

# What the Schroeder Test Bench Can do for You

## Introduction

A Schroeder hydraulic test bench (HTB) can shorten your troubleshooting time, take the guesswork out of your diagnoses, and let you thoroughly test new or rebuilt components and subassemblies prior to installation in a working system. Listed below are some more specific uses for a Schroeder HTB in various environments.

## Independent Hydraulic Repair Shops

- Test incoming hydraulic components to identify problems
- Test all rebuilt parts for proper operation to ensure customer satisfaction.
- Carefully “break in” components with rotating parts (pumps and motors) using clean, filtered hydraulic fluid to give rebuilt pumps and motors a long service life.
- Prevent warranty claims and help customers solve hydraulic system problems.  
Example: A customer returned several rebuilt pumps of the same model over a short period of time claiming they only operated a few weeks, days or hours! Records show these same pumps were properly broken-in using the HTB and were operating at peak efficiency after being rebuilt! Armed with this information, you and/or your customer could check the equipment these pumps were used on for contaminated hydraulic fluid; relief valves set too high, clogged suction strainers or other problems causing the pump failures.

## Factory Hydraulic Repair Shops

- Conduct performance tests on rebuilt hydraulic components for proper operation before they are reinstalled on your production hydraulic equipment, preventing additional expensive production equipment downtime.
- Check used components removed from production equipment. Parts can be tested for proper operation and unnecessary repair work can be eliminated.

## Companies Sending Their Hydraulic Components to Outside Repair Facilities

- Test used hydraulic components before they are sent out, preventing unnecessary expensive repair work. In many instances, you may find that only an inexpensive shaft seal or housing o-ring is necessary to put a component back in operation.
- Ensure you are receiving quality rebuild work and prevent expensive additional production equipment downtime by performance testing repaired components.

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## Standard Features

### ■ **Flow/Speed Control**

Variable flow/variable speed hydrostatic drive for testing pumps and motors. Pumps and motors can be rotated at a low RPM to insure proper break-in and mating of rotating parts for a long service life. After break-in, hydraulic pumps and motors can be operated and checked at actual operational RPM and pressure.

### ■ **Power Control**

The horsepower developed by the hydraulic drive motor is controlled by the HTB operator. Rebuilt pumps, which are susceptible to seizing or galling when initially operated, can be tested without damaging the new parts. The HTB's hydraulic drive motor can be controlled to develop just enough horsepower to rotate a test pump at any given RPM and pressure. Safety feature: if a test pump starts to seize, the hydraulic drive motor will stall out saving the test pump from expensive damage.

### ■ **Pressure Control**

The operator controls the operating pressure available to a test motor. The pressure available to a motor being tested can be adjusted to provide just enough pressure to enable the motor to rotate under any given test condition. This prevents excessive pressure damage to a test motor should seizing suddenly occur.

### ■ **Variable Load Control**

Hydraulic motors are tested as motors. On the Schroeder HTB, a variable flow supply rotates the test motor. The test motor then drives a bidirectional hydraulic pump on the test bench. By controlling this "load" pump's outlet pressure, you basically have a dynamometer to put test motors under a variable load to test them for internal leakage (slippage) under simulated operating conditions. The load pump's operating pressure can be converted into the amount of torque the test motor is developing.

### ■ **Variable Pressure**

All hydraulic components can be initially tested at low pressure to properly break in rotating groups and check for seal and housing integrity. Testing can then continue at higher operational pressure.

### ■ **Boost Pump**

The Schroeder HTB has a built in boost pump that can be used to pre fill hard to prime test pumps requiring a positive inlet pressure.

### ■ **Separate Pump and Motor Testing**

Hydraulic pumps and motors from closed loop hydrostatic transmissions are tested separately in order to determine the individual efficiency of each component. Settings on the charge pump flow and relief valve pressure can be checked. The charge pressure and high pressure relief valves in hydrostatic transmission motors can also be checked.

### ■ **Two Independent Variable Pressure Sources**

In addition to the variable volume high pressure main pump, the Schroeder HTB has a supplemental vane pump circuit that can provide pilot pressure, serve pressure or, can be combined with the main pump's flow.