

### BASIC HYDRAULICS SIMULATOR DOUBLE STATION



#### DESCRIPTION

Introducing a hydraulic training system with one potential limitation . . . your imagination! The MF100D-B is the most versatile, functionally interactive, fluid power training system on the market for a number of very convincing reasons:

1. Interactive Learning Center:

The MF100D-B is designed to help students learn all aspects of hydraulics that includes: basic hydraulic principles and laws, how hydraulic components work, how hydraulic components interact, hydraulic symbols, and problem solving skills.

2. Capability:

Use the student workbook and build any number of operating systems. See how components work, how they interact. Conduct performance comparison evaluations. Learn how to effectively and safely use diagnostic apparatus.

3. User Friendly:

There's no need to spend hours preparing an instructor or student workbook. We have done all the work for you. The workbook has 12 trainer activities, containing numerous questions and tasks related to that particular activity. PowerPoint™ CD-Rom (Mac & PC compatible) containing the entire workshop program are included with the trainer.

4. No Product Bias:

Unlike hydraulic component manufacturers who build training simulators using only their components to promote sales, we are free to apply a range of components that will help you learn and best fit your needs.

5. Built-in Safety:

All moving parts are protected with strong, fabricated, transparent tubes. All connections are made with flat-face seal, quick-disconnect couplings. Oil drips are contained in a clean-free tray that automatically drains back to the reservoir – not on the floor!

#### 6. Fixed Displacement Pumps (2):

This exclusive feature allows students to learn fixed displacement pump circuits.

#### 7. Features components typically found in mobile and industrial hydraulic systems:

Over 20 different components make each station of the MF100D-B simulator one of the most well-equipped training systems available.

#### 8. Industry Standard Markings:

For safety purposes, all components feature port identification markings, which are industry standard. Absolutely no component is altered for the purpose of training.

#### 9. Flat-Faced Quick-Disconnects Mean Absolutely No Mess:

To enhance safety in the classroom the MF100D-B simulator is equipped with state-of-the-art, flat-faced quick-connect-disconnect fittings. Unfortunately, quick-disconnects are notorious for locking if a student should make an error by connecting one end and not the other. No problem! We anticipated this and built in a quick-disconnect release system. Students never have to resort to executing hazardous practices, i.e. loosening a locked quick-connect/disconnect. At the push of a button, the pressure is released.

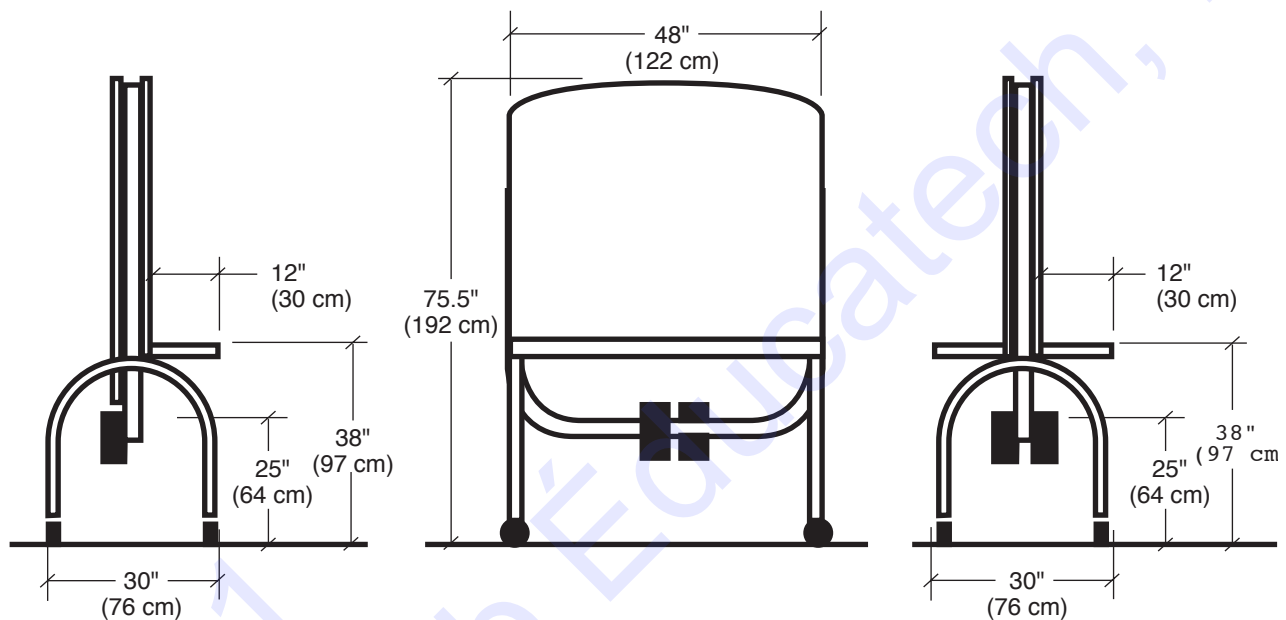
The MF100D-B simulator is equipped with the following standard components:

