

# Recordall® Compound Series Meter

Lead-Free Bronze Alloy, Sizes 2", 3", 4" & 6" NSF/ANSI Standards 61 and 372 Certified

#### **DESCRIPTION**

The Recordall Compound Series meters meet or exceed the most recent revision of AWWA Standard C700 and are available in a lead-free bronze alloy. The Compound Series meters comply with the lead-free provisions of the Safe Drinking Water Act, are certified to NSF/ANSI Standards 61 and 372 (Trade Designation: LL-NS) and carry the NSF-61 mark on the housing. All components of the lead-free bronze alloy meter (housing, measuring element, seals, and so on) comprise the certified system.

Badger Meter Recordall® Compound Series meters combine two metering technologies in one innovative package. A positive displacement chamber measures low flow, while a turbine chamber records high flow.

## Offered in four sizes, the Compound Series meter features:

- Patented design that eliminates the need for a trigger valve and maintains crossover accuracy.
- Permanently sealed, tamper-resistant register or encoder.
- Meters and encoders that are compatible with Badger Meter AMR/AMI systems and other approved reading technologies

Badger Meter ORION® and GALAXY® AMR/AMI meter reading systems are available for all Compound Series meters. Itron® ERT reading systems are also available. An optional summator can be provided as an integral part of the register assembly. All register options are removable from the meter without disrupting water service.

#### **TAMPER-PROOF FEATURES**

Unauthorized removal of the register or encoder is inhibited by the use of an optional tamper detection seal wire screw, TORX® tamper-resistant seal screw or the proprietary tamper-resistant keyed seal screw. Each can be installed at the meter site or at the factory.

# **APPLICATIONS**

Use the Recordall Compound meter for measuring potable cold water in commercial and industrial applications where flow is in one direction only. The meter is an ideal choice for facilities that experience rapid and wide fluctuations in water demand, such as hospitals, universities, residential complexes and manufacturing or processing facilities.

## **OPERATION**

At low flow rates, the Compound Series meter diverts water up through a bypass to the disc chamber. Leaving the chamber's outlet port, water flows beyond the turbine element and main valve. As the flow rate increases, a pressure differential is created that opens the main valve. The water then flows straight through the turbine chamber. In addition, a portion still flows through the disc chamber before exiting the meter.



Rotor and disc movements are transmitted by magnetic drive couplings to individual register odometers. The direct magnetic drive provides a positive, reliable and dependable register coupling for straight-reading or remote reading options. The self-lubricating thermoplastic register gearing is designed to minimize friction and provide long life.

## **OPERATING PERFORMANCE**

The Recordall Compound Series meets or exceeds registration accuracy for low, normal operating, maximum continuous operation, and changeover flow rates as specified in AWWA Standard C702.

## **CONSTRUCTION**

The Recordall Compound Series meter's construction complies with ANSI and AWWA C702 standards. It consists of three basic components: meter housing, interchangeable measuring elements, and sealed direct reading registers. The measuring element consists of the disc measuring chamber, turbine head assembly, and high flow valve assembly. To simplify maintenance, the registers and measuring elements can be removed without removing the meter housing from the line.

# **METER INSTALLATION**

The meter is designed for installations where flow is in one direction only. A separate strainer is required to ensure optimum flow conditioning and protection of the measuring element. Companion flanges for installation of meters on various pipe types and sizes are available in cast iron or NL bronze as an option.

**Product Data Sheet** 

#### **REGISTERS / ENCODERS**

#### Standard—Sweep-Hand Registration

The standard register is a straight-reading, permanently sealed magnetic drive register. Dirt, moisture, tampering and lens fogging problems are eliminated. The register has a six-odometer wheel totalization display, 360° test circle with center sweep hand, and flow finder to detect leaks. Register gearing is made of self-lubricating engineered polymer, which minimizes friction and provides long life. The multiposition register simplifies meter installation and reading. The register capacity is 100,000,000 gallons (10,000,000 ft³, 1,000,000 m³).

