



Badger Meter

Portable Large Meter Tester

Model PLMT

DESCRIPTION

The Portable Large Meter Tester (PLMT) consists of a 5/8 in. Recordall® Model 25 meter for measuring low flows (0.25...25 gpm) and a 3 in. Recordall Turbo Series Fire Hydrant meter for measuring high flows (25...450 gpm).

Applications

For use in testing the performance of any make of large potable cold water meter (sizes 1-1/2...10 in.). Testing can be performed without removing the meter from the service line.

Benefits of Testing

The Badger Meter® portable test meter is an invaluable tool in helping water utilities earn full revenue on all water distributed to customers. By checking the accuracy of meters already in service, the utility can easily determine when under-registration is curtailing water revenue.

Accuracy and revenue performance of meters can be affected by a number of factors, including the length of time in service, overloading and damage from other causes. Because of its one-person portability, the device makes regular testing possible without removing the meter from the line and taking it back to a repair shop.

Small utilities with limited facilities can use the test meter in their own shops to check the performance of meters before and after repair.

Construction

Flow rates through the PLMT are controlled by two valves.

The high flow side uses a butterfly valve operated with the option of either a detent handle or gear operator depending on your measurement needs.



Figure 1: Detent handle



Figure 2: Gear operator



The low flow side uses a ball valve to control water flow. To better isolate the flow and detect any leaks, the PLMT comes standard with two output paths (high side and low side). An optional flow combiner tee is available to combine low and high side outflow.



Figure 3: Optional flow combiner tee

The assembly also includes a gage port for a customer supplied pressure gage/transducer.

The entire assembly is corrosion-resistant and is designed for easy operation and handling by one person.

Two 12-1/2 ft sections of fire hose, 1 in., 1-1/2 in. and 2 in. test plug adapters and a spanner wrench are included with the portable tester.

Magnetic Drive

Direct magnetic drive, through the use of high-strength magnets, provides positive, reliable and dependable register coupling.

Operating Performance

The tester contains all equipment necessary for field testing, including fire hoses and standard adapters. With the accessibility of a test tee on the line, the unit tests all Badger Meter and competitive large meter products.

The 5/8 in. Recordall Model 25 and 3 in. Recordall Turbo Series Fire Hydrant water meters meet or exceed the latest applicable AWWA performance and accuracy standards. A certified accuracy test curve is provided with the assembly.

Sealed Register

The standard registers consist of a straight-reading, odometer-type totalization display, 360° test circle with center sweep hand and flow finder to detect leaks. Permanently sealed, dirt, moisture, tampering and lens fogging problems are eliminated.

(Optional) Resettable Registers

Two (2) electronic resettable registers with ER-10 style single indicators provide rate of flow and totalization for the main line and bypass meters. The totalization resettable function can be disabled. Flow rate function is programmed independently of the totalization. See the ER-10 User Manual for programming details. The flow rate value is approximate and if a more specific value is required, follow the procedure outlined in the PLMT Application Data Sheet for flow rate calculation.

Maintenance

The PLMT is designed and manufactured to provide long-term service with minimal maintenance.

Hose Couplings

The PLMT is equipped with (2-1/2...7-1/2 in. NST) fire hose swivel couplings as standard equipment unless otherwise specified.

MATERIALS

Meter Housing	Disc: Lead-free bronze alloy Turbo: Heat treated aluminum alloy
Housing Cover	Lead-free bronze alloy
Measuring Elements	Thermoplastic
Trim	Stainless steel
Connection Screen	Thermoplastic
Magnets	Ceramic
Magnet Spindles	Stainless steel
Register Cover	Bronze: non-resettable register Thermoplastic: resettable register
Flow Restriction Plate	Stainless steel
Inlet Screen	Stainless steel with elastomer

SPECIFICATIONS

Typical Operating Range (100% ±1.5%)	(0.1...113 m ³ /h) 1/2...500 gpm	
Typical Low Flow (Min. 95%)	1/4 gpm (0.06 m ³ /h)	
Maximum Continuous Flow	450 gpm (102.2 m ³ /h)	
Pressure Loss at Maximum Continuous Operation	45 psi at 450 gpm (3.1 bar @ 102.2 m ³ /h)	
Max. Operating Temperature	80° F (26° C)	
Max. Operating Pressure	150 psi (10 bars)	
Register Type	Straight reading, permanently sealed magnetic drive (standard)	
Register Capacity	Disc:	10,000,000 gallons 1,000,000 cubic feet 100,000 cubic meters
	Turbo:	100,000,000 gallons 10,000,000 cubic feet 1,000,000 cubic meters
Weight with 10-position Detent Handle	93 lb (includes accessories)	
Weight with Gear Operator	101 lb (includes accessories)	
Shipping Weight with 10-position Detent Handle	104 lb (includes all accessories plus optional flow combiner accessories)	
Shipping Weight with Gear Operator	113 lb (includes all accessories plus optional flow combiner accessories)	
Main Line Valve	Butterfly valve	
Bypass Valve	Ball valve	
Meter Adaptors	1 in., 1-1/2 in. and 2 in. test plug adapters	
Fire Hose	Two 12-1/2 ft lengths	
Test Rings	Two provided	

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www.badgermeter.com

The Americas | Badger Meter | 4545 West Brown Deer Rd | PO Box 245036 | Milwaukee, WI 53224-9536 | 800-876-3837 | 414-355-0400
 México | Badger Meter de las Americas, S.A. de C.V. | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882
 Europe, Middle East and Africa | Badger Meter Europa GmbH | Nurtinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0
 Europe, Middle East Branch Office | Badger Meter Europe | PO Box 341442 | Dubai Silicon Oasis, Head Quarter Building, Wing C, Office #C209 | Dubai / UAE | +971-4-371 2503
 Czech Republic | Badger Meter Czech Republic s.r.o. | Mařikova 2082/26 | 621 00 Brno, Czech Republic | +420-5-41420411
 Slovakia | Badger Meter Slovakia s.r.o. | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01
 Asia Pacific | Badger Meter | 80 Marine Parade Rd | 21-06 Parkway Parade | Singapore 449269 | +65-63464836
 China | Badger Meter | 7-1202 | 99 Hangzhong Road | Minhang District | Shanghai | China 201101 | +86-21-5763 5412