SOLENOID TESTER HT-SOL 25

Ultimate Transmission Testing Equipment

Hydra-Test

the ultimate in valve body testing

www.hydratest.us

JANUARY 2020

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HT-SOL 25

Solenoid Test System Advantages

The HT-SOL is the most advanced generation of automatic solenoid testing machines to date. The innovations incorporated when engineering the HT-SOL 25 allow us to offer several unique advantages to the end customer, among these are:

- An extensive library of benchmark results for most types of solenoids in the industry.
- The ability to create custom benchmark results for later comparison.
- Complete electrical and hydraulic solenoid testing.
- Manual, semi-automatic and automatic (with the option of cyclical repetition) modes of testing.
- The ability to set and modify the desired frequency and duration of the operating voltage of a solenoid.
- High accuracy measurements of current and pressure values when testing solenoids.

These features make the HT-SOL the solenoid testing equipment the industry standard. This gives our customers the advantage of a significant increase in speed and quality of solenoid testing. The intuitive and easy-to-learn user interface has flexible settings, allowing the users to customize it according to their requirements and preferences. The user can easily change the number and type of displayed parameters including colors and labels of graphs of currents and pressures, limits, and tolerances of measured parameters.

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HT-SOL 25

New features

New features of Gen 4 Solenoid tester

- Increased pump performance
- Max test pressure increased to 360 PSI (25 bar)
- Larger capacity easy-to-replace filter with better performance characteristics
- Added tank drain port (for fluid change and flushing of the tank)
- Larger heating element (Increased to 1.5 kW)
- An additional temperature measurement has been added to the solenoid supply. Temperature of ATF is not only measured in tank, but it also where the ATF is entering the solenoid adapter block with the solenoid under test.
- Two Emergency switches are standard on the machine. One switches off the pump and the heating element when the ATF falls below the low level, the second is an easily accessible operator-controlled Emergency Stop button.
- The solenoid control system has the ability to start solenoid control before starting the hydraulic pump.
- Dimensions of the machine have been increased (+4 inches in width, +2 inches in depth) for easier access and solenoid adapter replacement.
- The machine cover panels have been improved for better access for maintenance and cleaning.
- Interior solenoid testing area has been increased.
- The machine has been designed to keep ATF from forming puddles in the test area.
- A secondary heating system has been included to control the temperature of the solenoid adapter block and solenoid under test (by flooding with heated ATF at the required test temperature)
- A dedicated shelf for the keyboard and mouse has been added to keep it off the work bench surface.

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HTC-S™

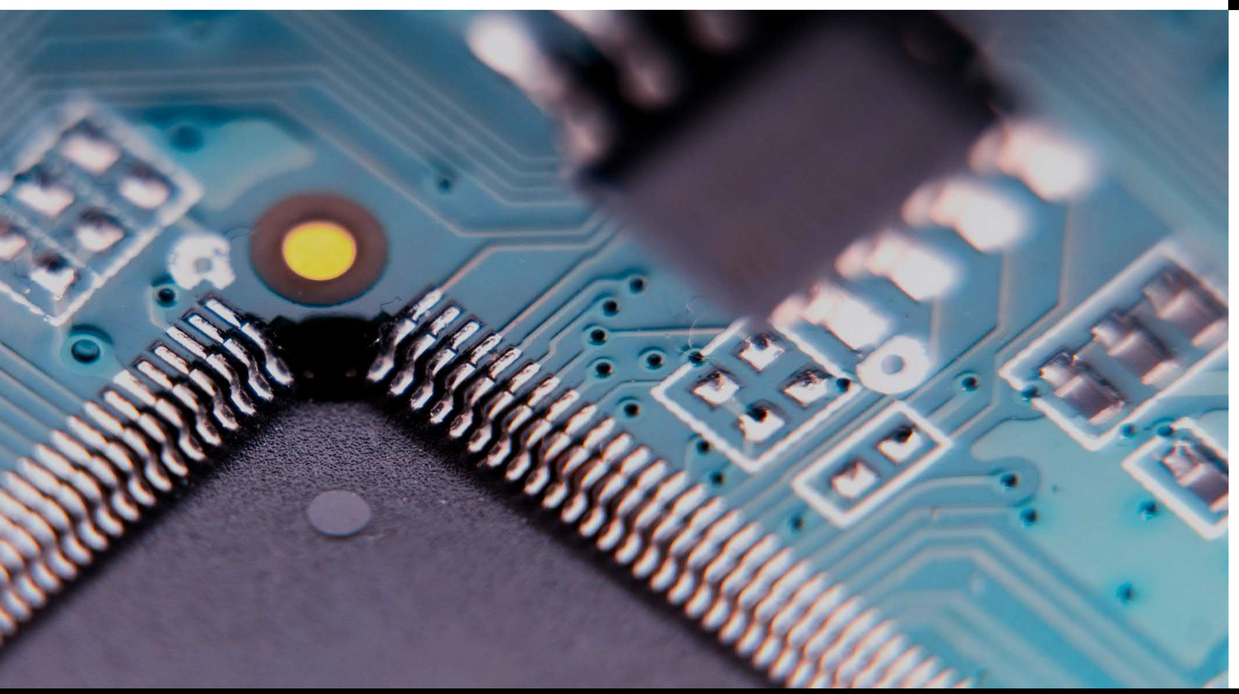
Data acquisition controller and software

- For high-precision measurements of the solenoid test parameters, the Hydra-Test team employs an ADC with 12 bits of resolution, which allows current measurements with an accuracy of 0.001 Amps and pressure measurements with an accuracy of 0.10 PSI (0.005 bar).

