

DHM 4 Series

Digital Hydraulic Multimeter

The DHM 4 Series Digital Hydraulic Multimeter accurately Measure flow, pressure, peak pressure, temperature, power and volumetric efficiency.

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

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.

The DHM 4 Series records and wirelessly transfers data.

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.
- Porting:** BSPP, SAE
- Material:**
 - Case:** Powder coat painted Mild Steel
 - Flow Block:** High tensile aluminium
 - Seal:** FKM

Make it **BLUE**

Features

- Produce an electronic report for immediate email to the customer.
- Accurate measurements and fast response bar graphs to aid diagnosis.
- Built-in loading valve.
- Bi-directional for unrestricted connection.
- Portable and robust with angled case for easier viewing and cleaning.
- Interpass™ safety disc system, bypasses oil internally in the event of the valve being over pressurised.
- Automatic calculation of hydraulic power and volumetric efficiency.
- Record data to robust, non-volatile memory.



Sales Order Code

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

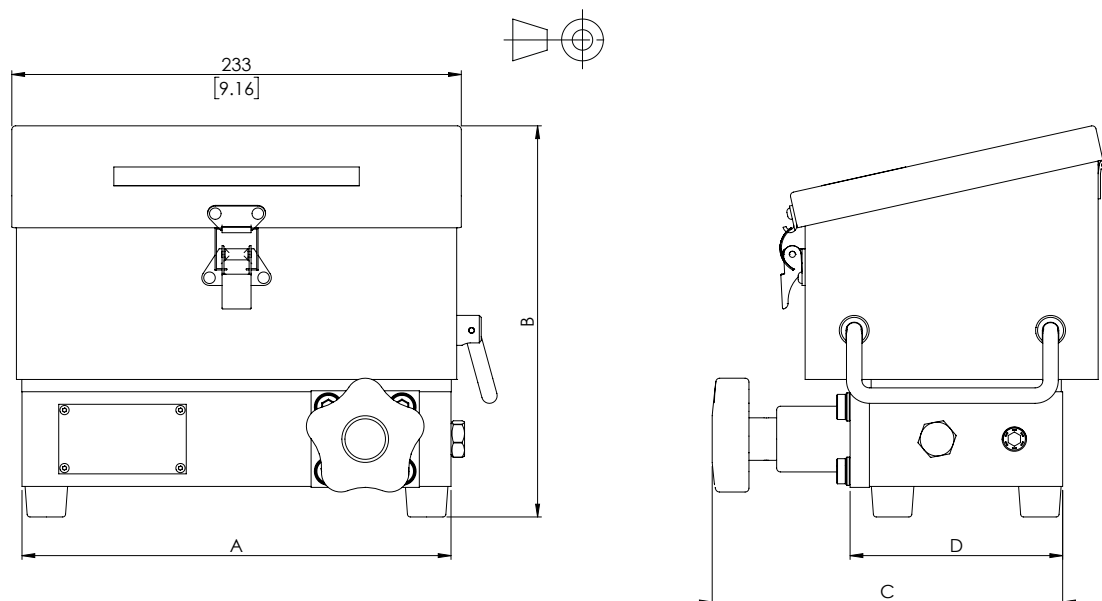
MODEL NUMBER	INLET/OUTLET PORTS	CALIBRATED FLOW RANGE	RATED PRESSURE RANGE	FLUID TEMPERATURE RANGE
DHM404-B-6	1" BSPP	10 - 400 L/min	0 - 420 bar	0 - 120°C
DHM404-S-6	1-5/16" -12UN #16 SAE ORB	2.5 - 100 US gpm	0 - 6000 psi	32 - 250°F
DHM804-S-7-L*	1-7/8" -12UN #24 SAE ORB	20 - 800 L/min	0 - 480 bar	0 - 120°C
DHM804-S-7*	1-7/8" -12UN #24 SAE ORB	5 - 210 US gpm	0 - 7000 psi	32 - 250°F

* DHM804 has limited pressure control below 86 L/min (23 US gpm).

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

Installation Details

MODEL SERIES	A		B		C		D		WEIGHT	
UNITS	mm	in	mm	in	mm	in	mm	in	kg	lb
DHM404	222	8.74	202	7.95	181	7.13	110	4.33	6.5	14
DHM804	235	9.26	227	8.94	208	8.19	144	5.67	10	22



Functional Specification

Accuracy:	Flow:	Reading 15% to 100% of flow range - 1% of indicated reading. Readings below 15% of full-scale flow - fixed accuracy of 0.15% of full scale.
	Pressure:	± 0.5% full scale
	Temperature:	± 1°C (± 2°F)
	Power:	Below 100KW (134HP) ± 3KW (± 4HP) Above 100KW (134HP) ± 5KW (± 6.7HP)
	Volumetric efficiency:	± 1%
	Repeatability:	Better than ± 0.2%
	Data Recording:	Up to 12 sets of data points can be saved to internal memory.
	Peak Pressure:	Is sampled 1000 times/second.
	Battery Life:	Approximately 15hours continuous with high capacity Alkaline unit.
	Degree of protection:	IP54 internal protection of electrical circuits.

iOS App'

Application programs are only available for iOS operating systems. Handheld devices must support Bluetooth® Smart (v4.1) or greater. For Apple iPhone® 5S upwards.

Operation

The DHMx04 has four screens that can be toggled by a panel button to display:

1. Digital flow, pressure, peak pressure and temperature. Update time of 0.7seconds.

2. Digital flow, pressure, peak pressure and temperature plus rapid bar graphs. Update times of digital = 0.7s, bar graphs = 0.07seconds.
- 1&2. On screens 1 & 2 pressing the P-Q/HP button toggles the bottom-line display between temperature and power.
3. Digital flow, pressure and power plus rapid bar graphs – update times as above. Additionally, by pressing the P-Q/HP button volumetric efficiency is displayed as a percentage of the set point recorded when the button was pressed.
4. Recorded data review of all logged points. Records can be deleted from here. NB. Peak pressure is sampled 1000 times/sec to capture the fastest peaks!

Data points can be recorded while in live display screens 1, 2 or 3 (as memory allows). Data points can be deleted through screen 4 following the on-screen prompts. Recorded data can be retrieved from the meter with a Bluetooth Smart enabled device running the QuickCert App. Once retrieved, the data can easily be converted in to a pdf format certificate and forwarded to a customer email.

Operational Features

The DHM has an auto power off feature that turns the unit off if unused for more than 15 minutes. The standard 9-volt battery enables more than 6 months normal testing time. The 9V battery is available worldwide.

The turbine block, manufactured from high tensile aluminium, houses a six-blade turbine rotating on a stainless steel bearing and shaft. Built-in flow straighteners reduce flow turbulence and allows repeatable and 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. Safety discs with different pressure ranges up to 480 bar are available. Consult sales office for further information.

Calibration

All DHM 4 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).