ConsuLab
4210 Jean-Marchand St, Quebec City, PQ, Canada G2C 1Y6
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MF100D-TS

PRACTICAL HYDRAULICS SIMULATOR AND TROUBLESHOOTING

DOUBLE STATION

DESCRIPTION

Add to the MF100D-PH simulator's superb capability a total diagnostics package and you have the most versatile hydraulic training simulator in the world – *the MF100D-TS simulator.*

There is absolutely no technology or method available anywhere - not even an actual machine - that is more effective at teaching students how to troubleshoot hydraulic components and systems than what the MF100D-TS simulator offers.

An astounding amount of development went into the design of the MF100D-TS simulator.

It began with a nine (9) year study of hydraulic component leakage rates.

Initially, we had to determine what normal (design) leakage rates were. Then, we had to determine which of those leakage rates were marginal (normal variations), and which were unacceptable (abnormal variations).

Once we established this data, we had to find a way to make a hydraulic component transition from normal operation to abnormal operation without having to physically modify it.

We accomplished this by designing every component with a bypass orifice - the orifice size allowing the same amount of oil to bypass the valve as it would if the valve was actually worn out.

fluid power TRAINING INSTITUTE™

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

- All-steel, double-sided uni-frame design with tubular construction
- All non-flexible transmission lines made from stainless steel tubing with Swageloktype connections
- All steel parts finished in high-quality powder coating
- Four-wheel, heavy-duty casters with wheel locks
- 2.5 Gallon (9.5liter) hydraulic reservoir integrated in frame and used by both sides
- 1HP, 120V, single-phase, electric motors (2) – operate on a single 20-amp circuit
- Pumps:
  a) Pressure-compensated, axial piston-type pumps (2) — 1 GPM, 1000 PSI
  b) Fixed displacement pumps (combined)
- Pressure Control Valves:
  a) Direct-operated pressure relief valves
  b) Pilot-operated pressure relief valves with remote option
  c) Sequence valves
  d) Counterbalance valves
  e) Pressure reducing valves
- Directional Control Valves (8):
  a) 3-position, 4-way, tandem-center, solenoid-operated directional control valves (2)
  b) 3-position, 4-way, closed-center, solenoid-operated directional control valves (2)
  c) 3-position, 4-way, float-center, handlever-operated directional control valves (2)
  d) 3-position, 4-way, open-center, handlever-operated directional control valves (2)
- Flow Control Valves and Flow Dividers:
  a) Needle valves
  b) Flow control valves
  c) Restrictor-type pressure-compensated flow control valves
- Check valves:
  a) Conventional in-line
  b) Pilot-operated (pilot-to-open)
  c) Shuttle valves (with load-sense option only)
- Actuators:
  a) Bi-directional loadable hydraulic motors
  b) Double-acting, single-rod cylinders
  c) Double-acting, double-rod cylinders
  d) Load engage / disengage push-button switches - iluminated when activated
- Hydraulic hoses with quick-disconnect fittings:
  a) Twelve (12) 24” hoses - Twenty-four (24) 40” hoses
  b) Four (4) hose connectors - to extend hose length
- Twelve (12) “T” assemblies
- Four (4) in-line flow meters
- Pressure / leak test pumps with integral pressure relief valves (1000 psi)