## **Optional—Encoders for AMR/AMI Reading Solutions**

AMR/AMI solutions are available for all Recordall Compound Series meters. All reading options can be removed from the meter without disrupting water service. Badger Meter encoders provide years of reliable, accurate readings for a variety of applications and are also available pre-wired to Badger Meter approved AMR/AMI solutions. See details at <a href="https://www.badgermeter.com">www.badgermeter.com</a>.

# **SPECIFICATIONS**

Compound Series Model	2" (50 mm)	3" (80 mm)	4" (100 mm) 6" (150 mm)				
Meter Flanges, Class 150	2" elliptical or round	3" round	4" round	6" round			
	(50 mm)	(80 mm)	(100 mm)	(150 mm)			
Typical Operating Range	0.5200 gpm	0.5450 gpm	0.751000 gpm	0.752000 gpm			
(100% ± 1.5%)	(0.145 m <sup>3</sup> /h)	(0.1102 m <sup>3</sup> /h)	(0.17227 m <sup>3</sup> /h)	(0.17454.4 m <sup>3</sup> /h)			
Low Flow Registration (95% minimum)	0.25 gpm (0.06 m³/h)	0.25 gpm (0.06 m³/h)	0.375 gpm (0.09 m³/h)	0.375 gpm (0.09 m³/h)			
Maximum Continuous Flow	170 gpm (38.3 m³/h)	400 gpm (90.3 m³/h)	800 gpm (181.6 m³/h)	1500 gpm (340.5 m³/h)			
Pressure Loss at Maximum Continuous Flow	5.4 psi at 170 gpm	6.0 psi at 400 gpm	11.0 psi at 800 gpm	9.3 psi at 1500 gpm			
	(0.38 bar at 38.3 m <sup>3</sup> /h)	(0.41 bar at 90.3 m <sup>3</sup> /h)	(0.75 bar at 181.6 m³/h)	(0.64 bar at 340.5 m <sup>3</sup> /h)			
Crossover Flow Rate, Typical	12 gpm	12 gpm	20 gpm	30 gpm			
Pressure Loss at Crossover	3.5 psi (0.24 bar)	4.0 psi (0.28 bar)	4.0 psi (0.28 bar)	5.0 psi (0.35 bar)			
Minimum Crossover Accuracy	97%	97%	97%	95%			
Maximum Operating Pressure	150 psi (10 bar)						
Maximum Operating Temperature	105° F (41° C)						
Test Plug	1-1	/2"	2"				

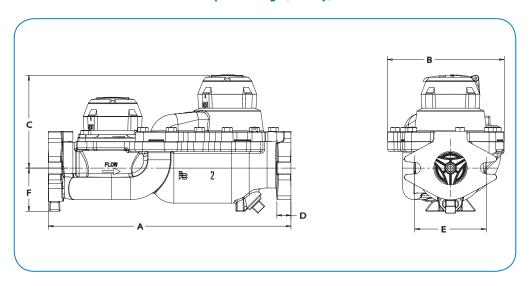
# Materials

Meter Housing & Cover	Lead-free bronze alloy		
Turbo Cast Head	Lead-free bronze alloy		
Nose Cone & Straightening Vanes	Thermoplastic		
Rotor	Thermoplastic		
Rotor Radial Bearings	Lubricated thermoplastic		
Rotor Thrust Bearing	Sapphire jewels		
Rotor Bearing Pivots	Passivated 316 stainless steel		
Calibration Mechanism	Stainless steel & thermoplastic		
Measuring Chamber & Disc	Thermoplastic		
High Flow Valve	Stainless steel & thermoplastic		
Magnets	Ceramic		
Register Lens	Glass		
Register Housing & Cover	Thermoplastic or bronze		
Trim	Stainless steel		
Drain Plug (3/4")	Stainless steel or lead-free bronze alloy		
Test Plug	Stainless steel or lead-free bronze alloy		

