

Size 1" (DN 25mm)

Recordall® Cold Water
Thermoplastic Disc Meter
ANSI/NSF Standard 61 Certified



TECHNICAL BRIEF



Model 40PN

SPECIFICATIONS

Typical Operating Range (100% ± 1.5%)	3/4-50 GPM (2.8 to 189 l/m)
Low Flow (Min. 95%)	3/8 GPM (1.4 l/m)
Maximum Continuous Operation	25 GPM (95 l/m)
Pressure Loss at Maximum Continuous Operation	3.1 PSI at 25 GPM (.21 bar at 95 l/m)
Maximum Operating Temperature	80°F (26°C)
Maximum Operating Pressure	150 PSI (10 bar)
Measuring Element	Nutating disc, positive displacement
Register Type	Straight reading, permanently sealed magnetic drive standard. Remote reading or Automatic Meter Reading units optional.
Register Capacity	10,000,000 Gallons, 1,000,000 Cubic Feet, 100,000 m ³ . 6 odometer wheels.
Meter Connections	Available in bronze and thermoplastic to fit 1" (DN 25mm) spud thread bore diameter sizes. See table below.

METER SPUD AND CONNECTION SIZES

Size Designation	"L" x	"L" Laying Length	"B" Bore Dia.	Coupling Nut and Spud Thread	Tailpiece Pipe Thread (NPT)
1"	x	10 3/4"	1"	1 1/4" (1")	1"

MATERIALS

Meter Housing	Thermoplastic
Housing Bottom Plate	Thermoplastic
Measuring Chamber	Thermoplastic
Disc	Thermoplastic
Strainer	Thermoplastic
Disc Spindle	Stainless Steel
Magnet	Ceramic
Magnet Spindle	Stainless Steel
Register Shroud	Thermoplastic
Register Lid	Thermoplastic or Bronze
Generator Housing	Thermoplastic

DESCRIPTION

Badger Meter offers a Recordall® disc meter line that has been certified to comply with ANSI/NSF Standard 61. All components within the thermoplastic meter, i.e., disc, chamber, housing, O-rings, etc., comprise the certified system.

APPLICATIONS: For use in measurement of potable cold water in residential, commercial and industrial services where flow is in one direction only.

OPERATION: Water flows through the meter's strainer and into the measuring chamber where it causes the disc to nutate. The disc, which moves freely, nutates on its own ball, guided by a thrust roller. A drive magnet transmits the motion of the disc to a follower magnet located within the permanently sealed register. The follower magnet is connected to the register gear train. The gear train reduces the disc nutations into volume totalization units displayed on the register dial face.

OPERATING PERFORMANCE: The Badger Recordall Disc meters meet or exceed registration accuracy for the low flow rates (95%), normal operating flow rates (100 ± 1.5%), and maximum continuous operation flow rates as specifically stated by AWWA Standard C710.

CONSTRUCTION: Badger Recordall Disc meter construction, which complies with ANSI/AWWA standard C710, consists of three basic components: meter housing, measuring chamber, and permanently sealed register. The water meter is thermoplastic with externally-threaded spuds. A corrosion-resistant thermoplastic material is used for the measuring chamber.

To simplify maintenance, the register, measuring chamber, and strainer can be replaced without removing the meter housing from the installation. No change gears are required for accuracy calibration. Interchangeability of parts among like-sized meters also minimizes spare parts inventory investment.

MAGNETIC DRIVE: Direct magnetic drive, through the use of high-strength magnets, provides positive, reliable and dependable register coupling for straight-reading, remote or automatic meter reading options.

SEALED REGISTER: The standard register consists of a straight-reading odometer-type totalization display, 360° test circle with center sweep hand and flow finder to detect leaks. Register gearing consists of self-lubricating thermoplastic gears to minimize friction and provides long life. Permanently sealed; dirt, moisture, tampering and lens fogging problems are eliminated. Multi-position register simplifies meter installation and reading. Generator-type remote reading and automatic meter reading systems are available for all Recordall Disc meters. (See back of sheet for additional information.) All reading options are removable from the meter without disrupting water service.

