

# PFM8 Digital Hydraulic Tester & Dynamometer

Simultaneously Measures Flow, Pressure, Power and Temperature



- Five flow ranges
- Front panel selectable US or metric readings
- Dynamometer reads power (HP & kW) directly
- 3-1/2 digit LCDs for digital display of flow, temperature, pressure and power
- Large easy-to-use membrane switch
- Loading valve with fingertip control of pressure
- Silicon strain gauge pressure sensor
- Platinum resistance temperature sensor
- Pressure surge protection
- Turbine flow sensor provides fast response
- Pressures up to 6000 PSI (414 Bar)
- Temperatures up to 300 °F (150 °C)
- Flow accuracy  $\pm 1\%$  of full scale
- Repeatability  $\pm 0.2\%$

The all digital PFM8 Series combines a compact, lightweight hydraulic tester and a dynamometer in one unit. Designed for fast diagnostic troubleshooting of all types of hydraulic systems and components, including engine-pump combinations. These testers make all flow, temperature, pressure and power measurements from one point. A bonus feature of this series is the capability to switch from US to metric units of measure in the field.

Each tester utilizes two digital displays, one for flow and temperature and a second display for pressure and power. Simple operation includes a large format membrane switch for on/off control and selection of units of measure to be displayed. A loading valve with fingertip control and pressure surge protection are standard features.

## SPECIFICATIONS

### Performance

<b>Flow Accuracy:</b>	$\pm 1\%$ of full scale
<b>Repeatability:</b>	$\pm 0.2\%$
<b>Turbine Response:</b>	$\leq 200\text{ms}$
<b>Temperature:</b>	
Fluid	-4 to +300 °F (-20 to +150 °C)
Ambient	-4 to +131 °F (-20 to +55 °C)
<b>Flow Readout:</b>	Linearity and zero shift $\pm 1$ digit
<b>Operating Pressure:</b>	up to 6000 PSI (414 Bar, 41.4 MPa, 420 kg/cm <sup>2</sup> )
<b>Pressure Drop:</b>	See $\Delta P$ charts on page 14
<b>Readout Accuracy:</b>	$\pm 1$ digit

### Material

<b>Housing:</b>	6013-T651 Aluminum; anodized
<b>Turbine Rotor:</b>	T416 Stainless steel
<b>Ball Bearings:</b>	440C Stainless steel
<b>Rotor Shaft:</b>	T303 Stainless steel
<b>Rotor Supports:</b>	
PFM6-15/30	CA360 Brass
PFM6-60/85/200	6061-T6 Aluminum alloy
<b>Hub Cones:</b>	6061-T6 Aluminum alloy
<b>Valve Body:</b>	
PFM6-15/30	Cold rolled steel; zinc plate, dichromate finish
PFM6-60/85/200	12L14 Steel; zinc plate, dichromate finish
<b>Valve Stem:</b>	T303 Stainless steel
<b>Poppet:</b>	12L14 Steel; hardened
<b>Sleeve:</b>	
PFM6-200 only	D.O.M. steel tube
<b>Temperature Probe:</b>	T303 Stainless steel
<b>Magnetic Pick-up:</b>	
Body	12L14 Steel; electroless nickel plate
Nut	12L14 Steel; electroless nickel plate
<b>Seals:</b>	Buna N standard; Viton® and EPR optional
<b>Carrying Handle:</b>	Cast aluminum; anodized
<b>Electronic Case &amp; Cover:</b>	Cold rolled steel; zinc plate with clear seal, epoxy black paint
<b>Battery:</b>	AA size alkaline, ~ 50 hours of service

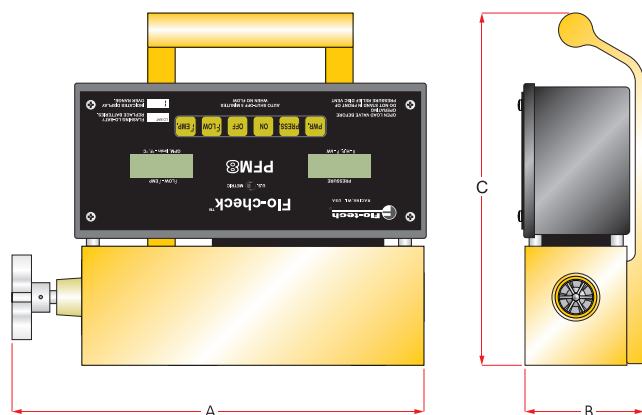
<b>Ports:</b>	SAE Straight thread O-ring boss, female J1926/1
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## DIMENSIONS



SERIES	A LENGTH IN (mm)	B DEPTH IN (mm)	C HEIGHT IN (mm)	WEIGHT LBS (KG)
PFM8-15	11.3 (287)	3.5 (89)	9.8 (249)	13.85 (6.3)
PFM8-30	11.3 (287)	3.5 (89)	9.8 (249)	13.85 (6.3)
PFM8-60	11.5 (292)	3.5 (89)	9.8 (249)	16.50 (7.5)
PFM8-85	11.5 (292)	3.5 (89)	9.8 (249)	16.50 (7.5)
PFM8-200	12.3 (311)	4.0 (101)	10.3 (262)	20.00 (9.1)

## ORDERING INFORMATION

SERIES	NOMINAL PORT SIZE	FLOW RANGE	POWER HP (kW)	MODEL NUMBER
PFM8-15	SAE 12	1 - 15 GPM (4 - 56 LPM)	52.5 (39)	<b>F5061</b>
PFM8-30	SAE 12	2 - 30 GPM (7.5 - 113.6 LPM)	105 (78)	<b>F5058</b>
PFM8-60	SAE 16	3 - 60 GPM (12 - 227 LPM)	210 (157)	<b>F5052</b>
PFM8-85	SAE 16	4 - 85 GPM (15 - 321 LPM)	298 (222)	<b>F5053</b>
PFM8-200	SAE 24	7 - 199.9 GPM (26 - 757 LPM)	700 (522)	<b>F5054</b>

Examples:

**F5061** = PFM8-15  
SAE 12 ports  
1 - 15 GPM (4 - 56 LPM)

**F5053** = PFM8-85  
SAE 16 ports  
4 - 85 GPM (15 - 321 LPM)

## ACCESSORIES

MODEL NUMBER	DESCRIPTION	SERIES
F4934-1530	Carrying Case	PFM8-15 & PFM8-30
F4934-6085	Carrying Case	PFM8-60 & PFM8-85
F4934-200	Carrying Case	PFM8-200
F1614-7500	Pressure Relief Disc, 7500 PSI (1 per Tester)	All PFM8s
F001109	5-Point Calibration Certificate <sup>1</sup>	All PFM8s
F001110	10-Point Calibration Certificate <sup>1</sup>	All PFM8s

<sup>1</sup> Certificates are traceable to NIST, ISO 9001.