



# TRU/MAG™ ELECTROMAGNETIC WATER METER

SIZES: 3", 4", 6", 8", and 10"



TRU/MAG™ Meters.

APPLICATION

With rising water demands and Non-Revenue Water (NRW), utilities are seeking an advanced water meter technology to increase water revenue while reducing the operating and maintenance costs that are associated with mechanical water meters.

The TRU/MAG™ battery-powered electromagnetic water meter measures wide flow ranges at 100% ± 1.0% accuracy. All TRU/MAG meters meet or exceed the performance requirements of AWWA C701 Standard and are approved for use in water utility billing, municipal water/wastewater, and well usage reporting.

OPERATION

The TRU/MAG uses Faraday's law to measure the flow of a conductive fluid through a magnetic field. The magnetic field is generated by a current passing through a pair of coils in the meter assembly. As the fluid flows through the meter, a voltage directly proportional to the velocity of the fluid is generated. The voltage is detected by two electrodes. The register amplifies, filters, and measures the voltage. This measured voltage is then converted into units of flow and totalized registration.

WARRANTY

The TRU/MAG electromagnetic water meter is designed to measure potable water service usage through a single water line. Neptune provides a limited warranty with respect to its TRU/MAG electromagnetic water meter for performance, materials, and workmanship. When required, battery replacement is easily accomplished in the field.

KEY FEATURES

- Simple and economical as a mechanical meter
- No moving parts
- Minimal straight pipe required
- Continuous battery or external power
- IP68 Environment Protection
- Empty pipe detection
- Low battery warning
- Built-in data logger
- Telemetry-ready
- Built-in pulse output
- E-Coder® absolute encoder output
- Solar compatible
- Wide operating range
- 100 +/-1.0% accuracy\*

MORE FEATURES

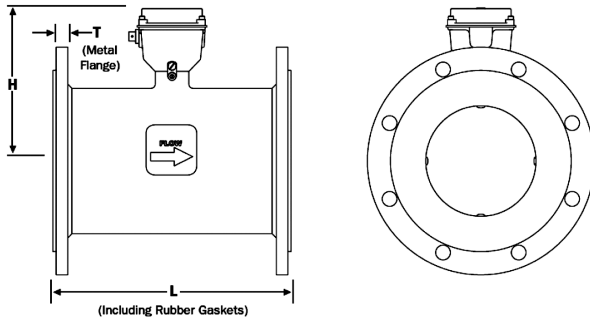
- The TRU/MAG is a battery-powered electromagnetic water meter for use in 3" to 10" installations in municipal water, wastewater, and water utility billing applications where mechanical meters have typically been used in the past.
- Advanced technology and accurate flow measurement.
- The two lithium 3.6V "D" batteries are replaceable with an expected 5-year life under continuous use.
- The TRU/MAG has no moving parts and requires virtually no maintenance in applications where debris would impede mechanical-type meters.
- Minimal straight pipe requirements allow the TRU/MAG to be used in piping configurations where straight pipe diameters are minimal.
- Rate and total indication are standard.
- No programming or set-up is required. Units of measure are customer-selected and factory-set.
- An optional input/output cable for external DC power and pulse output can be installed post-factory.
- Four pulse frequency rates are available for use with the Neptune SmartTrol®, SCADA systems, and telemetry applications.
- An internal data logger is standard for secure data logging.
- 8-digit high resolution absolute encoder remote reading is available when connected to Neptune's R900® or R450™ RF MIU.

*\*+/-1.0% from 5% to 100% of operating range and +/-2.0 from cutoff to 5% of operating range*

**OPERATING CHARACTERISTICS**

Meter Size	Normal Operating Range 100% Accuracy +/-1.0%*	AWWA C701 Standard
3"	6 to 600 gpm 1.36 to 136.2 m <sup>3</sup> /hr	8 to 350 gpm 1.8 to 79.5 m <sup>3</sup> /hr
4"	10 to 1000 gpm 2.27 to 22.7 m <sup>3</sup> /hr	15 to 630 gpm 3.4 to 141.8 m <sup>3</sup> /hr
6"	25 to 2500 gpm 5.67 to 567.5 m <sup>3</sup> /hr	30 to 1400 gpm 6.75 to 315 m <sup>3</sup> /hr
8"	44 to 4400 gpm 10 to 1000 m <sup>3</sup> /hr	50 to 2400 gpm 11.3 to 540 m <sup>3</sup> /hr
10"	70 to 7000 gpm 15.8 to 1589 m <sup>3</sup> /hr	75 to 3800 gpm 16.9 to 855 m <sup>3</sup> /hr

**DIMENSIONS**



Meter Size	Length (L)		Height (H)		Thickness (T)		Shipping Weight	
	inch	mm	inch	mm	inch	mm	pounds	kg
3"	12	304	6.79	172	0.68	17.2	44	20
4"	10.24	260	7.0	178	0.82	20.9	32	14.5
6"	12.27	312	8.1	206	0.92	23.3	47	21.3
8"	14.24	362	9.1	231	0.92	23.3	69	31.3
10"	18.18	257	10.1	257	0.92	23.3	125	56.7
Flanges	Standard ANSI 150 lb.						Cable (1 lb.)	

**COMPATIBILITY**

All TRU/MAG electromagnetic water meters are guaranteed compatible with Neptune's R900 and R450 MIUs and Neptune meter reading systems without removing the meter from service.

**REGISTRATION**

The TRU/MAG features a fully electronic register with programmable registration (U.S. gallons, imperial gallons, cubic feet, cubic metres). E-Coder 8-digit encoder output and pulse output are available.

**CONSTRUCTION**

- Epoxy-coated welded steel or ductile cast iron body
- Powder-coated die-cast IP68 electronics enclosure
- Dual Durometer rubber liner
- Noryl® liner (3")
- 316 stainless steel measuring electrodes
- 316 stainless steel grounding electrodes

**SPECIFICATIONS**

- Application: cold water measurement of flow in one direction
- Maximum operating pressure: 175 psi (1206 kPa)
- Register: direct reading, 5-digit rate, and 8-digit totalizer
- Measuring element: electromagnetic
- Flanges: round flanged ends per ANSI Class 150
- NSF/ANSI 61 pending

**OPTIONS**

- Sizes: 3", 4", 6", 8", and 10"
- Units of measure: U.S. gallons, imperial gallons, cubic feet, cubic metres
- Register types:
  - E-Coder 8-digit encoder output for AMR/AMI systems
  - Direct visual readout
- Remote reading systems: R900 and R450 Systems

Neptune Technology Group Inc.  
1600 Alabama Highway 229  
Tallahassee, AL 36078  
USA  
Tel: (800) 633-8754  
Fax: (334) 283-7293

Neptune Technology Group (Canada) Ltd.  
7275 West Credit Avenue  
Mississauga, Ontario  
L5N 5M9  
Canada  
Tel: (905) 858-4211  
Fax: (905) 858-0428

Neptune Technology Group Inc.  
Ejército Nacional No. 418  
Piso 12, Desp. 1201-1202  
Col. Chapultepec Morales  
Delegación Miguel Hidalgo  
11570 México, Distrito Federal  
Tel: (525) 55203 5294 / (525) 55203 5708  
Fax: (525) 55203 6503

