Oil Solutions

For Webtec Products

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Digital Hydraulic Testers

- Up to 800 lpm
- Up to 480 bar
- Bi-Directional

DHCR
Digital
Read out

400 lpm Flow Block
with Loading valve

10 lpm
Flow Block

400 lpm Flow Block

The Webster DHCR Series Digital Tester with remote flow block accurately measures flow, pressure, temperature and speed. Webster testers are designed for checking hydraulic pumps, motors, valves and hydrostatic transmissions.

This easy to use diagnostic unit can pin point hydraulic system faults, reduce downtime and help in preventative maintenance. Main hydraulic circuits, drain leakage flows and dual pumps can be measured simply at the turn of a switch.

The readout can be used in the most convenient position; for example, in the cab of a vehicle, with the flow blocks installed anywhere in the circuit.

The tester comprises a digital readout with two flow inputs and one flow block connected remotely by a 2 metre long cable and micro-bore hose assembly to the left hand side of the readout. An optional flow block can be connected via a cable to the front of the readout. Flow inputs can be easily calibrated by the operator to a wide range of Webster flow blocks. The readout is scaled in lpm, gpm, US gpm, selected by push button.

In addition to the range of flow blocks, other optional accessories include hoses, pressure loading valves and a phototachometer.

Features

- **ACCURATE** measurement of flow, with automatic linearisation giving an accuracy of 1% of reading over a wide range.
- **SAFE** to use in both directions of flow. Internal oil by-pass protects the system, tester and operator against over-pressure.
- **BI-DIRECTIONAL** for unrestricted connection and simplified testing up to 480 bar and 800 lpm.
- **FAST** checks on pumps, motors, valves, cylinders and hydrostatic transmissions.
- **REMOTE INPUTS**
  - 2 - Flow and Temperature
  - 1 - Pressure
  - 1 - Speed
- **ECONOMICAL** low power consumption from standard battery. Automatic "Power Off' feature.
- **PORTABLE AND LIGHTWEIGHT** Aluminium and steel construction.
- **INFRA-RED PHOTOTACHOMETER** with 'On Target' Indicator.

Another quality product from the Webster Range

Specifications

Model No.	Normal Flow Range ± 1% of indicated reading			Max. Flow Range	Max Pressure	Port Size (SAE and metric threads available)
	lpm	gpm	US gpm	lpm	bar	
DHCR 5	0.3 - 5*	0.07 - 1.1*	0.08 - 1.3*	0.1 - 5	420	1/4" BSPF
DHCR 10	0.4 - 10*	0.09 - 2.2*	0.10 - 2.6*	0.2 - 10	420	3/8" BSPF
DHCR 16	0.5 - 16*	0.11 - 3.5*	0.13 - 4.2*	0.3 - 16	210	3/8" BSPF
DHCR 50	10 - 50	2.2 - 10	2.6 - 13	2 - 60	420	3/4" BSPF
DHCR 125	10 - 120	2.2 - 25	2.6 - 32	5 - 150	420	3/4" BSPF
DHCR 400	20 - 300	4.4 - 66	5.0 - 80	10 - 400	420	1" BSPF
DHCR 750	25 - 750	5.5 - 165	6.6 - 200	20 - 800	350	1 1/2" Flange
DHCR 750HP	25 - 750	5.5 - 165	6.6 - 200	20 - 800	480	1 7/8"-12 UN

* ± 1% of full scale for DHCR05, DHCR10 and DHCR16 Gear Flow Meters

Add R suffix to model number ie. DHCR400R for model supplied with Bi-Directional loading valve.

Connections

Flow block connection by flexible hoses or steel pipes (200 mm minimum length).

Adaptors

Adaptor Fitting kits and flanges are available to suit the range of flow blocks. Consult the sales office.

Measurement and Indication

Flow

Measurement by the electronic count of an axial turbine or precision gears designed to minimise the effects of variation in temperature and viscosity. The large digital display reads in lpm, gpm or US gpm, selected by push button and indicated by a cursor arrow on the display. Webster flow meters allow accurate flow measurement in both directions.
Accuracy: See above table.

Pressure

Glycerine filled dual scale pressure gauge
0 - 420 bar, 0 - 6000 psi.
Accuracy ± 1.6% of full scale.

Temperature

Sensed by a thermistor pickup in the oil flow for fast response. Temperature is permanently displayed in °C or °F for either the internal or external flow block.
Accuracy ± 1 °C, 2 °F.

Speed

Rotational speed of motors, shafts etc, can be measured by optional infra-red phototachometer and the readout can be programmed for one or more reflective marks.
Range 300 - 6000 rpm.
Accuracy ± 1/4% of full scale with one count per revolution.

Construction

Readout

DHCR Testers are microprocessor based instruments providing flexibility and high accuracy. Data presentation is by 8 digit liquid crystal display with 8 mm high characters. Temperature is permanently displayed and flow input one or two or speed is selected by the rotary switch. The panel has a plastic membrane keypad and wipe clean sealed surface. The readout is programmed to refresh the display each second. "Fast" update, (1/3 second), can be selected to show changing flow conditions when testing relief valves, etc. Low power micro-circuitry minimises battery consumption while the tester is working and switches off automatically one hour from the last operation. A standard 9 volt battery is available worldwide and gives typically 6 months normal testing.

Flow Block

Two flow blocks can be connected into the readout and selected as required. The readout can easily be calibrated to any Webster flow block by switching to program mode and keying the calibration number supplied with each block. The calibration number is retained in memory even when the battery is changed. Turbine flow meters have 6 blades and rotate on a stainless steel bearing which is housed in a high tensile aluminium body. Built-in flow straighteners reduce flow turbulence.

Gear flow meters have two 14 tooth gears running on low friction stainless steel ball bearings in a high tensile aluminium body.

General

Optional Loading Valve

The Bi-Directional loading valve which is built in to the flow block gives a smooth pressure loading in both directions. Internal safety discs give protection in both directions without external oil spillage. Replaceable safety discs relieve to **internally by-pass** the oil if the maximum pressure is exceeded. Safety discs with different pressure ranges up to 480 bar are available. HV100 loading valve for use up to 150 lpm is supplied as a separate unit.

Accessories

DHCR testers can be used with a wide range of accessories eg. Phototachometer, Loading valve, Pressure test points and hoses, low pressure gauge.
Please refer to the Optional Equipment bulletin.

Operators Manual

Full operating instructions and test procedures are detailed in a manual supplied with the tester.

How to Order

Specify model from table above together with optional equipment and adaptor fitting kit as required eg., DHCR 402R with TH400 and BA20 is a 20 - 400 lpm tester with Bi-Directional loading valve tachometer and magnetic base.

BFPA The British Fluid Power Association

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NQA ISO 9001 UKAS
Certificate No.8242