the original state of the engine**, the diagnosis will not be falsified.

The worldwide patented diagnosis system for the function control of high-pressure injectors in the circulation mode – developed for Bosch piezo in- jectors – compatible with all systems!

Patent-Nr.: EP1907690

Lehnert Tools GmbH
D-74196 Neuenstadt a.K.
Tel.: +49 7139 937760
www.lehnert-tools.com

1 Connection process = reading 5 important measure- ment values simultaneously during long-term test!
1. Absolute recycle flow amount per injector (ml/min)
2. Recycle flow amount in comparison
3. Return pressure (-1 bar – 16 bar)
4. Return temperature
5. Air bubble formation in return flow

The installation of the whole test set-up can be performed very quickly, as the adaptor tubes have **true to the original connection couplings** and with plug-in couplings can be connected to the actual checking unit (mistake excluded).

During the check procedure one can permanently read the flow amount within a checking glass with a float especially calibrated for Diesel fuel. In order to receive additional information, you can also in-between couple the **pressure gauge** with the **temperature probe** through the simple coupling system. Even the smallest leakage in the injection system can be detected by small bubbles in the diagnostic tool.

The **future-adapted designed and protected** device can be connected to all sys- tems, that **are currently known on the market**, as well **to all injectors that will in future appear on the market** (depending on the manufacturer of the injector) by means of the adaptor tubes.

Essential advantages:
- short installation time through mistake-avoiding coupling system
- usable on all Bosch-, Siemens-, Denso- and Delphi- injection systems (also Piezo)
- long-term test at different rpms and engine temperatures in connection to engine diagnosis device possible
- pressure gauge and temperature probe in-between coupleable
- top quality by hand-made-manufacturing „Made in Germany“

Content of the standard-kit:
- Diagnostic tool with 6 flow glases
- 1 Pressure gauge 0-16 bar
- Adapter hose set (12 pcs.) for Bosch- Piezo-Injectors
- Stepless mounting system
- Optional, adapter hose sets for:
  - Bosch
  - Denso
  - Delphi
  - Siemens injectors
  - Temperatur probes 0-120 °C
  - Pressure gauge 0-1,6 bar
  - Pressure gauge -1-0 bar

(Abb. ähnlich)

Lehnert Tools GmbH
D-74196 Neuenstadt a.K.
Tel.: +49 7139 937760
www.lehnert-tools.com