

DHT 1 Series

Digital Hydraulic Tester

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.

Specifications

| | |
|--------------------------------|---|
| Maximum Rated Pressure: | Up to 480 bar, 7000 psi |
| Maximum Rated Flow: | Up to 800 L/min, 210 US gpm |
| Ambient Temperature: | 5 to 40°C, 41 to 104°F |
| Compatible Fluid: | Mineral oils to ISO 11158. Other fluids consult sales office. |
| Accuracy: | Flow: ± 1% full scale |
| | Pressure: ± 1.6 % full scale |
| | Temperature: ± 1 °C, ± 2 °F |
| Porting: | BSPP, SAE |
| Material: | Case: Painted Mild Steel |
| | Flow Block: High Tensile Aluminium |
| | Seal: FKM |



Features

- Accurate measurement of flow, pressure and temperature.
- Built-in loading valve.
- Bi-directional for unrestricted connection and simplified testing.
- Low power consumption from standard battery. Automatic “power off” feature.
- Portable and lightweight with angled case for easier viewing and cleaning.
- Interpass™ safety disc system, bypasses oil internally in the event of the valve being over pressurised.



Sales Order Code

Please contact our technical sales team to discuss any special order requirements.

| MODEL NUMBER | INLET/OUTLET PORTS | CALIBRATED FLOW RANGE | RATED PRESSURE RANGE | FLUID TEMPERATURE RANGE |
|---------------|----------------------------------|-----------------------|----------------------|-------------------------|
| DHT401-B-6 | 1" BSPP | 10 - 400 L/min | 0 - 420 bar | 0 - 120°C |
| DHT401-S-6 | 1-5/16" -12UN #16 SAE ORB | 2.5 - 100 US gpm | 0 - 6000 psi | 32 - 250°F |
| DHT801-S-7-L* | 1-7/8" -12UN #24 SAE ORB | 20 - 800 L/min | 0 - 480 bar | 0 - 120°C |
| DHT801-S-7* | 1-7/8" -12UN #24 SAE ORB | 5 - 210 US gpm | 0 - 7000 psi | 32 - 250°F |
| DHT801-F-3-L* | 1-1/2" SAE Code 61 4-Bolt Flange | 20 - 800 L/min | 0 - 210 bar** | 0 - 120°C |
| DHT801-F-3* | 1-1/2" SAE Code 61 4-Bolt Flange | 5 - 210 US gpm | 0 - 3000 psi** | 32 - 250°F |

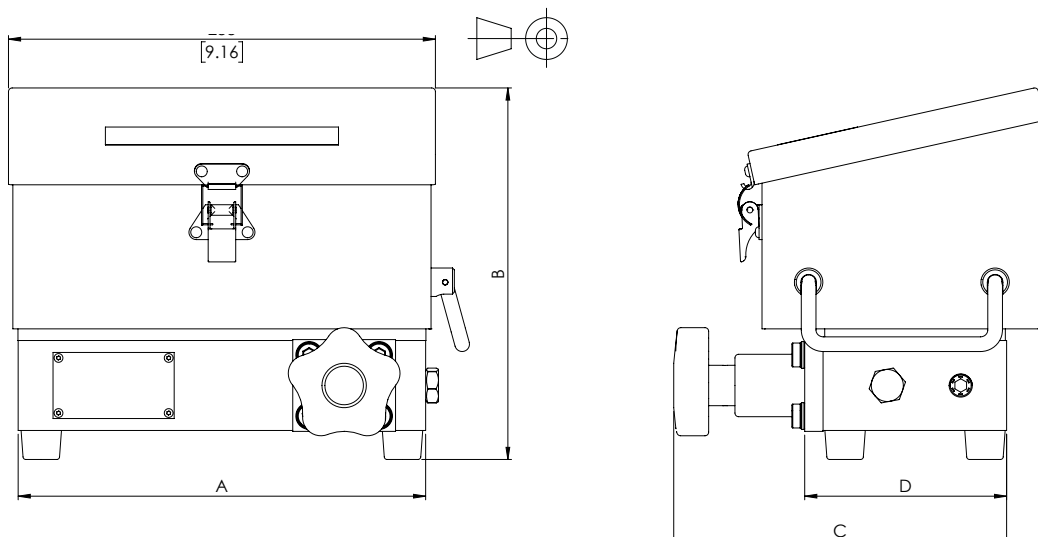
* DHT801 has limited pressure control below 86 L/min (23 US gpm).

The maximum controllable pressure in this region is calculated by: $\text{max pressure (in bar)} = 5 \times \text{flow (L/min)} + 30$

** As per J518 SAE Code 61 standard.

Installation Details

| MODEL SERIES | A | | B | | C | | D | | WEIGHT | |
|--------------|-----|------|-----|------|-----|------|-----|------|--------|----|
| UNITS | mm | in | mm | in | mm | in | mm | in | kg | lb |
| DHT401 | 222 | 8.74 | 202 | 7.95 | 181 | 7.13 | 110 | 4.33 | 6.5 | 14 |
| DHT801 | 235 | 9.26 | 227 | 8.94 | 208 | 8.19 | 144 | 5.67 | 10 | 22 |



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 DHT 1 series digital hydraulic testers are calibrated at a mean viscosity of 21cSt using ISO32 hydraulic mineral oil to ISO11158 category HM. Calibration certificates are available on request - this is a chargeable option. Other calibration on request - please consult the sales office.

Installation

It is recommended to connect the flow block with flexible hoses 1-2 metres (3-6ft) long. Inlet and outlet connections should always be of a similar bore size to that of the flow block to prevent venturi or constriction effects.

Filtration

Must be better than DIN ISO4406: 21/19/16 or NAS 10 (typically achieved with 20-25u filters).