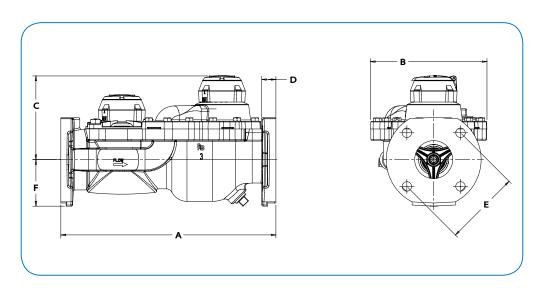
# **PHYSICAL DIMENSIONS**

Compound Series Model	2" Elliptical (50 mm)	2" Round (50 mm)	3" (80 mm)	4" (100 mm)	6" (150 mm)
Meter & Pipe Size	2" (50 mm)		3" (80 mm)	4" (100 mm)	6" (150 mm)
Net Weight	45 lb (20 kg)		51 lb (23 kg)	85 lb (38 kg)	152 lb (69 kg)
Shipping Weight	63 lb (29 kg)		79 lb (36 kg)	120 lb (54 kg)	200 lb (90 kg)
Length (A)	15-1/4" * (387 mm)		17" (432 mm)	20" (508 mm)**	24" (610 mm)
Width (B)	7-3/8" (187 mm)		8-1/2" (216 mm)	9-1/8" (232 mm)	12-3/8" (314 mm)
Height (C)	5-7/8" (149 mm)		6-5/8" (168 mm)	7-1/4" (184 mm)	8-7/8" (225 mm)
Flange (D)	5/8" (16 mm)		3/4" (19 mm)	7/8" (22 mm)	15/16" (24 mm)
Bolt Circle (E)	4-1/2" (114 mm)	4-3/4" (121 mm)	6" (152 mm)	7-1/2" (191 mm)	9-1/2" (241 mm)
Centerline (C) to Base (F)	2-3/4" (70 mm)		3-5/8" (92 mm)	4-1/4" (108 mm)	5-3/8" (137 mm)
Number of Bolts	2	4	4	8	8

# Elliptical Flange (2" Only)



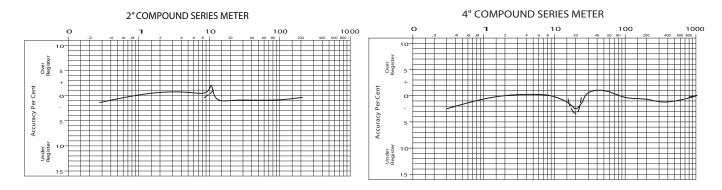
# **Round Flange**



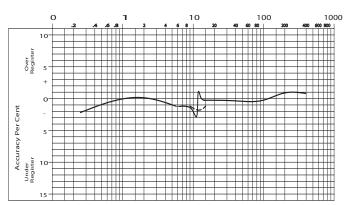
<sup>\*</sup> Adapter available to increase total length to 17" (432 mm). \*\*Adapter available to increase total length to 24" (610 mm).

## **ACCURACY CHARTS**

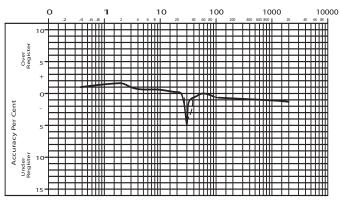
Rate of flow in gallons per minute (gpm)



## 3" COMPOUND SERIES METER

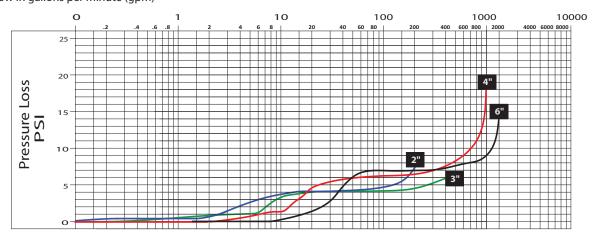


# **6" COMPOUND SERIES METER**



# **PRESSURE LOSS CHART**

Rate of flow in gallons per minute (gpm)



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