

LOAD-SENSE MOBILE DIRECTIONAL CONTROL VALVE MODULE w/DIAGNOSTICS PACKAGE

DESCRIPTION

Unveil the mystery that surrounds load-sensing with this highly intuitive training module. The concept of “load-sensing” is arguably the most difficult to both teach, and learn, because it has essentially three elements:

1. The effect pressure difference has on flow through an orifice.
2. How a pressure-compensated flow control valve maintains constant flow regardless of pressure changes.
3. How the pump “communicates” with the load via a maze of interconnected shuttle valves which form a complex signal network.

NOTE: This module will only work with simulators which are equipped with the load-sense pump option (MF100-LS).

In addition, a load-sensing system consists of a number of unique components which include a load-sensing pump coupled to a sophisticated load-sense directional control valve. Together, the load-sense pump and the MF100-MDCV-LS-TS module have all the elements for students to learn how a load-sensing system works, how to properly install, set-up, and adjust a load-sensing pump/system. This trainer is equipped with an impressive troubleshooting package



TYPICAL APPLICATIONS

Front-end loaders; backhoes; asphalt and concrete pavers; mobile drills, tractors; trenchers, skid-steer loaders, etc.

TARGET CLIENT

Technical colleges, universities, military training facilities, corporate technical training facilities, and owners of existing, FPTI™ and non-FPTI™ brand fluid power trainers/simulators.

TARGET AUDIENCE

Students who plan on a career in servicing, maintaining, repairing and troubleshooting mobile equipment, mobile equipment repair technicians, component rebuild technicians, and field service technicians.

LEARNING OBJECTIVES

The MF100-MDCV-LS-TS mobile directional control valve module (with diagnostics package) will aid instructors in teaching students how to:

1. Isolate a problem in a load-sense system between the pump and the directional control valve.
2. Test a load-sense pump.
3. Isolate a problem in a load-sense directional control valve.
4. Test for leakage between the spool and bore in cases where cylinder is drifting.
5. Test for leakage between the spool and bore in cases where a motor circuit is losing power and overheating when the directional control valve is activated.
6. Isolate a leakage problem to determine if its source is between the spool and bore and/or cylinder port/anti-cavitation valve.
7. Test for excessive leakage across the integral main pressure relief valve.

LIST OF COMPONENTS

The MF100-MDCV-LS-TS modules is equipped with the following components:

1. Three-section, load-sense, directional control valve (sectional configuration).
 - a. SECTION 1 & 2: 3-position, 4-way, tandem-center (cylinder spool), handlever-operated, spring-centered.
 - b. SECTION 3: 3-position, 4-way, float-center (motor spool), handlever-operated, spring-centered.
2. Four (4) cylinder port relief valves (adjustable).
3. Two (2) anti-cavitation valves.
4. Inlet section with integral main pressure relief valve (adjustable).
5. Outlet section with power-beyond capability (power-beyond plug included).
6. Mounting panel with integrated oil drip tray, integrated carry-handle, and removeable rear cover. Finished in durable powder-coat finish.
7. Five (5) troubleshooting “fault” switches.
8. Power ON/OFF light (illuminated when power is on).
9. “Zero-leak” flat-face quick-connect/disconnect valves.
10. 24VDC cord with plug-in receptacle.
11. Convenient, integrated spare O-ring holder.
12. Magnetic parts and tool holder.