TAMPER-PROOF FEATURES: Customer removal of the register to obtain free water can be prevented when the optional tamper detection seal wire screw or TORX® tamper resistant seal screw is added to the meter. Both can be installed at the meter site or at the factory.

MAINTENANCE: Badger Recordall Disc meters are designed and manufactured to provide long-term service with minimal maintenance. When maintenance is required, it can be performed easily either at the meter installation or at any other convenient location. As an alternative to repair by the utility, Badger offers various maintenance and meter component exchange programs to fit the needs of the utility.

CONNECTIONS: Tailpieces/Unions for installations of meters on various pipe types and sizes, including misaligned pipes, are available as an option.

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Remote/Automatic Meter Reading Systems

Remote Reading

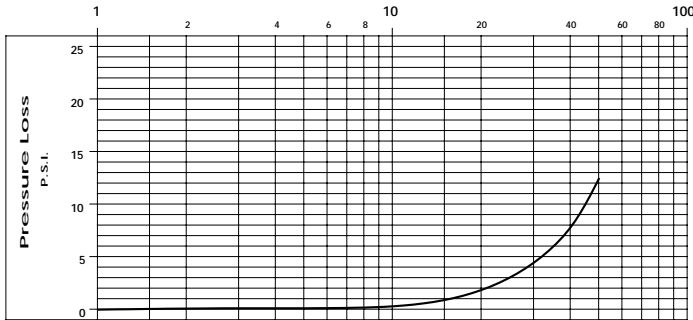
The Badger ROM system generates and transmits an electrical pulse up to 5000 feet from the meter to a remote totalizer register without use of external power. See reference chart ROM-I-3. The generator which incorporates test circle and odometer-type totalizer is submersible. The remote register design permits resetting to any desired reading in the field and can be sealed to prevent tampering. See Bulletin ROM-T-5 for detail.

AMR

Every Recordall disc meter has the ability to upgrade to an AMR technology solution through connectivity to Badger's Recordall Transmitter Register (RTR®). Badger offers the TRACE® radio frequency system, the ACCESSplus® inbound telephone system, the DIALOG® close-proximity system, and connectivity to other system solutions. Specific technical bulletins are available to meet turnkey system needs.

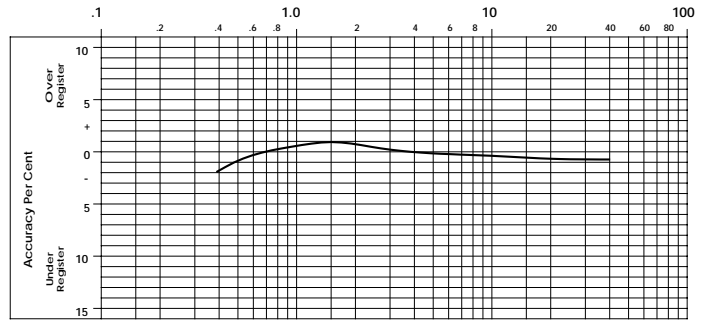
PRESSURE LOSS CHART

Rate of Flow, in Gallons per Minute



ACCURACY CHART

Rate of Flow, in Gallons per Minute



METER SIZE	METER MODEL	A LAYING LENGTH	B HEIGHT REG.	C HEIGHT GEN./HRT	D CENTERLINE BASE	WIDTH	APPROX. SHIPPING WEIGHT
1" (25mm)	40PN	10 ³ / ₄ " (273mm)	5 ³ / ₄ " (146mm)	7 ³ / ₁₆ " (183mm)	1 ¹⁵ / ₁₆ " (49mm)	5 ¹⁵ / ₁₆ " (151mm)	5 lb. (2.3kg)

Sweep Hand Registration