- The standard sampling period is 0.001 seconds (1 kHz), allowing you to track even the smallest changes in the behavior of the solenoid under test. As an option, the sampling frequency of current readings can be increased to 50 kHz.

- The standard operating voltage frequency range of the solenoid is 100 Hz to 3 kHz. An optional expansion of up to 50 kHz is possible.

- The standard duty cycle duration can be changed in steps of 1%, with 0.5% being optionally available.



Full and individual Solenoid frequency (Hz) control

Our very own designed "Easy Limits" data analysis calculator feature included

"Live View" feature for all Gauges and Solenoid functions to enable fine adjustments

A genuinely easy file management and storage feature built in

Additional Master Data view feature added to help analyse individual circuit performance

Solenoid Testing Modes

Overview

Electric test of the solenoid

The electrical continuity (open or short circuit) and resistance of the solenoid is tested by observing the values of the current consumed by it (PASS/FAIL check).

Manual mode

The solenoid is tested by manually varying the operating voltage duty cycle (0-100%) and the inlet pressure, while monitoring the current, pressure, and temperature.

Automatic mode (Scenario)

The solenoid switches automatically according to a user-defined test scenario. During the scenario, the average voltage (controlled by duty cycle), the rate at which the voltage increases or decreases with time, as well as duration of any static voltage are sequenced automatically. The user can choose a prewritten sequence (script) from the extensive library or create their own.

Real-time mode

It is available in all automatic test modes. Live displays of the values of the current and pressure are shown on the chart in real time.

Automatic mode 1

Depending on the user settings, this mode partially or completely repeats the specified scenario (script) in a cyclic mode. It allows repetition indefinitely as all parameters are switched automatically. The mode is stopped by the operator. It is used for long-term solenoid testing. In this mode, it is possible to display current and pressure parameters of the solenoid in real time with overlay of the reference result from the library. Any test results (for example, “before” and “after” solenoid repair) can be used as a reference.

Automatic mode 2

This mode is similar to the mode 1. It is used when two independent parts have to be “looped” in time in the test scenario (script). For the first half Automatic mode 1 is used, for the second half – Automatic mode 2 is used. In this mode, it is possible to display the current and pressure parameters of the solenoid in real time with the overlay of the reference result from the library.

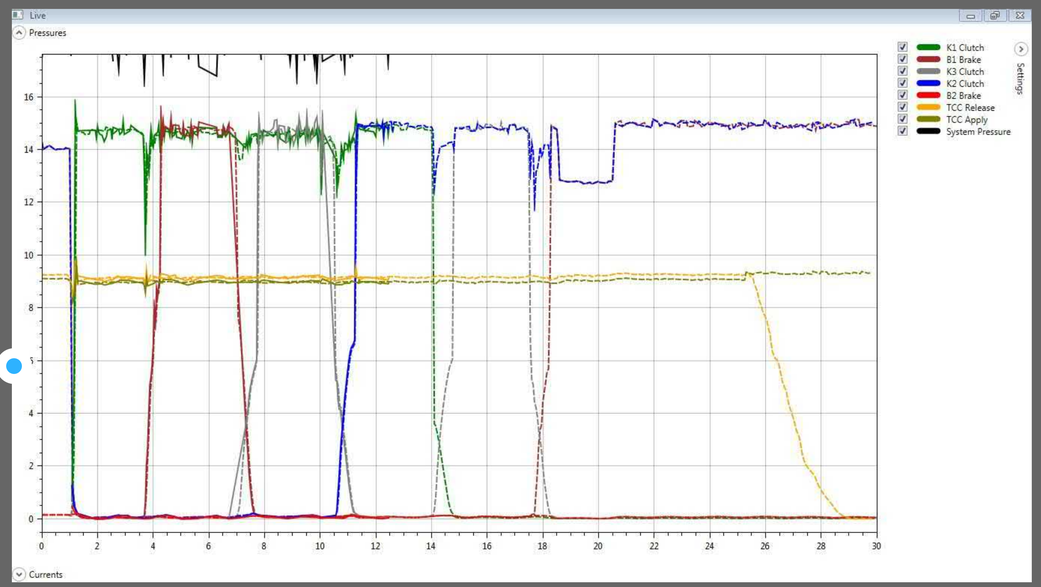
Solenoid Testing Modes

Test Blocks and Master Data

HT-SOL test blocks

Hydra-Test offers an ever-increasing line of solenoid test blocks that allow you to test each solenoid hydraulically, just like it performs in the vehicle while being able to see leaks, potential wear, or other functional issues that would be impossible otherwise. Our dedicated engineering staff is continually developing new test blocks to cover the latest transmission solenoids on the market before they get to your shop. These blocks are made from precision machined aluminum to keep them light and easy to install in the machine. High quality quick connect hose connections to the machine allow for leak free and secure connections for accurate readings.

The vast experience of the Hydra-Test team collected over the years has allowed us to accumulate a large database of test results. Based on this, we have created an extensive library of reference results, which include tests for all of the common automatic transmission models available in the market today.



Master data comparison

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Hydra-Test

Hydra-Test is a worldwide renowned brand that unites several test equipment solutions intended for top-class Automatic Transmission and Valve Body rebuilding. From mid 1990s and on, our products have been supplied to large remanufacturing businesses from USA and Western Europe, international OEM companies, as well as medium-scale and family-owned repair shops from all across the globe.

The USA team is led by Garrett Herning, an industry veteran with service record at Axiline, Zoom Technology, Power-Test.