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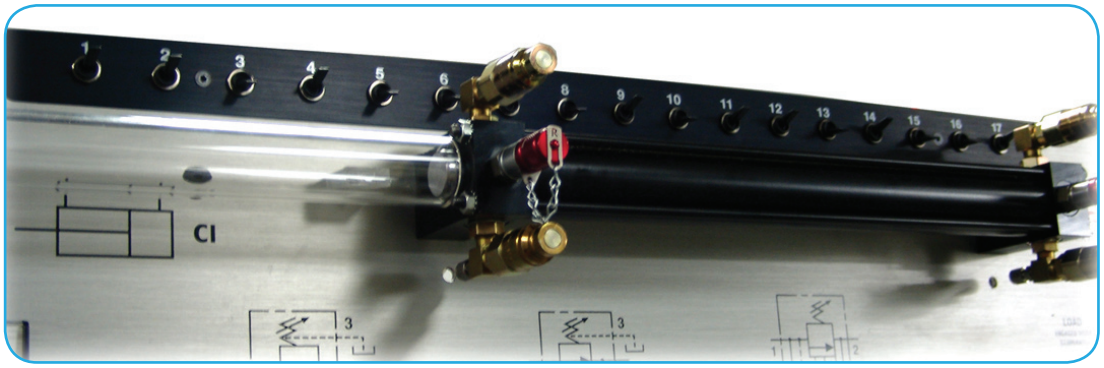
- Digital tachometers
- Digital oil temperature gauges
- Digital ambient temperature gauges
- Electronic stopwatches with auto retract
- Ammeters
- Return-line, spin-on/off filters with by-pass indicators
- Oil level sight glasses
- Oil reservoir fillers/breathers located in drip trays to prevent spilling
- Integrated loads with solenoid-operated load engagement mechanisms
- 24VDC receptacles (4)
- Illuminated load select and de-select switches
- Motor on/off switches with thermal protection
- Four (4) joystick controllers for solenoid-operated directional control valves
- All moveable parts are covered with transparent protective covers
- Lined work trays are located on motor housings to hold diagnostic instruments and tools for pump set-up, adjust, and test (if applicable)
- Integrated, swing-out paper towel holders
- Swing-out/stow-away hose caddies, which holds 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 silkscreened onto the aluminum panel for a lifetime finish.
- Valve Docking Plates (VDP) allow the addition of numerous optional valves to be used on the simulator



TROUBLESHOOTING SWITCHES INTRODUCE “FAULTS” INTO OTHERWISE “HEALTHY” COMPONENTS ON THE SIUMLATOR.

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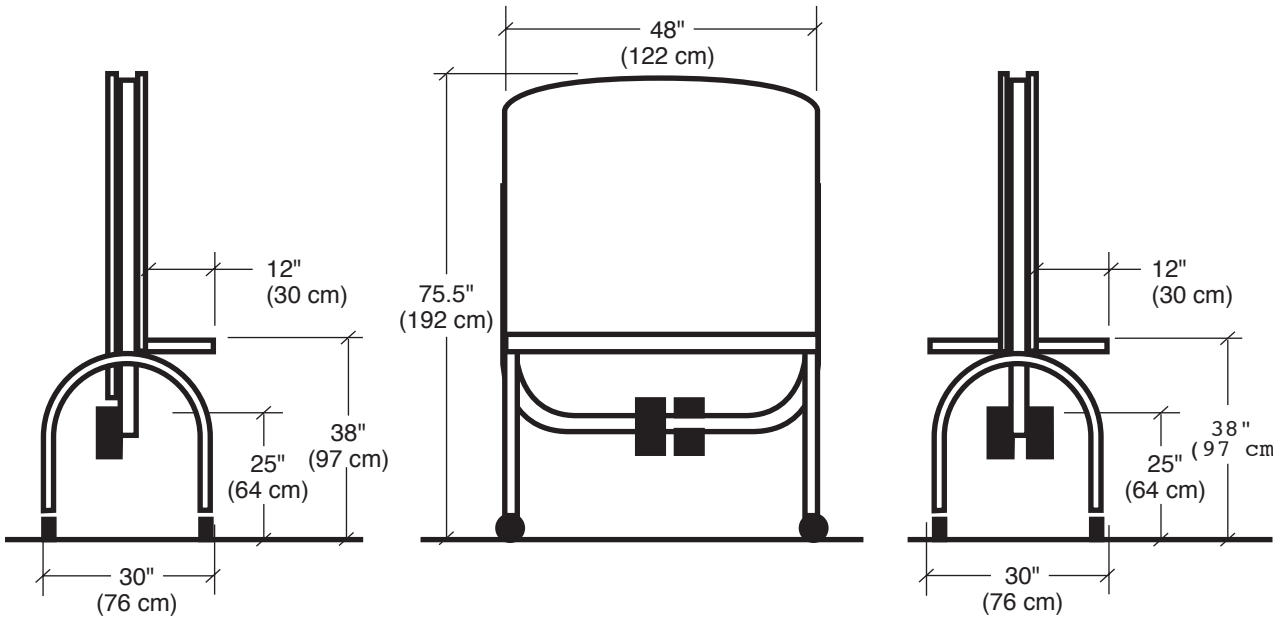
The following items are also included with the model MF100D-TS:

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



SHIPPING SPECIFICATIONS

Weight: 1025 lbs (465 kg)
Dimensions: 76" tall x 46" wide x 31" deep (193 cm x 117 cm x 79 cm)

WARRANTY

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