- All-steel, double-sided uniframe design with tubular construction;
- All non-flexible transmission lines made from stainless steel tubing with Swagelok-type connections;
- All steel parts finished in high-quality powder coating;
- Four-wheel, heavy-duty casters with wheel locks;
- 2.5 Gallon (9.5 L) hydraulic reservoir integrated in frame and used by both sides;
- 1HP, 120V, single-phase, electric motors (2) – operate on a single 20-amp circuit;
- Fixed displacement pumps (2);
- Pressure Control Valves (10):
  - a) Direct-operated pressure relief valves (2),
  - b) Pilot-operated pressure relief valves with remote option (2),
  - c) Sequence valves (2),
  - d) Counterbalance valves (2),
  - e) Pressure reducing valves (2);
- Directional Control Valves (4):
  - a) 3-position, 4-way, closed-center, solenoid-operated (2),
  - b) 3-position, 4-way, open-center, handlever-operated (2);
- Flow Control Valves and Flow Dividers:
  - a) Needle valves,
  - b) Flow control valves,
  - c) Restrictor-type pressure-compensated flow control valves,
  - d) Bypass-type pressure compensated flow control valves (non-adjustable);

- Check valves:
  - a) Conventional in-line,
  - b) Pilot-operated (pilot-to-open) with mechanical override,
  - c) Shuttle valves (with load-sense option only);
- Actuators:
  - a) Double-acting, single-rod cylinder,
  - b) Double-acting, double-rod cylinder,
  - c) Load engage / disengage push-button switch - illuminated (red) when activated;
- Hydraulic hoses with quick-disconnect fittings:
  - a) Twelve (12) 24" hoses,
  - b) Twenty-four (24) 40" hoses,
  - c) Four (4) hose connectors - to extend hose length;
- Twelve (12) "T" assemblies with zero-leak quick-connect / disconnect fittings;
- Four (4) in-line flow meters - 2.0 GPM (7.57 LPM);
- Six (6) Glycerine-filled, Bourdon tube pressure gauges (0 – 1000 psi);
- Digital tachometers (2) record hydraulic motor RPM;
- Digital oil temperature gauges (2);
- Digital ambient temperature gauges (2);
- Electronic stopwatches with auto retract (2);
- Analog ammeters (2);
- Return-line, spin-on/off filters with by-pass indicator;
- Oil level sight glasses;
- Spill-proof oil reservoir filler/breather located in drip trays to prevent spilling;
- Integrated load with solenoid-operated load engagement mechanism;
- Illuminated load select and de-select switches (2);
- Motor on/off switches (2) with thermal overload protection;
- Two (2) joystick controllers for solenoid-operated directional control valves;
- All moveable parts are covered with transparent protective covers;
- Four (4) lined work trays are located on motor housing to hold diagnostic instruments and tools for pump set-up, adjust, and test (if applicable);
- Integrated, swing-out paper towel holders (2);
- Swing-out/stow-away hose caddies (2), which hold all hydraulic hoses and "T's" neatly. Quick-disconnects are conveniently held in upright position to prevent oil leakage;
- Front panels are fabricated out of 3/16" brushed aluminum. All components are clearly marked with their respective symbols silk-screened onto the aluminum panel for a lifetime finish; and,
- Valve Docking Plates (VDP) (2) allow the addition of numerous optional valves to be used on the simulator.

The following items are also included with each station of the MF100D-B Basic Hydraulics simulator:

1. Full-color PowerPoint® presentations in CD format;
2. Student workbooks featuring simulator activities; and,
3. Instructor's manual.



#### SHIPPING SPECIFICATIONS

Weight: 700 lbs (318 kg)

Dimensions: 75.5" tall x 48" wide x 30" deep (192 cm x 122 cm x 76 cm)

#### WARRANTY

FPTI™ warrants its products against defect in materials or workmanship for a period of two years from date of delivery.