

# HT 2 Series

## Analogue Hydraulic Testers

### Measure Flow, Pressure and Temperature

Up to

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

The HT 2 Series Analogue Hydraulic Testers are designed for testing hydraulic pumps, motors, valves and hydrostatic transmissions. This easy to use diagnostic unit can pin point hydraulic system faults, reducing downtime and help in preventive maintenance.

Accurately measuring flow, pressure and temperature, testers are ideal for conveniently checking, hydraulic system performance or locating faults while operating directional control valves or adjusting valve settings. The turbines are designed for continuous monitoring or intermittent use commissioning and servicing hydraulic systems up to 480 bar, 7000 psi pressure.

The pressure loading valve with internal by-pass safety discs, allows progressive build up of pressure to check the flow throughout the working range.



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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.
- **SAFE** to use in both directions of flow. Internal oil by-pass protects the tester and system against overpressure.
- **INPUTS**  
1 - Speed
- **ECONOMICAL** low power consumption from standard battery. Automatic "Power Off".
- **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

## Specifications

Model number	Full flow range	Low flow range max	Pressure range	Fluid temp. range	Speed (rpm)	Inlet/outlet ports
HT302-B-6	8 - 300 LPM	75 LPM	0 - 420 bar	0 - 120°C	300 - 3000	1" BSPP
HT302-S-6	2 - 80 US gpm	20 US gpm	0 - 6000 psi	32 - 250°F	300 - 3000	1-5/16" -12UN #16 SAE ORB
HT402-B-6	10 - 400 LPM	100 LPM	0 - 420 bar	0 - 120°C	300 - 4000	1" BSPP
HT402-S-6	2.5 - 100 US gpm	25 US gpm	0 - 6000 psi	32 - 250°F	300 - 4000	1-5/16" -12UN #16 SAE ORB
HT602-F-3*	5 - 160 US gpm	40 US gpm	0 - 3000 psi **	32 - 250°F	300 - 6000	1-1/2" SAE Code 61 4-Bolt Flange
HT602-S-7*	20 - 600 LPM	150 LPM	0 - 480 bar	0 - 120°C	300 - 6000	1-7/8" -12UN #24 SAE ORB
HT602-S-7*	5 - 160 US gpm	40 US gpm	0 - 7000 psi	32 - 250°F	300 - 6000	1-7/8" -12UN #24 SAE ORB
HT802-F-3*	5 - 210 US gpm	50 US gpm	0 - 3000 psi **	32 - 250°F	300 - 5000	1-1/2" SAE Code 61 4-Bolt Flange
HT802-S-7*	20 - 800 LPM	200 LPM	0 - 480 bar	0 - 120°C	300 - 5000	1-7/8" -12UN #24 SAE ORB
HT802-S-7*	5 - 210 US gpm	50 US gpm	0 - 7000 psi	32 - 250°F	300 - 5000	1-7/8" -12UN #24 SAE ORB

\* HT602/802 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 full scale  
 Pressure:  $\pm 1.6\%$  full scale  
 Temperature:  $\pm 2^\circ\text{C}$  ( $\pm 4^\circ\text{F}$ )  
 Speed:  $\pm 2\%$  of full scale

### Dimensions in mm (inches)

**HT302/402** 240 (9.45") wide, 200 (7.87") deep, 200 (7.87") high  
**HT602/802** 245 (9.65") wide, 225 (8.86") deep, 225 (8.86") high

### Weight

**HT302/402** Unpacked 6.5Kg (14lbs)  
**HT602/802** Unpacked 10Kg (22lbs)

### Construction materials

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

### Operation

HT Series Testers comprise a turbine flow block, pressure gauge and temperature sensor built into a steel case complete with read-out panel, selector switch, integral loading valve and connections for optional infra-red tachometer. For clear accurate readings the tester has both high and low scales.

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. Input for speed provide the ability to measure shaft speed when used with optional TH3 phototach.

### 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

### 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