

# DHT 2 Series

## Digital Hydraulic Testers

### Measure Flow, Pressure and Temperature

Up to

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

The DHT 2 Series Digital Hydraulic Tester accurately measures flow, pressure, temperature and speed. The testers are designed for testing hydraulic pumps, motors, valves and hydrostatic transmissions.

This easy to use diagnostic unit can pin point hydraulic system faults which reduces downtime and helps with preventive maintenance.

The remote flow input can be easily configured by the operator for any LT/LTR flow block. The calibration is retained in permanent memory. The remote input feature allows main hydraulic circuits and drain leakage flows to be measured simply at the turn of a switch.

The tester comprises a turbine flow block and large easy to read digital display which indicates both flow and temperature. Speed and remote flow are selected by switch when required. The flow readout is scaled in lpm, gpm, and US gpm, selected by a push button.

Optional accessories for the tester include an infra-red phototachometer and remote flow blocks.



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#### Features

- **FLOW** 10-800 lpm, 2.5-210 US gpm
- **PRESSURE** 480 bar, 7000 psi
- **ACCURATE** measurement of flow, pressure, temperature and speed.
- **BUILT-IN** loading valve.
- **BI-DIRECTIONAL** for unrestricted connection and simplified testing.
- **INTERNAL** oil by-pass protects the tester and system against overpressure.
- **INPUTS**  
1 - Flow  
1 - Temperature  
1 - Speed
- **LOW** power consumption from standard battery. Automatic "Power Off" feature.
- **PORTABLE AND LIGHTWEIGHT** with angled case for easier viewing and cleaning.
- **INFRA-RED PHOTOTACHOMETER** with 'On Target' Indicator.



Certificate No.8242

Hydraulic measurement and control

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## Specifications

Model number	Flow range	Pressure range	Fluid temp. range	Inlet/outlet ports
DHT302-B-6	8 - 300 LPM	0 - 420 bar	0 - 120°C	1" BSPP
DHT302-S-6	2 - 80 US gpm	0 - 6000 psi	32 - 250°F	1-5/16" -12UN #16 SAE ORB
DHT402-B-6	10 - 400 LPM	0 - 420 bar	0 - 120°C	1" BSPP
DHT402-S-6	2.5 - 100 US gpm	0 - 6000 psi	32 - 250°F	1-5/16" -12UN #24 SAE ORB
DHT602-F-3*	20 - 600 LPM	0 - 210 bar**	0 - 120°C	1-1/2" SAE Code 61 4-Bolt Flange
DHT602-F-3*	5 - 160 US gpm	0 - 3000 psi **	32 - 250°F	1-1/2" SAE Code 61 4-Bolt Flange*
DHT602-S-7*	20 - 600 LPM	0 - 480 bar	0 - 120°C	1-7/8" -12UN #24 SAE ORB
DHT602-S-7*	5 - 160 US gpm	0 - 7000 psi	32 - 250°F	1-7/8" -12UN #24 SAE ORB
DHT802-F-3*	20 - 800 LPM	0 - 210 bar**	0 - 120°C	1-1/2" SAE Code 61 4-Bolt Flange
DHT802-F-3*	5 - 210 US gpm	0 - 3000 psi **	32 - 250°F	1-1/2" SAE Code 61 4-Bolt Flange
DHT802-S-7*	20 - 800 LPM	0 - 480 bar	0 - 120°C	1-7/8" -12UN #24 SAE ORB
DHT802-S-7*	5 - 210 US gpm	0 - 7000 psi	32 - 250°F	1-7/8" -12UN #24 SAE ORB

\* DHT602/802 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:  $\pm 1\%$  of indicated reading (15 to 100% of range)

Pressure:  $\pm 1.6\%$  full scale

Temperature:  $\pm 1^\circ\text{C}$  ( $\pm 2^\circ\text{F}$ )

Speed:  $\pm 0.25\%$  of full scale with one count per revolution

**Speed range:** 300 - 6000 rpm

### Dimensions in mm (inches)

**DHT302/402** 240 (9.45") wide, 200 (7.87") deep, 200 (7.87") high

**DHT602/802** 245 (9.65") wide, 225 (8.86") deep, 225 (8.86") high

### Weight

**DHT302/402** Unpacked 6.5Kg (14lbs)

**DHT602/802** 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 or 1/3 of a second if "fast" is selected. 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  $\sim 5\%$ . Replacement safety discs are stored in an internal holder machined in the rear of the flow block.

Inputs for speed and additional flow blocks (LT / LTR series) provide the ability to measure two flows and temperatures by turning the main selector switch.

### Calibration

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

### Accessories

Infrared phototach - TH3

Magnetic base with flexible arm for mounting TH3 - BA20

Additional flow blocks - LT / LTR see LT and TLR bulletins for details

### 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