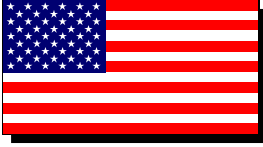


# Mid-West<sup>®</sup> Instrument

## MODEL 831 PRECISION FLOW TEST KIT



**Made In  
USA**



### Functions & Applications:

Sensitive yet rugged medium duty portable test kit. This test kit is equipped with a  $\pm 3-2-3\%$  of full scale accuracy (ascending) diaphragm type differential pressure gauge. Ideally suited for applications where differential pressures of 0-5" to 0-400" H<sub>2</sub>O may be encountered. Popular applications are balancing heating & cooling systems, checking pump performance, leakage, checking equipment for excessive pressure drop, (i.e. filters, balancing valves, averaging pitot tubes, orifice plates etc.) Dials may be for reading differential pressure, or reading flow directly if ordered with a flow (square root) dial.

### Product Features/Benefits:

- Over 30 Years of Input from Professional Testing Technicians
- Soft-Seated Brass Needle Valves (with replaceable valve seats)
- Test kit is protected with 90 micron filters to minimize plugging with scale, sand, etc. Filter elements can be cleaned or replaced
- Durable Molded Plastic Carrying Case with Removable lid
- Test Procedures are Laminated in Clear Plastic
- 5 Year Warranty

### Specifications:

- Gauge Type: "Diaphragm" Differential Pressure
- Dial Size: 4-1/2"
- Range: 0-10" H<sub>2</sub>O thru 0-400" H<sub>2</sub>O ranges available
- **Accuracy:**  $\pm 5\%$  Full Scale (Ascending) 0-5" H<sub>2</sub>O thru 0-9.9" H<sub>2</sub>O  
 $\pm 2\%$  Full Scale (Ascending) 0-10" H<sub>2</sub>O thru 0-400" H<sub>2</sub>O
- Working Pressure: 300 PSIG (Standard)
- Gauge Material: Engineered Plastic Body & 316 S.S. Internals
- Wetted Internals: Buna-N Seal & Diaphragm, Plastic, Aluminum & S.S., Brass
- Hoses & End Fittings: Nitrile Jacket and liner. Schrader 1/4" brass coupler  
**(Connects with 1/4" 37° Flare Male Fittings).**
- Valves: Soft-Seated Brass
- Tubing & Fittings: Nylon & Brass
- Hose Length: 10' long (3.0 meter)
- Filters: 90 Micron Brass **(Order Replacement Filter Kit No. 98008)**
- Approximate Shipping Wgt: 12 lbs / 5.5 kgs
- Case: Polyethylene
- Dimensional Data: 13.75" x 15.5" x 8.5"
- Temperature Limitations: Maximum 150°F/65°C  
**Freezing Temperatures must be avoided**

# MODEL 831 TEST KIT

## BASIC OPERATING INSTRUCTIONS

1. Connect hoses to test connections – red high pressure hose upstream, green low pressure hose downstream.
2. Open balance valve (**bottom of panel**)
3. Pull free end of clear plastic tubing from kit.
4. Open high and low bleed valves alternately to purge air from system. Bleed water discharges from convenient clear plastic flexible tubing.
5. When bleeding shows all air removed – close bleed valves, balance valve and read differential pressure.
6. When test is complete – open balance valve before disconnecting hoses from test connections.
7. Hoses are stored by coiling them around the test gauge panel.
8. Place clear plastic tubing inside case before closing lid.

For convenience in handling, the cover of the test kit is removable. Depress the pin spring of the top hinge, pull the hinge slightly apart and slide the cover off. To reinstall, reverse this procedure.

**NOTE:** The 831 Test Kit is equipped with in line filters near the ends of the hoses. If the gauges respond slowly to changes in the differential pressure the filter elements may be partially plugged.

To remedy this, unscrew the two halves of the filter housing and remove brass filter element. It may be cleaned by flushing with mild detergent and water. If, after reassembly this has not satisfactorily improved the response time a replacement filter element kit #98008 should be installed.

## MODEL 831 TEST KIT SCHEMATIC DIAGRAM

