

# DHT 1 Series

## Digital Hydraulic Testers

### Measure Flow, Pressure and Temperature Simplified Controls

Up to

- 800 lpm, 210 US gpm
- 480 bar, 7000 psi

The DHT 1 Series Digital Hydraulic Testers accurately measure flow, pressure and temperature. The tester is designed to conveniently check the performance of hydraulic pumps, motors, valves and hydrostatic transmissions.

This easy to use diagnostic tester has simplified controls and can pinpoint hydraulic system faults, reducing downtime and helping in preventive maintenance.

The tester comprises a turbine flow block and a large easy to read digital display which indicates both flow and temperature.

The tester has a built-in loading valve to simulate the working pressure during normal machine operation. The built-in safety discs protect the machine and operator in event of excessive pressure, allowing oil to safely bypass the loading valve INTERNALLY with no spillage of oil from the hydraulic circuit, eliminating clean-up costs and environmental hazards.



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#### Features

- **FLOW** 10-800 lpm, 2.5-210 US gpm
- **PRESSURE** 480 bar, 7000 psi
- **ACCURATE** measurement of flow, pressure and temperature.
- **BUILT-IN** loading valve.
- **BI-DIRECTIONAL** for unrestricted connection and simplified testing.
- **INTERNAL** oil by-pass protects the tester and system against overpressure.
- **EASY** to operate controls.
- **LOW** power consumption from standard battery. Automatic "Power Off" feature.
- **PORTABLE AND LIGHTWEIGHT** with angled case for easier viewing and cleaning.



Hydraulic measurement and control

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## Specifications

Model Number	Flow Range	Pressure Range	Fluid Temperature Range	Inlet/Outlet Ports
DHT401-B-6	10 - 400 LPM	0 - 420 bar	0 - 120°C	1" BSPP
DHT401-S-6	2.5 - 100 US gpm	0 - 6000 psi	32 - 250°F	1-5/16" -12UN #16 SAE ORB
DHT801-S-7-L*	20 - 800 LPM	0 - 480 bar	0 - 120°C	1-7/8" -12UN #24 SAE ORB
DHT801-S-7*	5 - 210 US gpm	0 - 7000 psi	32 - 250°F	1-7/8" -12UN #24 SAE ORB
DHT801-F-3-L*	20 - 800 LPM	0 - 210 bar**	0 - 120°C	1-1/2" SAE Code 61 4-Bolt Flange
DHT801-F-3*	5 - 210 US gpm	0 - 3000 psi **	32 - 250°F	1-1/2" SAE Code 61 4-Bolt Flange

\* DHT801 has limited pressure control below 86 lpm (23 US gpm). The maximum controllable pressure in this region is calculated by:  
 $\text{max pressure (in bar)} = 5 \times \text{flow (lpm)} + 30$

\*\* as per J518 SAE Code 61 standard

### Functional specification

**Ambient temperature:** 5 to 40°C (41-104°F)  
**Fluid type:** Hydraulic oil  
**Accuracy:** Flow: ± 1% full scale  
 Pressure: ± 1.6% full scale  
 Temperature: ± 1°C (± 2°F)

### Dimensions in mm (inches)

**DHT401** 240 (9.45") wide, 200 (7.87") deep, 200 (7.87") high  
**DHT801** 245 (9.65") wide, 225 (8.86") deep, 225 (8.86") high

### Weight

**DHT401** Unpacked 6.5Kg (14lbs)  
**DHT801** Unpacked 10Kg (22lbs)

### Construction materials

**Case:** Painted mild steel  
**Flow block:** High tensile aluminium  
**Seals:** Viton as standard - EP seals on request

### Operation

DHT Testers are microprocessor based instruments providing flexibility and high accuracy. Flow and Temperature are permanently displayed and data presentation is by 8 digit liquid crystal display with 8mm high characters. The readout is programmed to refresh the display each second. Low power micro-circuitry minimises battery consumption. An automatic switch turns the power off one hour after the last operation. The standard 9 volt battery is available worldwide and gives typically 6 months normal testing.

The turbine block is made from high tensile aluminium and houses a six blade turbine rotating on a stainless steel bearing and shaft. Built-in flow straighteners reduce flow turbulence and allows accurate flow measurement in both directions.

The integral loading valve gives progressive pressure loading in either flow direction. Replaceable safety discs relieve to internally by-pass the oil if the maximum pressure is exceeded by ~ 5%. Replacement safety discs are stored in an internal holder machined in the rear of the flow block.

### Calibration

All testers are calibrated with 21cSt oil as standard. Calibration certificates are available on request - this is a chargeable option.

### Installation

It is recommended to connect the flow block with flexible hoses 1-2 metres (3-6ft) long. All connections should be made by suitable qualified personnel.



APPROVED